A MINDFULNESS-BASED INTERVENTION FOR ADOLESCENT SOCIAL MEDIA USERS: A QUASI-EXPERIMENTAL STUDY

By

JO LAUREN WEAVER

A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

2021
ACKNOWLEDGMENTS

First and foremost, I wish to express my gratitude to my dissertation chair, Dr. Swank, who graciously imparted her research acumen upon me throughout my doctoral journey. I am grateful to have a mentor who I admire and also consider a friend. Additionally, I want to thank my committee members, Dr. Sondra Smith, Dr. Hope Schuermann, and Dr. Abgail Fagan, for their instrumental feedback and contributions to my research.

A wholehearted thanks goes out to my husband, Jon, for his unconditional love, empathetic listening, and endless encouragement throughout this process. My dad for being my rock, who always made sure I knew I was number one in his book. My mom for instilling the idea of endless possibilities in me. Lastly, I want to thank my baby boy, Otis, for being the bright light at the end of my academic journey.
# TABLE OF CONTENTS

| ACKNOWLEDGMENTS | .................................................................................. | 3 |
| LIST OF TABLES | .................................................................................. | 6 |
| LIST OF FIGURES | .................................................................................. | 7 |
| LIST OF TERMS | .................................................................................. | 8 |
| ABSTRACT | .................................................................................. | 9 |

## CHAPTER

| 1 | INTRODUCTION | .................................................................................. | 11 |
| Background | .................................................................................. | 11 |
| Statement of the Problem | .......................................................................... | 11 |
| Significance of the Study | ..................................................................... | 14 |
| Purpose of the Study | ........................................................................ | 15 |
| Research Question and Hypotheses | .................................................................. | 15 |
| Chapter Summary | ........................................................................ | 16 |

| 2 | LITERATURE REVIEW | .................................................................................. | 17 |
| Adolescents and Social Media | ........................................................................ | 17 |
| Adolescent Psychosocial Development | .................................................................. | 18 |
| Active Social Media User Typology | .................................................................. | 22 |
| Passive Social Media User Typology | .................................................................. | 24 |
| Fear of Missing Out (FOMO) | .......................................................................... | 28 |
| Self-determination Theory | .......................................................................... | 29 |
| Effects of FOMO | .................................................................................. | 30 |
| Problematic Social Media Use | .......................................................................... | 32 |
| Social Cognitive Model for Problematic Media Use | .................................................................. | 33 |
| Effects of PSMU | .................................................................................. | 34 |
| Interventions | .................................................................................. | 36 |
| Mindfulness | .................................................................................. | 39 |
| Effects of MBIs | .................................................................................. | 41 |
| Mindfulness-based Interventions in School Settings | .................................................................. | 45 |
| Mindfulness Framework for Problematic Social Media Use | .................................................................. | 48 |
| Chapter Summary | .................................................................................. | 50 |

| 3 | MANUSCRIPT | .................................................................................. | 55 |

<p>| Adolescent Psychosocial Development with Social Media | ........................................................................ | 56 |
| Effects of Adolescent Social Media Use | ........................................................................ | 57 |</p>
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1</td>
<td>Example exercises</td>
<td>77</td>
</tr>
<tr>
<td>3-2</td>
<td>Participant demographics</td>
<td>78</td>
</tr>
<tr>
<td>3-3</td>
<td>Pre-post test means for research variables</td>
<td>80</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1</td>
<td>The continuum of social media user typology.</td>
<td>51</td>
</tr>
<tr>
<td>2-2</td>
<td>Studies on problematic social media use and problematic internet use.</td>
<td>52</td>
</tr>
<tr>
<td>2-3</td>
<td>Cognitive-Behavioral Model of Problematic Internet Use.</td>
<td>53</td>
</tr>
<tr>
<td>2-4</td>
<td>A mindful model of problematic social media use.</td>
<td>54</td>
</tr>
</tbody>
</table>
### LIST OF TERMS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of missing out</td>
<td>Fear of missing out is defined as a “pervasive apprehension that others might be having rewarding experiences from which one is absent” (Przybylski et al., 2013).</td>
</tr>
<tr>
<td>Mindfulness</td>
<td>Mindfulness is defined as experiencing the present moment fully with an attitude of curiosity and non-judgement (Bishop et al., 2006).</td>
</tr>
<tr>
<td>Mindful Attention</td>
<td>A state of mind in which attention is informed by an awareness of what is occurring in the present and can simply observe what is taking place (Brown &amp; Ryan, 2003).</td>
</tr>
<tr>
<td>Mindfulness-based intervention</td>
<td>A mindfulness-based intervention encompasses three essential axioms: (a) attention, (b) intention, and (c) attitude (Shapiro et al., 2006).</td>
</tr>
<tr>
<td>Problematic social media use</td>
<td>Problematic social media use is defined as an unmanageable urge to use social media, which results in real life relationships being negatively affected (Andreassen &amp; Pallesen, 2014).</td>
</tr>
</tbody>
</table>
A MINDFULNESS-BASED INTERVENTION FOR ADOLESCENT SOCIAL MEDIA USERS: A QUASI-EXPERIMENTAL STUDY

By

Jo Lauren Weaver

May 2021

Chair: Jacqueline Swank
Major: Counseling and Counselor Education

Social media is ubiquitous among today’s adolescents. With constant access, social media use can become dysregulated or problematic. Concepts, such as fear of missing out (FOMO), point to the negative effects of social media use. FOMO is a pervading unease that others are having rewarding experiences from which one is absent. For adolescents, meaningful experiences with peers are imperative for psychosocial development. Hence, adolescents could benefit from learning to regulate their social media use and how to access these platforms with intentionality.

The current study focused on examining the effectiveness of a mindfulness-based intervention to address problematic social media use and FOMO among high school students \( N = 54 \). The researcher used a quasi-experiment pretest-posttest design to examine the research question: Is there a difference in problematic social medial use, FOMO, mindful attention, and life satisfaction among adolescents that complete a MBI for social media compared to those who do not participate in the intervention? The author selected a repeated-measures ANOVA between-subjects statistical analysis to examine the differences between the pre and posttest data of the treatment and control groups. The results indicated a statistically significant difference
between the intervention and control groups in PSMU and mindful attention. Yet, there was not a statistically significant difference between the groups' levels of FOMO and life satisfaction. The author includes a discussion of the results and implications for counselors, as well as the limitations and directions for future research.
CHAPTER 1  
INTRODUCTION  

Background  

In 2003, two roommates launched FaceMash as a platform for college students to better connect online, which became Facebook in 2004. In 2007, the first iPhone became available for purchase when individuals in the post-millennial generation were 10 years old. Today’s adolescents now have unprecedented access to the internet and social media, which distinguishes this generation from their predecessors (Dimcok, 2019). Millennials are individuals born between 1981 and 1996 (ages 23-38 in 2019), while post-millennials are those born after 1997. A defining characteristic of the post-millennial generation is the ability to connect and communicate through multiple mediums (i.e., social networks) at an early age. Researchers are beginning to examine the effects of growing up during the advent of social media; yet, the longitudinal effects remain conjectural.  

Statement of the Problem  

In 2017, Sean Parker, founding president of Facebook, discussed the influence of social media in a press conference by stating, “It literally changes your relationship with society, with each other…God only knows what it is doing to our children’s brains” (Allen, 2017). This alarming statement resounds social media’s indefinite implications on the younger generation. Today’s adolescents do not recall a time when the internet was not at their fingertips, and they could not connect by clicking a button. Social media, instant gratification, and constant communication are not nuances for the generation; they are fixtures. Researchers are now examining the implications of growing up with ready connectivity, or “growing up wired.” However, the longitudinal effects of
technology, the internet, and social media are unknown. Professionals working with the post-millennial generation, especially the adolescent population, should be knowledgeable of continual technological advances to help adolescents foster healthy development.

Social media provides the agency for adolescents to experiment with their self-presentation to gage others’ reactions (Fullwood et al., 2016). Gaining a sense of self or identity is a quintessential aspect of psychosocial development during adolescent, and social media provides a seemingly innocuous space for identity formation. The active use of social media can yield positive effects, such as reduced feelings of loneliness and perceived support and acceptance (Christofides et al., 2012; Deters & Mehl, 2013). However, these curated identities can also lead adolescents to becoming preoccupied with seeking validation (i.e., checking “likes”), and comparing instead of connecting with peers.

On social media, users can carefully select images and words to depict their lives to other users. Idealized, edited photographs and overly optimistic status updates can create a skewed vantage on the user’s life (Qiu et al., 2012). Through this optimized sharing, users can be susceptible to upward social comparison and a “fear of missing out” (FOMO) on rewarding experiences, leading to feelings of social envy, exclusion, and overall dissatisfaction in one’s life (Chou & Edge, 2012; Lee, 2014; Reagle, 2015). The preoccupation with other users’ activity can result in a lack of connection to the present moment outside of one’s social media forum (Baker et al., 2016). The absence of present moment connection can compromise one’s ability to connect with others face-to-face, and lead to other maladaptive behaviors such as “phubbing” or phone
snubbing (i.e., Karadag et al., 2015). This overuse of social media can have negative effects, such as a decrease in social connection and an increase in depressive symptoms (Kircaburun et al., 2018).

In adolescents, peer connection and acceptance is paramount for psychosocial development (Erickson, 1969). With social media, peer connection can be augmented (Deters & Mehl, 2013) or hindered (Kircaburun et al., 2018). For example, researchers found individuals experiencing FOMO exhibited an increased awareness of social inclusion, and had a greater desire to socially belong (Lai et al., 2016). These users begin to replace face-to-face interactions with habitually viewing other users’ profiles and recent posts to fulfill the need for peer connection resulting in an increase in social media use (Baker et al., 2016; Buglass et al., 2017). Additionally, researchers found those experiencing FOMO (Przybylski et al., 2013) and problematic social media use (PSMU) (Kircaburun et al., 2019) to be less mindfully attentive. Individuals experiencing FOMO and PSMU miss present moment opportunities to engage with peers perpetuating this maladaptive cycle. Hence, the pertinence of addressing constructs like FOMO and PSMU during adolescence.

To date, there is a lack of treatment protocols to address maladaptive social media use, and to teach healthy social media habits. A probable treatment for the present-moment disconnect and dysregulation exhibited by those experiencing FOMO and PSMU is a mindfulness-based intervention (MBI). MBIs consist of three axioms: (a) attention, (b) intention, and (c) attitude (Shapiro et al., 2016). These axioms enhance self-regulation of attention, and orientation to the present moment. Thus, a MBI can combat the impulsive, unregulated use of social media by establishing one’s attention,
intention, and attitude before and while accessing social media, resulting in a present-moment connection. Adolescents can become increasingly aware of their present state on social media and intentional with their use through these mindfulness practices. In other words, adolescents can learn how to be mindful on social media. As social media is a mainstay for this generation, a MBI could endorse self-regulation and healthy social media habits, while contributing to the dearth of literature on how to address adolescent problematic social media use.

**Significance of the Study**

Today’s adolescents are emerging into adulthood accompanied by a smartphone, tablet, and laptop in tow. The current research focuses on correlations between constructs involving social media use among adolescents (i.e., FOMO and PSMU; Balta et al., 2018). A majority of these studies reveal relationships between mental health issues and the problematic use of social media (i.e., PSMU and social anxiety, Durak, 2018; PSMU and narcissism, Hawk et al., 2019). Nonetheless, there is a paucity of research on how to treat adolescents experiencing negative effects of social media use.

There is a lack of literature concerning interventions for problematic adolescent social media use. The researcher found one existing intervention to address problematic internet use for adolescents (Ke & Wong, 2018a). This is concerning because the ubiquity of social media amongst adolescents calls for treatment in response to the negative effects, as well as a preventative measure to foster healthy social media use. Researchers point to mindfulness-based interventions to enhance present moment connection and regulation in adolescents (Metz et al., 2013). In the current study, the researcher will apply a mindfulness-based intervention to adolescent social media to address maladaptive use, and beget mindful, regulated social media
use. This is the first known study to focus on mindfulness in the treatment of adolescent PSMU and FOMO. Additionally, the study will be of the first to involve an intervention that directly addresses FOMO. If effective, mental health professionals, especially school counselors, can use the intervention with adolescents. The study will contribute to the paucity of literature on treatment modalities for adolescent problematic social media use, and potentially impart a viable intervention for mental health professionals working with the population.

**Purpose of the Study**

Social media is a pervasive facet of adolescent life. A review of the existing literature underlines the positive and negative effects of adolescent social media use (i.e., Frison & Eggermont, 2016; Woods & Scott, 2016). However, a gap exists in treating maladaptive social media use, and promoting healthy, regulated use of these platforms. Hence, the researcher will employ a group MBI, *Mindful Connections*, designed for adolescents to enhance present moment connection before and during social media use. The intervention aims to increase mindful attention of participants, and ameliorate the negative effects of dysregulated social media use (i.e., FOMO). The purpose of this study is to examine the effectiveness of a group MBI for adolescents experiencing PSMU and FOMO.

**Research Question and Hypotheses**

The following question will guide this investigation: Is there a difference in problematic social media use, FOMO, mindful attention, and life satisfaction among adolescent that complete a mindfulness-based intervention for social media compared to those who do not participate in the intervention? The following hypotheses will be tested: a). Adolescents who participate in a mindfulness-based intervention for social
media use have decreased problematic social media use compared to adolescents in the control group; b). adolescents who participate in a mindfulness-based intervention for social media use have decreased FOMO compared to adolescents in the control group; c). adolescents who participate in a mindfulness-based intervention for social media use have increased mindful attention compared to adolescents in the control group; d). adolescents who participate in a mindfulness-based intervention for social media use have increased life satisfaction compared to adolescents in the control group.

**Chapter Summary**

Social media platforms are foundational means of connection for today’s adolescents. While social media can enhance positive feelings (i.e., connectedness; Guedes et al., 2016), it can also become dysregulated and engender negative effects such as FOMO. In current studies, researchers focus on relationships between constructs related to adolescent social media use instead of treatment modalities to foster healthy social media use. This study aims to contribute to the dearth of literature examining effective interventions to address problematic social media use, and engender healthy, regulated use of these platforms. The next chapter is a comprehensive review of the related literature and theories of adolescent social media use and mindfulness-based interventions.
CHAPTER 2
LITERATURE REVIEW

This chapter provides a comprehensive synthesis and critique of the literature concerning adolescent social media use and mindfulness-based interventions (MBIs) for children and adolescents. The chapter begins with an overview of the prevalence of adolescents’ social media use, along with a description of their most popular social media platforms. The author then applies a psychosocial framework (Erickson, 1950) to explain the purposes and motivations of adolescent social media use. From this, the author examines social media user typology with their theoretical underpinnings transitioning to negative effects of dysregulated social media use (i.e., problematic social media use, the fear of missing out). Next, the researcher provides a critical examination of interventions to address problematic use followed by an analysis of the literature on MBIs for children and adolescents. The chapter concludes with the presentation of the Mindful Connections intervention alongside a mindful framework of problematic social media use.

Adolescents and Social Media

In the United States, 95% of adolescents own a smart phone, while 45% report being online “almost constantly” (Anderson & Jiang, 2018). Social media use is operationally outlined as blogs, social networking sites (i.e., Facebook), micro blogs (i.e., Twitter), content sharing sites (i.e., Instagram, Snapchat), Wikis, and interactive video-gaming sites (i.e., Multiplayer Online Games; e.g., World of Warcraft) that allow users to co-construct and share content with other users (Kuss & Griffiths, 2017). For today’s adolescents, Facebook is not the platform of choice, with Youtube (85%), Instagram (72%), and Snapchat (69%) having the greatest usage rates in the United
States, and adolescent users (35%) reporting the use of Snapchat more often than all other social media platforms (Anderson & Jiang, 2018). Adolescent users (N = 42) report Facebook to be least favorable due to (a) complicated features, (b) preferred platform of adults and older generations, and (c) invasive pop-up advertisements (Throuvala et al., 2019). For the purposes of this study, social media refers to the most popular platforms for adolescents: Youtube, Instagram, and Snapchat.

Each social media platform has its own purpose for adolescent social media users. Instagram is the idealized picture-sharing, slice-of-life application that is inspirational for users (Throuvala et al., 2019). On Instagram, users can share moments of daily life through visual representation, and self-presentation opportunities for content construction and deliberation. Adolescent users view Snapchat as the platform to send comical, self-sarcastic, fun aspects of everyday life, and personal matters to their closest friends (Throuvala et al., 2019). Lastly, Youtube replaced traditional television viewing, and serves as a mechanism to watch television series, movies, and search for music videos or other videos of interest (Throuvala et al., 2019). Adolescents express various factors that motivate them to use these platforms.

**Adolescent Psychosocial Development**

Adolescents’ motivation for accessing social media is partly explained by their psychosocial stage of development. Erickson (1950) proposed psychosocial developmental stages differentiated by specific tasks ranging from infancy to adulthood. He entitled the stage during adolescence as identity versus role confusion. This stage bridges childhood and adulthood. Adolescents are preoccupied with searching for a sense of self and identity. Their main task, during this stage, is to develop a sense of self. Failure to establish an identity can result in role confusion, with individuals being
Adolescents are often uncertain about themselves and their place in society. Adolescents often seek increased connections to their peers, and their validation, in developing their identity.

Adolescents conceptualize their identity through peer interactions, environmental exploration, and self-reflection (Erickson, 1968). During this stage, adolescents may experiment with self-presentation. This self-presentation can span from sartorial to gender appearance to hair style. This refashion is a part of the adolescent’s identity discovery, which is subject to review by themselves and their peers. This review can satisfy or engender another alteration in appearance. Additionally, adolescents explore roles, ideas, set goals, and attempt to uncover their mature “adult” selves. It is imperative for adolescents to foster a strong sense of self to transition into the next stage of development—intimacy versus isolation. Adolescents can be motivated to use social media as a platform for peer connection, validation, and experimenting with self-presentation to meet these developmental tasks.

The main motivational factors for adolescents using social media include entertainment, information-seeking, personal utility, convenience, and social interactive gratification (Al-Meanayes, 2015; Throuvala et al., 2019). Other contributing factors include communicating online and self-disclosing, satisfying psychological needs (Ang et al., 2015), gaining popularity (Utz et al., 2012), developing their identity, enhancing personal values, and establishing a sense of connectedness (Ha et al., 2015). A need for control of content and relationships, emotional regulation and enhancement, peer comparison, and ego validation also drive adolescents’ social media use (Throuvala et al., 2019). These factors reflect adolescents’ stage in psychosocial development through a desire to connect with other users (i.e., social interactive gratification,
establishing a sense of connectedness) with their inherent drive for identity formation (i.e., peer comparison, ego validation, enhancing personal values). Interestingly, researchers found Facebook connectedness was distinguishable from offline connectedness, and positively correlated with lower levels of depression, anxiety, and higher levels of life satisfaction (Grieve et al., 2013). Moreover, with these motivations, social media can satisfy or thwart adolescents, sometimes due to the positive or negative responses of other users.

By molding an identity through an online platform, adolescents can subjugate themselves to peer review (Balakrishnan & Griffiths, 2018). In response to the review, users can construct and reconstruct their identities. Social networking provides a space for experimenting with self-presentation, especially for individuals who are trying to gain a better sense of self and identity, such as adolescents (Fullwood et al., 2016). These characteristics can be real, ideal, and false self-representations on these mediums, in addition to intersecting identities (Michikyan & Suarez-Orozco, 2014). For example, an adolescent questioning their gender or sexual identities can create a new narrative on social media, which could provide an outlet and a space for exploration with optional anonymity. Social media can strengthen perceived peer support through other users liking, commenting, and sending positive direct messages (Guedes et al., 2016). However, identity formation can become compromised if adolescent users become fixated on other users’ presentations.

Adolescent users can become preoccupied with curated images found on social media, and find themselves comparing instead of connecting. Social networking forum users can depict a skewed perspective of their lives, such as presenting only a positive
perspective through idealized pictures and optimistic status updates to create their online self-image (Qiu et al., 2012). For instance, a user may begin to post similar pictures to other users who receive many likes and comments. Thus, a problem arises when social comparison and competition engenders a complete self-presentation overhaul via social media. To that end, a lack of social validation may also comprise establishing one’s personal identity.

When adolescents passively engage on social media, they do not receive the validation needed to establish their identity. Instead, they begin to employ upward social comparison as they view others’ online identity constructs. Additionally, persistent social media use limits environmental exploration, as the user becomes engrossed with images on screens, instead of their actual surroundings. Finally, their self-reflection becomes persistently thinking about the opportunities they are missing by comparing their daily activities to the lives displayed by other social media users. Thus, an individual’s maturation could become psychosocially compromised or supplemented as researchers point to both positive and negative effects of adolescent social media use.

Researchers highlight both negative and positive aspects of adolescent social media use. For instance, Dogan (2016) found adolescent social media use is an important predictor in terms of making adolescents \( (N = 459) \) happy, ensuring psychological wellbeing, and life satisfaction. Additionally, adolescent girls’ \( (N = 910) \) active social media use and self-disclosure lead to an increased perception of online support from peers, which negatively correlated with depressed mood (Frison & Eggermont, 2016). In contrast, other researchers found adolescents \( (N = 467) \) who spent more time online experienced greater levels of anxiety and depression (Woods &
Scott, 2016). In examining other constructs (i.e., self-esteem), researchers found mixed results regarding correlations with social media use. In examining self-esteem among young adults ($N = 63$), Gonzales and Hancock (2011) found a positive correlation between views of one’s own social media profile and level of self-esteem. Other researchers found adolescents’ levels of self-esteem vacillated in accordance with positive or negative feedback or comments (Valkenburg et al., 2006). However, some scholars also found an overall negative relationship between frequent social media use and self-esteem amongst adolescents ($N = 467$) and undergraduate students ($N = 145$) (Vogel et al., 2014; Woods & Scott, 2016). As such, social media use can yield positive and negative effects for adolescents, which can be dependent on the user’s typology and their propensity to engage passively or actively on social media. Individuals may view social media user typology as a continuum of active to passive engagement on these platforms (see Figure 2-1).

**Active Social Media User Typology**

Active social media users refer to those who interact with other site users through the social media platform’s features. Engaging in active social media use can reduce feelings of loneliness (Burke et al., 2010; Deters & Mehl, 2013). These “active” interactions can include posting, messaging, uploading photos, updating your story, commenting, and liking others’ posts. Individuals who actively engage on social media increase their social capital (Burke et al., 2011), or “the features of social organizations, such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (Putnam, 2000, p. 67). Interestingly, individuals who actively engage online are also active in their offline relationships (Fullwood et al., 2016). Yang and Brown (2013) found late adolescents ($N = 193$) ages 17-26 ($M = 20.32$), who engaged
in Facebook interactions, or actively used the platform, had a higher level of social adjustment. Actively engaging through self-disclosure on social media and receiving positive feedback from peers can be a rewarding experience (Guedes et al., 2016). Hence, active social media use can increase the communication and feelings of connection and social validation between adolescents. Scholars have used hyperpersonal communication theory (Walther, 1996) to potentially explain active social media use.

**Hyperpersonal communication theory.** The hyperpersonal communication theory postulates people become less concerned about how others perceive them or others’ opinions, and feel fewer inhibitions with self-disclosure on online platforms (i.e., social media) due to the reduced contextual, visual, and auditory cues found on online platforms (Walther, 1996). The lack of nonverbal cues allows users to be strategic and deliberate in their presentation, which could lead to increased self-disclosure (Jiang et al., 2013). Users are less disinhibited to share information with other users, especially with the delay in reactions. Additionally, users can edit and carefully construct any messages, posts, or comments before transmission. The feedback from these actions can encourage behavioral confirmation, or validation from other users (i.e., likes, comments, shares), reinforcing positive self-presentation (Walther, 2011).

Gonzales and Hancock (2011) applied the hyperpersonal communication theory to college students’ (N = 63) Facebook use. The authors told participants' the purpose of the experiment was to examine “people’s attitudes about themselves after exploring different internet sites” (p. 80). In the Facebook condition, the researchers instructed the participants to log onto Facebook and click the profile tab after the researcher left the
room. After three minutes, the researcher returned and instructed the participants to keep the Facebook tab open, and administered the self-esteem scale and two additional yes/no questions: 1). Did you leave your profile any times during the study?, 2). Did you change your profile while you were on the Web site?. The researcher found the Facebook group participants, who both reviewed and updated their Facebook profiles, reported the greatest levels of self-esteem. The researchers concluded selective self-presentation and active engagement on social media could positively affect self-esteem.

The positive effects of social media use can lead to users being increasingly hyperpersonal on online forums versus in-person communication. For example, according to the theory, a social media user will be more inclined to post a personal status update, such as their recent battle with test anxiety when taking standardized tests, due to the lack of visual or auditory cues one would experience when telling this strife to someone in person. The online forum creates a space that is less intimidating for users, thus opening a platform for intimate or hyperpersonal information sharing. Researchers found adolescents to be more active in self-presenting themselves online compared to adults (Malik et al., 2016). Hence, these users could receive validation and support from other users, thus reinforcing a sense of connectedness and belonging, and meeting the needs of their psychosocial stage.

**Passive Social Media User Typology**

Passive social media includes monitoring other users’ lives by viewing the content on their profile without an intention to seek further communication (Burke et al., 2010). The passive social media user consumes social media content, instead of contributing to the conversation. Late adolescent users (n = 193) ages 17-26 (M = 20.32) who engaged in voyeuristic or passive Facebook activities were less self-
presenting online (Yang & Brown, 2013). In other words, these voyeuristic or passive Facebook users regularly viewed others’ posts or profiles instead of posting their own updates (i.e., posting a new photo). For adolescents, researchers found a relationship between passive social media use and depressed mood, loneliness, lesser sense of well-being, and a decrease in social capital (Burke et al., 2010; Frison et al., 2016; Qiu et al., 2012). Among undergraduate students \((N = 84)\), researchers found browsing Facebook for 10 minutes, without interacting with other users, decreased their affective well-being and increased feelings of envy (Verduyn et al., 2015). Yet, researchers also found adults \((N = 135)\) viewing their own profile engendered positive effects on emotional well-being (i.e., self-soothing) (Good et al., 2013). Thus, passive social media use can be beneficial in some scenarios, yet, researchers primarily highlight the negative effects of passively viewing others’ profiles, or scrolling through one’s feed (Gerson et al., 2017). The negative effects of passive social media use can be theoretically explicated by Festingers’ (1954) social comparison theory.

**Social comparison theory.** Festinger’s (1954) social comparison theory posits that people have an innate drive to evaluate their opinion and capabilities by comparing themselves to others. This comparison can be a mechanism for self-improvement, self-motivation, and fostering a positive sense of self. Additionally, the comparison can be either downward or upward. Downward comparison can help one keep positive views of the self, while *positive* upward social comparison can serve as a mechanism to inspire self-improvement. However, *negative* upward social comparison can become detrimental if one’s self-image becomes compromised yielding a negative affect (Haferkamp & Kramer, 2011). For example, following a user who posts workouts and
tips for clean eating could inspire other users to lead a healthier lifestyle due to positive upward social comparison. In other words, the positive upward social comparison would be viewing the user as healthier or more fit, but being inspired to improve their health and fitness resulting in self-betterment. Negative social comparison could be following an influencer, or users who both textually and visually exhibit their personal daily lives to a large number of followers (Marwick, 2015). Influencers’ posts predominately highlight their luxurious life through high-end fashions, exotic vacations, and are “catalogs of what many young people dream of having and the lifestyle they dream of living” (Marwick, 2015, p. 155). Users may employ negative upward comparison when viewing these influencers’ pages because their own lifestyle is significantly less posh or opulent. Additionally, the ordinary user is likely unable to achieve this grandeur lifestyle, which can engender feelings of envy or socially inferior, especially amongst female users (Chae, 2018). Thus, negative upward comparison results in a negative reaction, instead of inciting betterment. Hence, social media can be an optimal platform to access information about others, and provide a space for self-evaluation with minimal distractions.

As previously discussed, social network users generally optimize their online self-presentation, thus creating an environment for comparison (Fullwood et al., 2016). Researchers report that these users spend the majority of their time viewing idealized profiles, pictures, and updates of other users, which can yield negative effects, such as feelings of inadequacy and isolation (Pempek et al., 2009). Researchers found upward social comparison to explain the relationship between passive social media use, self-esteem, and subjective well-being (Lee, 2014; Wang et al., 2018). In the two-wave
study, Wang et al. (2018) collected data from college students \((N = 350)\) at two instances one year apart, and analyzed the data with structural modeling. From the first wave, passive social media use predicted a decrease in subjective well-being at the second wave. Additionally, lower subjective well-being at the first wave predicted an increase in passive social media use at the second wave. The researchers posit upward social comparison could explain the relationship between passive social media use and subjective well-being, however, further research is needed to solidify this hypothesis.

Lee (2014) found a significant, negative correlation between self-esteem, and upward social comparison frequency amongst college students \((N = 199)\) using Facebook. Participants indicated a positive relationship between Facebook use intensity and upward social comparison frequency; the more often participants used Facebook, the more often they experienced upward social comparison. Lastly, participants’ negative feelings from upward social comparison on Facebook negatively correlated with self-concept clarity, and positively correlated with anxiety and depression. Hence, participants with higher levels of self-concept or self-awareness experienced less negative feelings from upward social comparison on Facebook.

Individuals establish their self-worth and identity primarily from the feedback of others (Leary et al., 2015). Therefore, when people passively engaging in social media, they are less likely to obtain social feedback, which can damage their self-esteem and subjective well-being, especially in the presence of upward social comparison. Researchers found life satisfaction moderated the relationship between social media use and social comparison in emerging adults \((N = 231)\) (de Vries & Kuhne, 2015). In other words, the relationship between social media use and upward social comparison
was weaker among individuals with higher levels of life satisfaction. For individuals with lower levels of life satisfaction, social media use was negatively related to self-perception through upward social comparison. Thus, passive social media use is related to various negative effects for users. An overall limitation to the aforementioned studies (de Vries & Kuhne, 2015; Lee, 2014) is the absence of validity on one or more of the study’s measures. Upward social comparison can also contribute to a fear that users are “missing out” from socially rewarding activities and interactions, a phenomenon known as “fear of missing out” (FOMO). Experiencing FOMO can be especially detrimental to the psychosocial development of adolescent social media users.

**Fear of Missing Out (FOMO)**

Przybylski et al. (2013) defined the fear of missing out (FOMO) as “a pervasive apprehension that others might be having rewarding experiences from which one is absent” (p. 1841). Similar to social comparison theory, FOMO elicits comparisons of other users’ lives to one’s own life as conveyed by their social media profile and posts. Individuals who experience FOMO spend more time on social networking engaging passively as they observe and compare the ostensible lives of others to their own. In turn, their own lives become less fulfilling by replacing face-to-face interactions with viewing other users’ profiles or recent posts in order to feel more connected or related to others. Despite the negative effects of the phenomena, which the author will explore in depth, individuals continue to engage in social media despite this fear of missing out. This is due to the psychological needs they are seeking to meet via social media. Xie et al. (2018) found college students’ (N = 815) basic psychological needs negatively correlated with FOMO, while psychological needs satisfaction served as a protective
factor for the fear of missing out. Online forums, such as social media, satisfy basic psychological needs as described by self-determination theory.

**Self-determination Theory**

Scholars may seek to explain FOMO through the application of self-determination theory (Przybylski et al., 2013). In accordance with this theory, an individual must have their basic psychological needs met in order to have effective self-regulation and psychological health. The three basic psychological needs include (a) competence— the desire to control or master one’s environment; (b) autonomy— the urge to be a causal agent and act in harmony with one’s self; and (c) relatedness— the interaction with, connection to, and care for other people (Deci & Ryan, 1985). Social networking seemingly fills the need for relatedness almost instantaneously (e.g., newsfeed) with control over this environment (e.g., add or delete friends), and the ability to appear as you wish (e.g., profile picture, status updates). Social media can be a resource for establishing and deepening peer connection, as well as a tool to develop social competence. Individuals with lower levels of basic need satisfaction are vulnerable to experiencing FOMO (Przybylski et al., 2013). Essentially, the pervasive desire to fulfill these psychological needs with an artificial source can negatively affect one’s mental and physical health as evident by past and current research.

For example, adolescents (N = 402) who reported feelings of FOMO had an increased need to belong and be popular (Beyens et al., 2016). Increased levels of FOMO were also related to increased stress related to social media use (Beyens et al., 2016). Additionally, among adolescents (N = 832), researchers found that FOMO mediated the association between the need to belong and an authentic self-presentation online (Wang et al., 2018). The need to belong was also linked to a
preference for passive social networking use (Reich & Vorderer, 2013). Furthermore, FOMO was correlated with the need for approval and an increased sensitivity to social inclusion (Lai et al., 2016). These findings further the self-determination underpinning of FOMO, as the theory describes adolescents, and people in general, seeking to gratify their psychological need to connect with others, and social media serves as an excellent medium to satisfy the need to belong (Nadkarni & Hofmann, 2012). Hence, individuals with need deficits may experience FOMO, leading to sundry negative effects.

**Effects of FOMO**

Despite being a fairly new construct, researchers have linked FOMO with various negative effects and maladaptive behaviors of adolescents and young adults. College students (\(N = 159\)) reported experiencing FOMO later in the week and later in the day (Milyavskaya et al., 2018). FOMO later in the day could lead to disruptions in one’s ability to fall and stay asleep. On a somatic level, experiencing the fear of missing out affected adolescents and freshman college students’ sleep cycle (Adams et al., 2017; Scott & Woods, 2018). For adolescents (\(N = 101\)), FOMO predicted shorter sleep duration through two pathways: behavioral and cognitive (Scott & Woods, 2018).

Behaviorally, FOMO elicited late night social media use, which affected the ability to obtain a full night’s rest. Adolescents increased pre-sleep cognitive arousal when experiencing FOMO, and accessing social media at night. Researchers also found other maladaptive internet behaviors (i.e., phubbing; Balta et al., 2018) among adolescents experiencing FOMO.

The term “phubbing” combines the words “phone” and “snubbing” to describe the act of individuals checking their smartphone in the midst of an in-person conversation to escape from interpersonal communication (Karadag et al., 2015). As a result, phubbing
damages real life relationships, similar to problematic social media use, as it appears disrespectful and disregarding of others. Roberts and David (2016) found phubbing to have a direct effect on life satisfaction and depression via relationship satisfaction. Adolescents ($N = 423$) who experienced FOMO were likely to exhibit phubbing behaviors via problematic social media use, specifically problematic Instagram use (Balta et al., 2018). Stead and Bibby (2017) also found that FOMO negatively correlated with emotional well-being and the quality of personal relationships among individuals ages 18-30 ($N = 495$).

Overall, individuals experiencing FOMO can be increasingly aware of social inclusion yielding a greater awareness and desire to socially belong, thus seeking approval from peers. As previously discussed, adolescents experience an innate drive to belong, and can be easily socially excluded by their peers on social media (e.g., seeing pictures of a party or social gathering), or not feel “popular” or well liked (e.g., few likes on an Instagram post). Thus, the lack of social validation from social media may impede psychosocial development.

Despite the negative feelings engendered by FOMO, users experiencing FOMO spend more time online (Baker et al., 2016), and may become increasingly dysregulated in their social media use. They may use social media in an attempt to meet their psychological needs, but instead decrease their own regulation. Increased time on social media can be deemed as “problematic” when adolescents can no longer regulate their time online. With constant access to information about others, adolescents become endangered to be constantly comparing themselves to their peers and potentially...
stunting their own psychosocial development. Additionally, this elevated, unregulated use of social media can become problematic over time.

**Problematic Social Media Use**

Problematic social media use (PSMU) is an unmanageable urge to use social media, which results in real life relationships being negatively affected (Andreassen & Pallesen, 2014). PSMU is a subtype of problematic internet use (PIU) (2014) (see Figure 2-2). Scholars use a variety of terms such as *addiction*, *dependency*, and *problematic use* to describe the uncontrollable impulse to use online media. Although used synonymously at times, the term *problematic use* is preferable to *addiction* or *dependency* for the current study. To delineate *problematic use*, the author will examine the terminology of *addiction* and *dependency*.

Byun et al. (2009) defined *addiction* as a compulsive and unhealthy dependence on a habit or substance, which results in negative physical or psychologically repercussions. Although *addiction* is a longstanding terminology, it implies a pathological association, or the likening to psychiatric conditions of the unregulated behavior. *Dependence* became a new descriptive label in the DSM-IV as it was less stigmatized than addiction (Lee et al., 2017). However, in the DSM-5, scholars replaced *dependency* with substance use disorder, and used addictive disorder to describe behavioral addictions (American Psychiatric Association, 2013). Individuals may associate *addiction* and *dependency* with the diagnosis of a pathological problem. Hence, *problematic use* is the preferable term, as it implies degrees of compulsivity yielding negative outcomes experienced by individuals, but lacks the pathological association (Yellowlees & Marks, 2007), and avoids a premature diagnosis (Lee et al., 2017). Additionally, PSMU can be exacerbated by pre-existing issues in psychosocial
developmental (LaRose et al., 2010). In terms of compulsivity, this may also be described as a habit, or a regular practice that is often difficult to stop performing. The habitual element of problematic use is best espoused by the theoretical framework of the social cognitive model.

**Social Cognitive Model for Problematic Media Use**

LaRose et al. (2003) adapted the social cognitive model for problematic media use, which branched from Bandura’s (1986) social cognitive theory. The social cognitive theory is a comprehensive model of human behavior that expands the classical learning theory with considering the complexity of human cognitions. A key component of this model is the ability humans possess to self-regulate. Bandura (1991) delineated self-regulation through three subfunctions: self-monitoring, judgmental process, and self-reaction (Bandura, 1991). Self-monitoring is the observation of one’s own behavior and the effect of these actions on the self, others, and their environment. To self-monitor, one must be actively aware of their behavior and access their normalcy in relation to the present situation. In other words, someone engaging in self-monitoring should be aware of whether their behavior or reactions in a given situation is normal or abnormal. Next, the judgmental process evaluates these self-observations with personal standards, group norms, comparisons of past behavior, or collective comparison, such as their contributions to the group’s accomplishments. Finally, the self-reactive function provides intrinsic rewards, such as self-respect or self-satisfaction, from meeting the desired standards. This model of self-regulation frames the regulation deficient individuals experience with problematic media use.

The social cognitive model attributes problematic use to a diminished self-regulation, along with a habitual use of social media (LaRose, 2010). Triandis (1980)
defined habits as “situation-behavior sequences that are or have become automatics, so that they occur without self-instruction” (p. 204). When one’s actions become habitual, their self-regulation becomes increasingly ineffective. Within the social cognitive framework, self-regulation deficiencies can vary in degrees instead of the dichotomous disease model (i.e., addicted or normal) (LaRose et al., 2003). The framework applied to the problematic media use proposes unregulated media behavior be termed “media habits” instead of addictive media behavior. The deficiency in self-regulation may begin innocuously by intentionally using media to relive boredom, reduce feelings of loneliness, seek validation of social identity, engage in social interaction, or simply “pass time”. Within the social cognitive theory, these factors are self-reactive incentives (LaRose et al., 2001). Hence, the rewards gained from using media to satisfy these needs become habitual by a decrease in self-monitoring. The individual becomes operantly conditioned through the initial self-reactive incentives, but they no longer actively attend to or acknowledge these incentives (self-monitoring or self-observation). Thus, the judgement process cannot commence without these self-observations resulting in dysregulated behavior. Essentially, individuals become less conscious of their actions involving social media, thus increasing their habit while decreasing their self-regulation; in other words, forming a “bad habit” that can yield certain consequences.

Effects of PSMU

In recent years, researchers began narrowing their study of PIU to PSMU with adolescents and young adults. These studies point to PSMU during adolescence and young adulthood relating and leading to various emotional, cognitive, and social difficulties. Researchers examined PSMU, problematic online gaming (POG), and trait
emotional intelligence among high school students ($N = 407$) and found that trait emotional intelligence was indirectly associated with PSMU via mindfulness, rumination, and depression (Kircaburun et al., 2019). Additionally, higher trait emotional intelligence was related with increased mindfulness, while higher mindfulness was related with lower levels of PSMU and POG. Depression was also a significant predictor of PSMU, but not POG. Gurultu and Deniz (2016) also found PSMU was related to academic procrastination in high school students ($N = 473$). Concerning both studies, the generalizability of the findings to adolescents in the United States is also limited due to the participants being from one Turkish high school.

Researchers also examined rates of PSMU, cyberbullying perpetration, social connectedness, belongingness, depression, and self-esteem among high school students ($n = 804$) and college students ($n = 760$). (Kircaburun et al., 2018) For the high school students, PSMU and cyberbullying perpetraions had a direct relationship. Additionally, age was a significant direct predictor for PSMU and cyberbully perpetration for university students, but not high school students. Furthermore, depression was a direct predictor of PSMU and cyberbully perpetration. PSMU was also directly associated with being female and general belongingness, while social connectedness was indirectly related to PSMU via depression. Additionally, Durak (2018) examined adolescents’ ($N = 451$) relationships between the duration of social media use, social anxiety, self-regulation, academic procrastination, and problematic internet use. Adolescents in eighth through eleventh grades reported a significant relationship between PSMU, social anxiety, self-regulation, and academic procrastination. Interestingly, there was not a significant relationship between PSMU and PIU, nor the
duration of social media use and PSMU. This may mean that participants underestimated their online use.

Researchers also examined PSMU in relation to narcissism in adolescents ($N = 307$) (Hawk et al., 2019). The researchers used a two-wave longitudinal study, collecting data from participants approximately one year apart. Earlier adolescent narcissism predicted later PSMU, social media disclosure, and smartphone stress via attention-seeking. The researchers found a mediation model with attention-seeking behaviors mediating the relationship between narcissism and PSMU. Thus, adolescents exhibiting narcissistic traits had an increased likelihood of partaking in attention-seeking behaviors online leading to PSMU (Hawk et al., 2019). Researchers also found adolescents’ ($N = 1,886$) PSMU positively correlated with sleep disturbances, and negatively correlated with school satisfaction. (Vernon et al., 2015). Hence, researchers have identified the negative effects of PSMU for adolescents, yet, there is a lack of empirically examined interventions to address this problematic use.

**Interventions**

Although this researcher did not find any interventions for addressing PSMU, she found one intervention for addressing problematic internet use (PIU). The two concerns are distinct in that PIU extends to all platforms and functions of the internet, whereas PSMU specifically focuses on social media. Shapira et al. (2003) defined problematic internet use (PIU) as (a) an unmanageable preoccupation with the internet, (b) distress and difficulties as a result of the internet use, and (c) being unrelated to other disorders that might explain the internet use. Researchers link problematic internet use in adolescents to substance abuse, depression, social anxiety, and hostility (Rial et al., 2018). For adolescents ($N = 3,938$), males who read blogs and played massive
multiplayer online games were more susceptible to PIU, while females’ use of social media and blogs increased the likelihood of PIU (Dufour et al., 2017).

To further explain the phenomenon, Davis (2001) introduced a cognitive-behavioral theory of generalized PIU, explaining psychosocial issues (i.e., depression, loneliness, low self-esteem) predispose individuals to develop maladaptive online behaviors that result in negative outcomes. In other words, individuals experiencing psychosocial problems may prefer online social interaction over face-to-face conversation, which can perpetuate compulsive internet use (Caplan, 2005). In revising the cognitive behavioral framework, Caplan (2010) included a deficiency in self-regulation. In accordance with the framework, individuals experience psychosocial problems leading to excessive, unregulated use of the internet. The leading intervention to address PIU also follows a cognitive behavioral model (see Figure 2-3).

Despite the rising rates of online use, there are few interventions to address problematic or foster healthy use of the internet among adolescents, with the majority of interventions being designated for adolescents experiencing internet addiction (i.e., Du et al., 2010; Liu et al., 2014; Zhong et al., 2011). The purpose of this study is to focus on problematic use not addiction. The author found only one intervention that specifically treats adolescent with PIU. Psychological Intervention Program-Internet Use for Youth (PIP-IU-Y) is a cognitive-behavioral based counseling approach for youth to address PIU, and prevent internet addictions (Ke & Wong, 2018a). The program incorporates cognitive-behavioral therapy (CBT) and positive psychology theories and approaches, including coping skills related to social interaction instilling positive thinking. The intervention focuses on reducing PIU and social anxiety, and increasing face-to-face
social interactions. It includes eight, 90-minute, weekly CBT group sessions. When examining the effectiveness of the intervention with 45 adolescents ages 13-18, the researchers found significant improvement in PIU, with lower levels of overall anxiety, stress, and social interaction anxiety. However, the level of depression did not change.

In seeking to validate PIP-IU-Y among adolescents (N = 157) in Malaysia, researchers found the scores on all variables (PIU, depression, anxiety, stress, and social interaction anxiety) significantly decreased from pre-intervention to post-intervention (Ke & Wong, 2018b). Thus, the researchers found evidence of the efficacy of PIP-IU-Y. However, limitations included a sample of only Malaysian students, the intervention failing to address subtypes of PIU (i.e., online gaming, online pornography) which may involve a different treatment protocol, and the researchers not outlining the protocol and how they adapted it to meet the needs of clients with varying problematic internet use.

To date, PIP-IU-Y is the only known program to address PIU in adolescents, and it focuses on the entirety of PIU instead of emphasizing a specific area of online use (i.e., social media). Although the lack of specificity in the intervention may increase applicability, researchers may potentially strengthen the intervention by focusing on specific problematic areas of internet use (i.e., social media use). The paucity of interventions available to address this pertinent, timely issue creates a gap for mental health professionals when working with adolescents who exhibit signs of PIU and FOMO. Hence, a need exists for examining other treatment modalities to promote healthy social media use, such as a MBI.
Mindfulness

Mindfulness involves experiencing the present moment fully with an attitude of curiosity and non-judgement (Bishop et al., 2006). The origins of mindfulness date back 500 years with Buddhist philosophy, with a resurge in the popularity of mindfulness in the late twentieth century as a means for stress-reduction. In the late 1970s, Jon Kabat-Zinn introduced the practice of mindfulness meditation to chronic pain patients. As a part of a 10-week stress reduction and relaxation program, the participants learned to focus their attention through a variety of mindful meditation techniques (Kabat-Zinn, 1982). Over 50% of the patients reported a decrease in pain at the end of treatment, which pointed to mindful meditation being a potential self-regulation tool for managing chronic pain.

The use of mindful meditation expanded into a formalized treatment entitled Mindfulness-based Stress Reduction (MBSR; Kabat-Zinn, 2003). The eight-week program includes two-hour group-based classes, daily home practice, and a day-long mindfulness retreat. The program focuses on applying mindful awareness to everyday experiences through the use of body-scan meditations, sitting meditations, walking meditations, and Hatha yoga. Clinicians use MBSR to address a variety of presenting problems. For example, researchers found using MBSR with adolescents ($N = 20$) increased mindfulness and self-compassion, and reduced perceived stress and depression (Edwards et al., 2014). Additionally, adolescents ($N = 23$) who attended an eight-week MBSR course reported reductions in levels of anxiety and depression along with a positive difference in recent academic performance compared to the control group.
Other treatment modalities also include mindfulness (i.e., Mindfulness-based Cognitive Therapy [MBCT], Dialectical Behavioral Therapy [DBT], Acceptance and Commitment Therapy [ACT]). MBCT infuses systematic mindfulness training with elements of cognitive therapy specifically designed for individuals with a history of depression (Segal et al., 2002). DBT is a cognitive-behavioral treatment, originally developed for patients with borderline personality disorder, with mindfulness as one of the four essential skillsets along with emotional regulation, interpersonal effectiveness, and distress tolerance (Linehan, 1993). Practitioners have modified DBT for use with other diagnoses or comorbid conditions that involve emotional regulation, such as PTSD and eating disorders (Fasulo et al., 2015; Murray et al., 2015). Lastly, ACT (Hayes & Strosahl, 2004) uses acceptance and mindfulness in tandem with commitment and behavior changes to increase psychological flexibility. Some researchers classify these third-wave treatment approaches as following behavioral and cognitive behavioral approaches (Hayes et al., 2004). This new wave of treatments uses mindfulness to help individuals notice and regulate their maladaptive thoughts, feelings, and behaviors that undermine their mental health. These aforementioned therapy modalities contain detailed, formalized protocol whereas general MBIs encompass three essential axioms: (a) attention, (b) intention, and (c) attitude (Shapiro et al., 2006).

The three axioms create a framework for MBIs, and lay the groundwork for the intervention to transpire. The axiom of attention includes actively noticing one’s present moment both internally and externally (Shapiro & Carlson, 2009). Intention examines the purpose or “why” of one’s actions (2009). Intentional attention includes the self-regulation of one’s intention (Bishop et al., 2004). Lastly, a mindful attitude includes
being non-judgmental, accepting, trusting, patient, non-striving, curious, and kind (Bishop et al., 2004; Shapiro et al., 2006). These axioms do not occur in set stages, but instead as a cyclical process (Shapiro et al., 2006). If occurring simultaneously, these axioms enhance one’s present moment connection. These axioms should be present to classify an intervention as mindfulness-based. Currently, a plethora of research exists on various types of MBIs, but the efficacy of these studies is questionable.

**Effects of MBIs**

The use of MBIs with children and adolescents can enhance core cognitive skills to increase academic and social functioning (Thurman & Torsney, 2014; Viglas & Perlman, 2017). Mindfulness can also serve as a regulation tool to increase executive functioning (Blakemore & Choudhury, 2006). However, in examining existing MBI studies with children and adolescents, researchers identified three major concerns: only (a) 30% were randomized, (b) 50% had a comparison condition, and (c) 10% had an ‘active’ comparison condition (Dunning et al., 2019). Nevertheless, despite the limitations in existing research, researchers acknowledge the moderate effects of using MBIs for treating various conditions in children and adolescents.

Research on MBIs with children and adolescents is in its infancy compared with research focused on adults (Dunning et al., 2019). Researchers are continually adapting existing MBIs to work with children and adolescents, and create their own modifications to address presiding issue(s). For example, *Taming the Adolescent Mind* (Tan & Martin, 2013) is an adaption of the adult MBSR program for adolescents. In Tan and Martin’s (2015) study, the researchers recruited adolescent participants (*N* = 80) from mental health clinics, and randomly assigned participants to the control and experimental groups. Both groups received treatment-as-usual from their respective clinics, with the
treatment group receiving the additional 5-week mindfulness-training program. The findings included a decrease in mental distress; improvement in self-esteem, mindfulness, psychological inflexibility, and mental health; and no improvement in resilience. These findings were sustained from post-test to three-month follow-up. Other MBI studies conducted with children and adolescents target a specific presenting issues including attention deficit/hyperactivity disorder (ADHD), anxiety, and autism spectrum disorder (ASD).

Researchers found positive effects in using MBIs as a treatment for ADHD symptoms (i.e., Haydicky et al., 2012). Haydicky et al. (2012) used a MBI for adolescents with learning disabilities and co-occurring ADHD and anxiety. The participants \( N = 49 \) were adolescent boys between the ages of 12 and 18 recruited from a children's mental health center. The 20-week group consists of weekly 1.5 hour sessions that includes elements of mindfulness meditation, cognitive behavioral therapy, and mixed martial arts. For the group with co-occurring ADHD \( n = 28 \), the treatment group improved on parent-rated externalizing behavior, oppositional defiant problems, and conduct problems. For the group with elevated hyperactive/impulsive symptoms \( n = 29 \), the treatment group improved on parent-rated social problems and monitoring skills. For the group with elevated inattentive symptoms \( n = 33 \), the treatment group improved on parent-rated social problems. For the group with elevated anxiety \( n = 29 \), the treatment group reported a decrease in anxiety.

Researchers also reveal positive effects for treating anxiety with children and adolescents (i.e., Crowley et al., 2018; Swain et al., 2015). Swain et al. (2015) used ACT with adolescents \( N = 49 \) diagnosed with a DSM-IV anxiety disorder. The
researchers randomly assigned participants to either ACT \((n = 16)\), CBT \((n = 10)\), or waitlist control \((WLC; n = 23)\). Participants assigned to the ACT and CBT groups received 10 X 1.5 hour, weekly group therapy sessions. The ACT and CBT groups both increased acceptance and diffusion, while both ACT and WLC scored higher than CBT on mindful observing. No significant changes were observed for valued action and mindfulness/self-as-context. Additionally, Crowley et al. (2018) applied a group MBI for adolescents \(\left(N = 12\right)\) with elevated levels of anxiety. The group MBI consisted of 10, 60-minute sessions after school in a classroom. The protocol consisted of various mindfulness exercises (i.e., mindful breathing, walking, and eating; body scans) and resources (i.e., loving-kindness practice cards). The researchers collected self-report and parent measures pre and post intervention. The results pointed to significant improvements in anxiety, internalizing stress, and attention.

In the treatment of ASD, de Bruin et al. (2015) adapted MYmind for children and adolescents with ASD and their parents. Developers created the MYmind protocol originally for children with ADHD (Van der Oord et al., 2012). The adaptations for ASD included applying mindfulness in stressful situations in relation to having ASD. In the study, researchers recruited adolescents \(\left(N = 23\right)\) diagnosed with ASD and their parent(s) \(\left(N = 29\right)\) from a community mental health-care center. The parents underwent a Mindful Parenting training (Bogels & Restifo, 2013), which included MBSR/MBCT meditation practices and mindful parenting issues. Adolescents reported an increase in quality of life and a decrease in rumination, but no changes in worry, autism spectrum core symptoms, or mindful awareness. The parents reported no change in adolescent’s ASD core symptoms, but an improvement in social responsiveness, social
communication, social cognition, preoccupations, and social motivation. The parents reported an improvement in general as well as in parental mindfulness.

In the previously discussed studies, the participants predominately identified as White (i.e., Swain et al., 2015), while some studies did not report race or ethnicity (i.e., Haydicky et al., 2012; Tan & Martin, 2015). Hence, it is important to highlight other MBI studies with participants of minority and marginalized populations. Researchers introduced a 10-week MBI to incarcerated adolescent males ($N = 23$) representing different racial ethnic groups: Latino ($n = 14$), African American ($n = 4$), Caucasian-American ($n = 3$), and Pacific Islander ($n = 2$) (Himelstein et al., 2012). The curriculum focused on various topics, including emotional intelligence, impulse regulation, active listening, empathy, interpersonal relationships, and forgiveness. Each session included discussions and activities, as well as formal and informal mindfulness meditation trainings. The participants partook in a semi-structured interview following the final session and the researchers identified four themes: (a) increase in subjective well-being, (b) increase in self-regulation, (c) increase in awareness, and (d) develop an accepting attitude toward the treatment intervention. Additionally, Sibinga et al. (2011) examined the effectiveness of a MBSR program with HIV positive and at-risk urban youth ($N = 33$). All participants identified as African American, 77% as female, and the average age was 16.8 years. The researchers found a reduction in hostility, general discomfort, and emotional discomfort. Additionally, the participants reported improvements in interpersonal relationships, school achievement, and physical health, and reduced stress. Some overall limitations to these studies included small, convenience samples (de Bruin et al, 2015; Himelstein et al., 2012; Sibinga et al.,
2011), a lack of a control group (de Bruin et al., 2015; Himekstein et al., 2012), and the absence of reliability and validity on certain measures (Tan & Martin, 2015).

Researchers have also examined MBIs with children and adolescents in school settings.

**Mindfulness-based Interventions in School Settings**

Researchers have employed MBIs with children and adolescents in schools to address a variety of presenting problems, including stress reduction, aggression reduction, test anxiety, and cognitive flexibility (Carsley & Health, 2018; Flook et al., 2015; Schonert-Reichl et al., 2015). Flook et al. (2015) introduced a 12-week mindfulness-based Kindness Curriculum (KC) to preschool children ($N = 68$). KC is a MBI with a specific focus on cultivating attention, emotional regulation, and an emphasis on kindness practices (i.e., empathy, gratitude, sharing). Flook et al. (2015) found the intervention group improved their level of social competencies and received higher grades in learning, health, and social-emotional development. Small to medium effects indicated the intervention group experienced an increase in cognitive flexibility and delayed gratification compared to the control group.

For test anxiety, Carsley and Health (2018) introduced a mindfulness art activity to adolescent ($N = 193$) to reduce levels of test anxiety. The mindfulness art activity consisted of coloring a mandala for 15 minutes before taking a spelling test. The experimental design included the intervention group ($n = 97$) given the mandala to color and the control group ($n = 96$) given a blank sheet of paper to color. The researchers found a decrease in test anxiety and an increase in dispositional mindfulness for both groups.
In elementary school children, Schonert-Reichl et al. (2015) utilized the MindUP curriculum (Hawn Foundation, 2008) to introduce mindfulness practices to fourth and fifth grade students. MindUP is a mindfulness-based education program consisting of 12 lessons to be taught weekly in class lasting approximately 40-50 minutes in addition to daily mindfulness practices (three minutes, three times a day). The MindUP curriculum includes activities to promote executive functions and self-regulation, social-emotional understanding, positive mood, and acts of kindness. The daily mindfulness practices include breathe work and attentive listening activities. Researchers randomly assigned students (N = 99) to the MindUP group or the active control group that used the school’s existing social responsibility program. The results indicated (a) improved cognitive control and stress physiology, (b) greater reported levels of empathy, (c) decreased self-reported depression and peer-rated aggression, (d) increased prosocial behavior reported by peers, and (e) increased peer acceptance. Shared limitations to this and the Flook et al. (2015) study are the subjectivity bias for the teacher reports due to their knowledge of the treatment condition, and either the absence of validity or low reliability on some instruments.

For middle school students, Sibinga et al. (2016) randomly assigned middle school students (N = 300) to either a classroom-adapted MBSR program, or a health education program (active control group). Researchers adapted the health education program from Glencoe Health Curriculum (McGraw Hill, 2005), which controlled for the effects of positive adult instructor, peer group experience, attention, and time. The researchers found the MBSR program participants reported greater improvements in mood, coping, and rumination in comparison to the health education participants. A
limitation included the lack of diversity in the sample (99.7% identified as African American) reducing the generalizability. However, the study contributed to the literature in using MBSR with low-income, urban, minority youth.

For high school students, Atkinson and Wade (2015) utilized a brief mindfulness-based prevention program for eating disorders in adolescent girls. The researchers assigned participants \((N = 347)\) to one of three groups: (1) the MBI, (2) dissonance-based intervention (The Body Project) (active control group), or (3) classes as usual. Both interventions were three sessions. The MBI introduced mindfulness and acceptance techniques (i.e., meditation) in relation to body image. The dissonance-based intervention followed The Body Project (Stice, Shaw, Burton, & Wade, 2006) protocol, which including challenging the thin-ideal by students engaging in discussion, role-plays, and written tasks. The researchers found no significant intervention effects between the two interventions, nor significant effects between each group. The limitations included the majority of participants identifying as White (84%), the lack of a baseline inclusion criteria other than identifying as female student, and the variations in facilitator training levels (i.e., both non-experts and experts facilitated groups). The lack of inclusion criteria could have affected the effect size. At pretest, participants could have identified existing body satisfaction (i.e., lack of body and weight concern, dietary restraint, thin-idealized internalization, eating disorder symptoms), thus creating a plateau from pre to posttest.

These highlighted studies adhered to the rigor of a RCT, and serve as paragons for conducting research on MBIs in school settings. However, research on nuanced school-based MBIs in their formative stages of development reveal promising results for
future studies. For example, Metz et al. (2013) piloted MBI group entitled *Learning to BREATHE: A Curriculum for Cultivating Emotional Regulation, Attention, and Performance* with high school students ($N = 216$). In the quasi-experimental design, researchers assigned students to the mindfulness group or instruction-as-usual control group. The program participants reported lower levels of perceived stress and psychosomatic complaints with higher level of efficacy in affective regulation. Additionally, program participants also gained emotional regulation skills, including emotional awareness, access to regulation strategies, and emotional clarity. In subsequent studies on the *Learning to BREATHE*, researchers have continued to measure the MBI’s effect on self-esteem and perceived stress (i.e., Eva & Thayer, 2017). Su and Swank (2019) also examined the effectiveness of a mindfulness-based attention group for elementary students ($N = 8$) with identified attentional problems at school using a single-case design. The small group intervention involved mindfulness-based practices such as mindful breathing, sensory awareness, being nonjudgmental, and choosing to respond instead of reacting. The researchers found promising results for the use of the mindfulness group intervention to reduce attention problems and promote on-task behavior and mindfulness. Thus, research supports the use of MBI with children and adolescents. The current study will continue to advance this area of study by focusing on using a MBI, *Mindful Connections* (Weaver & Swank, 2019), with adolescents to promote healthy social media.

**Mindfulness Framework for Problematic Social Media Use**

Weaver and Swank (2019) described *Mindful Connections* as “an intervention that integrates the three axioms of mindfulness (attention, intention, and attitude) with an evidence-based mindfulness technique (e.g. deep breathing) to address problematic
social media use.” (p. 8). The intervention focuses on helping adolescents regulate their social media use through increased awareness of their thoughts, feelings, and actions while on social media sites. Adolescents learn to observe maladaptive thoughts and emotions during their time on social networks to combat dysregulation, thus managing their time on social media. This regulation aims to mitigate the negative effects of social media misuse previously discussed (i.e., PSMU; FOMO). Additionally, participants learn to seize the present instead of fearing missing out on other experiences.

Understanding problematic social media use through a mindfulness framework includes the axioms of attention, intention, and attitude (see Figure 2-4). Attentional social media refers to a complete attention the user is giving themselves when accessing social media in the present moment. For example, the user is fully reading, not skimming, other users’ posts, or contributing meaningful comments and thoughtful likes to others’ posts. Additionally, the user is giving attention to their intention and attitude during their time on social media. Non-attentional social media use is when a user’s full attention is not on the content provided by their social media platform. These instances could include quickly scrolling through one’s feed, or mindlessly liking friends’ posts without reading the content. Next, explicit intention indicates a users’ identification of an intention for logging on their social media account(s). A user may set an intention such as wanting to post a story update or to check their feed for new posts. Once the user fulfills this intention, they would either log off or reexamine their intention to potentially establish a new one or decide to log off. A user with an inexplicit intention does not establish an intention prior to logging on their social media account(s). This lack of intention could lead to unregulated, mindless accessing of their social media
leading, again, to mindless scrolling, or venturing to other users’ profiles with a lack of awareness. Finally, an unaffected attitude refers to the retention of a mindful attitude previously discussed (i.e., curious, non-judgmental). For an optimal social media experience, attitude should be periodically monitored to ensure it is maintained. An affected attitude is influenced by social media use. This attitude can engender negative cognitions and emotions due to others’ posts (i.e., FOMO). For example, a user could begin to experience FOMO after seeing her friends’ posts of their spring break vacation without them. Instead of a mindful attitude, the user can become susceptible to feelings of loneliness, and isolation.

Chapter Summary

This chapter examined the ubiquity of social media amongst today’s adolescents with a psychosocial framework, and the effects of this constant connectivity. The author provided a detailed synthesis and critique of empirical literature regarding pervasive social media constructs (i.e., FOMO and PSMU) and their theoretical underpinnings. Next, the researcher critically examined existing interventions to address problematic use followed by an analysis of the literature on MBIs for children and adolescents. The chapter concluded with the presentation of the Mindful Connections intervention alongside a mindful framework of problematic social media use.

In the next chapter, the author will present the current study in a manuscript style. The author will provide a succinct overview of the pertinent literature concerning adolescent social media use and mindfulness-based interventions. Next, the methodology will be presented including a description of the Mindful Connections intervention.
Figure 2-1. The continuum of social media user typology.
Figure 2-4. A mindful model of problematic social media use.
CHAPTER 3
MANUSCRIPT

According to the PEW Research Center, individuals born between 1981 and 1996 (ages 22-37 in 2018) are millennials, while individuals born after 1997 are members of the new, post-millennial generation. The unprecedented accessibility to the internet and technology is a defining, distinguishable feature of the new generation, specifically in relation to how people communicate and interact (Dimock, 2019). The first iPhone launched in 2007, when the eldest post-millennials were 10 years old. Thus, social media, constant connectivity, and instant gratification entertainment and communication are not innovations for the new generation; they are fixtures. As such, researchers are now beginning to examine the implications of “growing up wired”; however, scholars have yet to reveal the lasting effects or imprints of technology on the generation. As technology and social media become an unquestionable facet of this generation’s lifestyle, professionals engaging with these adolescents should be knowledgeable of these fixtures to promote healthy psychosocial development.

To date, there is a lack of treatment protocols to address maladaptive social media use, and to teach healthy social media habits. Adolescents are vulnerable to experiencing the fear of missing out (FOMO) when viewing other users’ social media accounts, which is related to sensitivity to social inclusion and a desire to belong (Beyens et al., 2016; Lai et al., 2016). Additionally, individuals experiencing FOMO access their social media at higher rates (Baker et al., 2016), which could become habitual and dysregulated, otherwise known as problematic social media use (PSMU). People experiencing FOMO and PSMU are less mindfully attentive (Baker et al., 2016;
Kircaburun et al., 2019), due to their lack of present moment awareness and ability to self-regulation.

A probable treatment for the present-moment disconnect and dysregulation exhibited by those experiencing FOMO and PSMU is a mindfulness-based intervention (MBI). Mindfulness modalities can help individuals observe and regulate their maladaptive thoughts, emotions, and behaviors through present moment connection. Thus, a MBI can combat the impulsive, unregulated use of social media by establishing one’s attention, intention, and attitude before and while accessing social media, resulting in a present-moment connection. In other words, adolescents can learn how to be mindful on social media. As social media is a mainstay for this generation, a MBI could endorse self-regulation and healthy social media habits, while contributing to the dearth of literature on how to address adolescent problematic social media use.

**Adolescent Psychosocial Development with Social Media**

Adolescents’ psychosocial stage of development partly explains their motivation for accessing social media. Erickson (1950) proposed psychosocial developmental stages differentiated by specific tasks ranging from infancy to adulthood. He entitled the stage during adolescence as identity versus role confusion. This stage bridges childhood and adulthood. Adolescents become preoccupied with searching for a sense of self and identity. Their main task, during this stage, is to develop a sense of self. Failure to establish an identity can result in role confusion, with individuals being uncertain about themselves and their place in society. Adolescents often seek increased connections to their peers, and their validation, in developing their identity.

Adolescents conceptualize their identity through peer interactions, environmental exploration, and self-reflection (Erickson, 1968). During this stage, adolescents may
experiment with self-presentation. This self-presentation can span from sartorial to gender appearance to hairstyle. This refashion is a part of the adolescent’s identity discovery, which is subject to review by themselves and their peers. This review can satisfy or engender another alteration in appearance. Additionally, adolescents explore roles and ideas, set goals, and attempt to uncover their mature “adult” selves. It is imperative for adolescents to foster a strong sense of self to transition into the next stage of development- intimacy versus isolation. Adolescents can be motivated to use social media as a platform for peer connection, validation, and experimenting with self-presentation to meet these developmental tasks (i.e., developing their identity, enhancing personal values, establishing a sense of connectedness; Ha et al., 2015).

**Effects of Adolescent Social Media Use**

Adolescents in the United States have a pronounced online presence, with over 95% owning a smart phone, and 45% reporting being online “almost constantly”. YouTube, Instagram, and Snapchat are the most popular online platforms among adolescents, with a significant decline in Facebook use in recent years (Anderson & Jiang, 2018). Researchers highlight both negative and positive aspects of adolescent social media use.

In examining various constructs (i.e., self-esteem), researchers found mixed results regarding correlations with social media use. For example, in examining self-esteem among young adults ($N = 63$), Gonzales and Hancock (2011) found a positive correlation between views of one’s own social media profile and level of self-esteem. Other researchers found adolescents’ levels of self-esteem vacillated in accordance with positive or negative feedback or comments (Valkenburg, Peter, & Schouten, 2006). However, some scholars also found an overall negative relationship between frequent
social media use and self-esteem amongst adolescents ($N = 467$) and undergraduate students ($N = 145$) (Vogel et al., 2014; Woods & Scott, 2016). As such, social media use can yield positive and negative effects for adolescents, which can be dependent on the user's typology and their propensity to engage passively or actively on social media. Individuals may view social media user typology as a continuum of active to passive engagement on these platforms (see Figure 2-1).

Active social media users refer to individuals who interact with other site users through social media platform features. These “active” interactions may include posting, messaging, uploading photos, updating your story, commenting, and liking others’ posts. Adolescent girls ($N = 910$) who actively engaged on social media and engaged in self-disclosure reported greater levels of perceived online support from other users (Frison & Eggermont, 2016). In contrast, passive social media use includes monitoring other users’ lives by viewing the content on their profile without an intention to seek further communication (Burke et al., 2010). The passive social media user consumes social media content, instead of contributing to the conversation. For adolescents, researchers found a relationship between passive social media use and depressed mood, loneliness, lesser sense of well-being, and a decrease in social capital (Burke et al., 2010; Frison et al., 2016; Qiu et al., 2012).

When adolescents passively engage on social media, they do not receive the validation needed to establish their identity. Their self-reflection becomes persistently thinking about the opportunities they are missing out on by comparing their daily activities to the lives displayed by other social media users. Passive social networking
can engender a fear that users will be “missing out” from socially rewarding activities and interactions, a phenomenon known as “fear of missing out” (FOMO).

**Fear of Missing Out**

Przybylski et al. (2013) defined the fear of missing out (FOMO) as “a pervasive apprehension that others might be having rewarding experiences from which one is absent” (p. 1841). Similar to social comparison theory, FOMO elicits comparisons of other users’ lives to one’s own life as conveyed by their social media profile and posts. Individuals who experience FOMO spend more time on social networking engaging passively as they observe and compare the ostensible lives of others to their own. In turn, their own lives become less fulfilling by replacing face-to-face interactions with viewing other users’ profiles or recent posts in order to feel more connected or related to others to satisfy their psychosocial maturation.

For example, adolescents ($N = 402$) who reported feelings of FOMO had an increased need to belong and be popular (Beyens et al., 2016). Additionally, among adolescents ($N = 832$), researchers found that FOMO mediated the association between the need to belong and an authentic self-presentation online (Wang et al., 2018). The need to belong was also linked to a preference for passive social networking use (Reich & Vorderer, 2013). Furthermore, FOMO was correlated with the need for approval and an increased sensitivity to social inclusion (Lai et al., 2016). These findings further adolescents seeking to gratify their psychological need to connect with others, and social media serves as an excellent medium to satisfy the need to belong (Nadkarni & Hofmann, 2012). Hence, individuals with need deficits may experience FOMO, and seek to satisfy these with more time spent on social media (Baker et al.,...
This social media use could become unregulated, or habitually maladaptive resulting in problematic social media use (PSMU).

**Problematic Social Media Use**

Problematic social media use (PSMU) is an unmanageable urge to use social media, which results in real life relationships being negatively affected (Andreassen & Pallesen, 2014). The term *problematic use* is preferable to certain terms, such as addiction or dependency. Yet, problematic use still implies degrees of compulsivity yielding negative outcomes experienced by individuals, but lacks the pathological association (Yellowlees & Marks, 2007). Particularly, the compulsivity may also be described as a *habit*, or a regular practice that is often difficult to stop performing.

Although a relatively new construct, researchers are discovering relationships between PSMU and other conditions within the adolescent population.

Researchers found relationships between PSMU and a sundry of constructs such as social anxiety (Yildiz Durak, 2018), depression (Kircaburun et al., 2019), and sleep disturbances (Vernon et al., 2015). Researchers also found both PSMU and FOMO to be negatively correlated with mindful attention (Baker et al., 2016; Kircaburun et al., 2019). Individuals exhibiting increased, problematic social media use and FOMO can be performing activities concurrently (e.g., using their social media while walking, standing amongst other people), which inhibits them from being in the here-and-now. Hence, a potential solution to address this dysregulation and disconnect and promote healthy social media use is through a MBI.

**Mindfulness-based Interventions**

Mindfulness involves experiencing the present moment fully with an attitude of curiosity and non-judgement (Bishop et al., 2006). Researchers and clinicians utilize
mindfulness to treat a variety of mental health conditions in adults as well as children and adolescents. For adolescents specifically, mindfulness can lower anxiety (Crowley et al., 2018), stress (Sibinga et al., 2011), instances of rumination (Sibinga et al., 2016), and overall psychological distress (Tan & Martin, 2013), while enhancing self-esteem (Tan & Martin, 2013), affective regulation (Metz et al., 2013), and interpersonal relationships (Sibinga et al., 2011). To be considered a MBI, the protocol must encompass three axioms: (a) attention, (b) intention, (c) attitude (Shapiro et al., 2006). The combination of these axioms engenders a present moment connection and encourages self-regulation. Hence, a MBI may address social media concerns in adolescents.

Adolescents are often unaware of their ability to step back and discern dominating, maladaptive thoughts and emotions, especially with the endless stimulus of social media (e.g., constant story updates). The easy access to social media can become unregulated, impulsive, and ultimately, problematic (Andreassen & Pallesen, 2014; Baker et al., 2016). Thus, adolescents may especially benefit from the self-regulation taught within a mindful practice. Understanding this problematic social media use through a mindfulness framework includes the axioms of attention, intention, and attitude (see Figure 2-4). To this, Weaver and Swank (2019) introduce a protocol for a MBI for adolescent social media users.

**Mindful Connections**

Weaver and Swank (2019) described *Mindful Connections* as “an intervention that integrates the three axioms of mindfulness (attention, intention, and attitude) with an evidence-based mindfulness technique (e.g. deep breathing) to address problematic social media use.” (p. 8). The intervention focuses on helping adolescents regulate their
social media use through increased awareness of their thoughts, feelings, and actions while on social media sites. Adolescents learn to observe maladaptive thoughts and emotions during their time on social networks to combat dysregulation, thus managing their time on social media. This regulation aims to mitigate the negative effects of social media misuse previously discussed (i.e., PSMU; FOMO). Additionally, participants learn to seize the present, instead of fearing missing out on other experiences. See Table 3-1 for example activities.

**Research Questions and Hypotheses**

The following question will guide this investigation: Is there a difference in problematic social media use, FOMO, mindful attention, and life satisfaction among adolescents that complete a MBI for social media compared to those who do not participate in the intervention? The following hypotheses will be tested: H1: Adolescents who participate in a MBI for social media use have decreased problematic social media use compared to adolescents in the control group, H2: Adolescents who participate in a MBI for social media use have decreased FOMO compared to adolescents in the control group, H3: Adolescents who participate in a MBI for social media use have increased mindful attention compared to adolescents in the control group, H4: Adolescents who participate in a MBI for social media use have increased life satisfaction compared to adolescents in the control group.

**Methodology**

The researcher used a quasi-experiment pretest-posttest design to examine the research question. Quasi-experimental designs test causal hypotheses about manipulable variables, typically with a control group and pretest measures, to support a counterfactual inference about what would happen without treatment (Campbell &
Stanley, 1963). By definition, a quasi-experimental design lacks random assignment; thus, participants are assigned their condition (i.e., intervention or control group) through self or administrator selection. In this study, school administration assigned students to the intervention and control group based on curriculum requirements. Hence, the quasi-experimental design is strengthened by participants not self-selecting into conditions.

**Participants**

The target population for this study was high school students. A total of 65 students were recruited from a high school in the Southeast region of the United States. However, only 54 students completed the study, as ten participants did not complete the group due to not attending all sessions, and one transferred schools. Participants in the intervention group ($n = 29$) were in the school health classes, while participants in the control group ($n = 25$) were in psychology classes. Regarding age, six were 14 (11%), 22 were 15 (41%), 19 were 16 (35%), and seven were 17 (13%). Regarding gender, 32 identified as male (59%) and 22 as female (41%). Regarding race, 46 identified as White (85%), 3 as African American (6%), 3 as multiracial (6%), 1 as Asian (2%), and 1 as Native American (2%). Regarding class standing, 16 identified as freshmen (30%), 15 as sophomores (28%), 17 as juniors (32%), and 6 as seniors (9%).

The majority of participants reported engaging in one or two extracurricular activities ($n = 29; 55\%$) and spending one to two days a week with friends outside of school ($n = 23; 43\%$). Participants reported using text messages ($n = 43; 35\%$), Snapchat ($n = 42; 34\%$), and Instagram ($n = 39; 32\%$) as their primary means to communicate with friends via technology. Additionally, in regard to social media accounts, the majority of participants reported having four or more ($n = 23; 43\%$), and
the most popular social media app was Snapchat \( (n = 30; 57\%) \) followed by Instagram \( (n = 16; 30\%) \). The majority of participants also reported accessing their social media more than 10 times daily \( (n = 22; 41\%) \), including upon waking \( (n = 34; 63\%) \) and before bed \( (n = 38; 70\%) \). Furthermore, the majority of participants reported never using mindfulness prior to the group \( (n = 34.1; 78\%) \). See Table 3-2 for additional demographic information.

**Intervention and Fidelity**

The author developed the Mindful Connections curriculum from her own mindfulness practices, and an in-depth study of MBIs for adolescents. The brief intervention included five, 50-minute groups with 8-10 members per group. The intervention focused on channeling the three axioms of mindfulness (attention, intention, attitude), while accessing social media with corresponding exercises (see Table 3-1) (Weaver & Swank, 2019). Each group began with a mindful check-in that corresponded with the week’s focus (i.e., a guided meditation on intention setting). The first session included establishing group rules, discussing social media habits, and providing a brief overview of mindfulness. In the second session, the facilitator introduced the axiom of attention to the group in the context of social media, and group members discussed their ability to be in the present moment while on social media. The facilitator provided mindful exercises to establish present-moment connection on social media. The third session focused on the axiom of intention, accompanied by mindful practices, to establish one’s intention while on social media. The session included a discussion about group members’ typical intentions (or lack of) for accessing their social media. Each member practiced creating an intention for their social media use. In the fourth session, the facilitator focused on the axiom of attitude. Group members discussed their typical
attitude while on social media. The facilitator provided exercises to channel a mindful attitude while on social media. The final session focused on reviewing all the mindfulness exercises learned during the group sessions and providing additional resources and recommendations for continuing mindful practices after the group (i.e., mindful meditation applications). Between sessions, the facilitator assigned homework to participants involving the practice of mindfulness exercises they learned about during the group, and completion of journal entries about their experience. To ensure treatment fidelity, the author created a detailed manual to follow while leading the groups. The author reviewed the manual prior to each session, and prepared materials accordingly (i.e., discussion questions, handouts, activities).

**Procedure**

The intervention and data collection occurred in fall 2019 prior to the COVID-19 pandemic. Following approval from the institutional review board at the researcher’s institution, the author recruited participants from multiple sections of two classes (health and psychology) within a high school. The researcher sent home parental consent forms with students and then obtained verbal assent from students who received parental/guardian consent to participate in the study. Participants were required to have at least one active social media account to participate. The control group consisted of students from two psychology courses and the intervention group consistent of students from four health courses. Participants in the control group resumed class as normal. The researcher recruited participants from the health classes for the intervention group due to the course curriculum aligning with the intervention (i.e., learning wellness/stress-reduction techniques, the effects of social media on wellness). Each of the four health classes had one group with eight to ten participants. The groups occurred once a week.
for five weeks during the health courses. Students who did not return their consent form completed course work assigned by their instructor for participation points. Both groups (control and intervention) also received participation points for engaging in the study. The researcher administered paper and pencil, pre and post test assessments to both groups and conducted the *Mindful Connections* intervention with members of the intervention group. At the conclusion of the *Mindful Connections* intervention, both groups completed a post-test. Then, the researcher gave participants in the control group a handout on mindfulness with additional resources.

**Instrumentation**

**Demographic questionnaire.** The demographic questionnaire consisted of 18 multiple choice and short answer questions. The questions focused on personal characteristics including age, gender, race, and grade level. Participants were also asked to identify engagement in extracurricular activities, interactions with friends, social media accounts, rates of social media usage, and use of mindfulness.

**Problematic social media use.** The researcher assessed participants’ social media use with the Social Media Use Questionnaire (SMUQ; Xanidis & Brignell, 2016). The instrument consists of nine self-rated items on a 4-point scale (0 = never; 4 = always), with a higher score indicating problematic use. The items include statements such as “I lose track of time, when using social media sites” and “I use social media sites when I am in the company of friends.” In examining the psychometric properties of the instrument, researchers reported a Cronbach’s alpha of .87 and strong construct and concurrent validity among an adult sample (*N* = 324) (Xanidis & Brignell, 2016). Additionally, Kircaburun et al. (2018) used the instrument with adolescents (*N* = 804)
and reported a Cronbach’s alpha of .83. In the present study, the Cronbach’s alpha for the PSMU was .81.

**Fear of missing out.** The researcher measured FOMO using the Fear of Missing Out Scale (FoMOs; Przybylski et al., 2013). The scale has 10 self-rated items on a 5-point scale (not at all true of me = 1; extremely true of me = 5). Higher scores indicate greater feelings of missing out. Sample items include, “It bothers me when I miss an opportunity to meet up with friends,” and “I fear others have more rewarding experiences than me”. Researchers reported the Cronbach’s alpha as .89, indicating strong internal consistency (Przybylski et al., 2013). Although Przybylski et al. did not include adolescents in their study, Beyens et al. (2016) used the FoMOs with adolescents and reported strong internal consistency (.84) and construct validity. In the present study, Cronbach’s alpha for the FoMOs was .85.

**Mindful attention.** The researcher assessed the participants’ level of mindful attention using the Mindful Attention Awareness Scale- Adolescents (MAAS-A; Brown et al., 2011). The scale was adapted from the Mindful Attention Awareness Scale (Brown & Ryan, 2003) for adolescent use. The scale consists of 14 self-rated items about daily experiences related to mindfulness, such as “I tend to walk quickly to get where I’m going without paying attention to what I experience along the way.” The instrument contains a 6-point scale (1 = almost always; 6 = almost never), with higher scores indicating greater trait mindfulness. Brown et al. (2011) assessed reliability and reported a Cronbach’s alpha ranging from .82-.84, as well as high concurrent and increment validity. In the present study, Cronbach’s alpha for the MAAS-A was .89.
**Life satisfaction.** The researcher assessed the participants’ life satisfaction using the Multidimensional Student’s Life Satisfaction Scale (MSLSS; Huebner, 1994). The scale has 40 self-report items on a 4-point scale (never = 1; almost always = 4), with a higher score indicating higher levels of life satisfaction. The scale measures five domains of an adolescent’s life through subscales, including family, friends, school, living environment, and self. Among adult participants, Huebner (1994) reported acceptable internal consistency for the total score .92 and subscales scores ranging from .78 - .83, as well as strong convergent validity among adult participants. Additionally, Antaramian et al. (2008) reported acceptable internal consistency, ranging from .78 to .89, among an adolescent sample. In the present study, the Cronbach’s alpha for the MSLSS total score was .84.

**Data Analysis**

The researcher used SPSS (Version 25) to conduct the data analysis. The author conducted independent-sample t-tests to determine any significant differences between the pretests of the control and intervention groups. There were no statistically significant differences in pretest scores for any of the variables among the intervention and control groups. Next, the author conducted preliminary analyses, including checking for missing values and outliers, and testing for assumptions, and calculated the descriptive statistics for the demographic questions. The author also calculated the internal consistency reliability for the instruments. Normality was assessed by calculating the Shapiro-Wilk test, skewness and kurtosis, and examining the histograms and Normal Q-Q plots. The data for one variable (pretest for FoMOs) violated the assumption of normality. However, the use of an ANOVA when data is not normally disturbed in large samples (n > 30) is supported by the central limit theorem (Chang et al., 2006; Feller, 1945).
especially in the social sciences (Micceri, 1989). The author chose a repeated-measures ANOVA between-subjects statistical analysis to examine the differences between the pre and posttest data of the treatment and control groups. An a priori power analysis using G*Power (Version 3.1; Faul et al., 2009) indicated 54 was the minimum sample size needed to detect a medium effect size (Power = .80; Cohen, 1992) using .05 alpha level criterion for statistical significance. The author also examined the differences in means between the pre and posttest data of the treatment and control groups to test the hypotheses.

Results

The author used a between-subjects, repeated measures ANOVA to investigate the differences in PSMU, FOMO, mindful attention, and life satisfaction between participants in the intervention and control groups. There was a statistically significant difference between the intervention and control groups in PSMU, $F(2, 52) = 6.018, p < .05$ and mindful attention, $F(2, 52) = 4.65, p < .05$. The intervention group had lower scores of PSMU and higher scores of mindful attention after the intervention compared to the control group (see Table 3-2). However, there was not a statistically significant difference between the groups in FOMO, $F(2, 52) = 3.343, p = .828$, or life satisfaction, $F(2, 52) = 1.754, p = .191$. Both the intervention and control groups had lower scores of FOMO and life satisfaction after the intervention (see Table 3-2).

Discussion

In this study, the researcher examined the differences in PSMU, FOMO, mindful attention, and life satisfaction among participants who completed a MBI for social media use, and those who did not participate in the intervention. The researcher found a statistically significant difference in PSMU between the intervention and control groups.
The intervention group reported a greater decrease in PSMU compared to the control group, supporting hypothesis one. Previously, researchers found a negative correlation between mindful attention and PSMU (Kircaburun, 2019). In this study, the PSMU for the intervention group decreased, while their mindful attention increased. However, the author did not measure this cross-sectional relationship. With the introduction of a MBI, participants’ PSMU scores decreased. The change in PSMU could be explained by the self-regulation techniques taught during the intervention (Weaver & Swank, 2019), and challenging “bad habits” associated with PSMU (LaRose, 2010). The intervention group learned to monitor their attention, and become intentional with their social media use; thus, potentially mitigating the unregulated or problematic use of these platforms. With these new techniques, the group perhaps replaced their problematic or “bad habit” of accessing social media platforms absentmindedly. Also, the intervention group was able to examine and assess their motives of using social media during the group. Common motives that lead to problematic social media use include self-presentation and escapism (Chen & Kim, 2013; Kircaburun et al., 2018). While the researcher did not measure motives of social media use, the intervention group was challenged to establish their present moment awareness (attention) and their motivations (intention) for accessing their social media. Hence, this finding suggests that learning to use these axioms in the context of social media could combat problematic or dysregulated use. In other words, they were better able to assess and control their social media use resulting in a decrease in PSMU.

Regarding hypothesis two, the intervention group had a decrease in FOMO scores; however, this was not significantly different than the level of FOMO for the
control group. This finding might be attributed to the FOMO experienced by the intervention group learning to regulate their social media use. Researchers have found FOMO is linked to higher rates of social media use (Baker et al., 2016). With learning to monitor their social media, the intervention group might be using these platforms less, contributing to this decrease in FOMO. However, the decrease was not significantly different than the control group. By checking their social media less, the intervention group could still be experiencing FOMO because they are not continuously “connecting” with other users. Social media is a medium to connect with peers (Shapiro & Margolin, 2013), and can gratify a need to belong (Nadkarni & Hofman, 2012). In other words, these participants might view themselves as “missing out” on socially rewarding activities and interactions via social media, such as being current with the latest posts.

Additionally, while FOMO was a topic discussed in the intervention, the group techniques did not address FOMO directly, possibly explaining why participants’ FOMO did not decrease significantly.

The results suggest there is a statistically significant difference in mindful attention among the intervention and control group, with the intervention group increasing their mindful attention compared to the control group, supporting hypothesis three. This increase in mindful attention, as a result of a MBI, is consistent with previous studies (i.e., Tan & Martin, 2015). Researchers also underline the negative correlation between mindful attention and PSMU as well as FOMO (Baker et al., 2016; Kircaburun et al., 2019). In this study, the intervention group’s mindful attention increased, while their levels of PSMU and FOMO decreased. Hence, mindful attention could be a significant factor in countering dysregulated social media use. Additionally, the greater
level of mindful attention underlines the effects of the intervention beyond social media use, as the MAAS-A measures mindful attention in general, and not specifically related to social media. Hence, the techniques may have transferred to the intervention group participants’ other daily living experiences.

The life satisfaction of the intervention group did not increase as a result of the group, rejecting hypothesis four. Both groups’ life satisfaction scores decreased in comparison to the pretest. This decrease in life satisfaction may relate to the benefits of adolescent social media use, as some researchers underline a positive relationship between social media and life satisfaction among adolescents (i.e., Doğan, 2016). Hence, the intervention group may have less life satisfaction because of their regulated (or decreased) use of social media, yet, the control group’s life satisfaction decreased also. A more recent study suggests social media was not a strong predictor of life satisfaction for adolescents ($N = 5,492$) (Orben et al., 2019). Therefore, social media use may not affect levels of life satisfaction in adolescents as predicted. Additionally, the life satisfaction assessment (MLSS) did not measure life satisfaction via social media. The instrument encompassed dimensions of participants' lives that might not be affected by social media (i.e., living environment). Life satisfaction is influenced by a myriad of factors besides social media, which could explain why the intervention did not increase participants’ self-reported life satisfaction.

**Limitations and Future Research**

There are limitations to consider when interpreting the results of this study. First, all the participants attended one school in the southeast region of the United States, and the majority of participants identified as White. The quasi-experimental design is also a limitation, and having a random sample would have strengthened the study. The lack of
fidelity checks beyond following a manual could also be a limitation. Another limitation is the researcher’s role as both the group facilitator and administer of the assessments. This dual role may have influenced the participants’ self-report responses. Additionally, the incentive (participation points) for participating in the group may have contributed to social desirability in responses. Moreover, offering the intervention to students only enrolled in the health course excluded students outside of the class that might have wanted to participate in the group. Also, some students in the intervention group may have only participated because they preferred the group to the alternative assignment. Finally, the instruments for mindful attention (MAAS-A) and life satisfaction (MSLSS) did not measure these constructs respectively regarding internet and social media use; however, the researcher was unable to find instruments that measure mindful attention and life satisfaction while online. Furthermore, the instruments for FOMO (FoMOs) and PSMU (SMUQ) were not designed for adolescents; yet, these were the only instruments the researcher found to measure these constructs.

Future research may include a more diverse sample of adolescents from different regions of the country. The researcher could also conduct the group with different age groups (i.e., middle school students; college students), and in different settings (i.e., counseling agencies). The researcher could implement further fidelity checks during their study (e.g, checklist, observation). Additionally, scholars could employ an experimental design using random assignment. Different measures could also be included to capture various effects of the intervention (i.e, Passive Active Use Measure; Gerson et al., 2017). Moreover, researchers could examine rates of social media use or mental health symptoms augmented by social media use (i.e., depression).
Furthermore, scholars may use qualitative methodologies to explore the experience of participants with social media and with the intervention.

**Implications**

The present study involved facilitating mindfulness-based groups for high school students during their health class, to teach them self-regulation techniques to improve social media use. The intervention aligned with the health course content (the health and wellness of adolescents). The results of the study are promising for using this brief model to address adolescent PSMU and augment mindful attention. School counselors and other mental health professionals working in schools could use the five-week group. The students could be voluntary, or, depending on the school’s cell phone policy, for those who struggle to stay off their phones during class time as an alternative to traditional exclusionary discipline (i.e., after school detention). Additionally, school counselors or teachers could introduce the intervention to an entire class, with appropriate training. Clinicians working with adolescents in the community could also use the intervention. Furthermore, counselors may facilitate groups in an online format (e.g., Zoom).

As Weaver and Swank (2019) suggest, practitioners may use the intervention during individual sessions to address PSMU and teach mindful techniques to adolescent clients, in addition to the group format. Before using the intervention, it is imperative to obtain a copy of the Mindful Connections curriculum, and be trained in group facilitation to ensure treatment fidelity. The author also recommends practitioners attend a MBI training prior to conducting the group. When conducting the group, facilitators should begin by establishing group rules, including guidelines about social media such as appropriate boundaries regarding social media interactions (e.g.,
“friending” the facilitator) and the use of social media during the group. Counselors may consider other rules if conducting the group online, such as not browsing the internet while attending the group. Additionally, facilitators should have awareness that social media is one of the most commonly used mediums for cyberbullying (Whittaker & Kowalski, 2015), and know resources for group members who disclose cyberbullying, including counseling services, and procedures for reporting incidents to school administrators.

Group members should complete homework assignments as part of the intervention, including practicing at home the mindful exercises taught in the group, and writing a weekly journal entry reflecting on the assigned exercises. Journaling serves many purposes for the clients, including (a) accountability for practicing the exercises outside of group, (b) processing reactions to the exercises, and (c) developing awareness of qualities of their social media use they wish to keep or improve upon (e.g., active or passive use). Clients could discuss their journal entries at the beginning of each group after the check-in. Professionals may also consider extending the number of group sessions to allow the facilitator to include additional exercises for each axiom of mindfulness, and to discuss different issues of social media, such as mental and physical health effects of social media.

Conclusion

Social media is ubiquitous with adolescents. Yet, with instant access, social media use can be problematic and dysregulated. The present study employed Mindful Connections, a mindfulness-based intervention for adolescent social media use, with groups of high school students. The results indicated a significant difference in PSMU and mindful attention for the intervention group compared to the control group.
However, there were no significant changes in FOMO and life satisfaction.

Nevertheless, counselors working with adolescents may consider using this brief, five-week intervention to improve both social media regulation and mindful attention.
<table>
<thead>
<tr>
<th>Axiom</th>
<th>Title and description of exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention</td>
<td>Virtual Attention-Take out your phone. Feel its weight and notice its shape. Notice any urges, thoughts, questions, or worries that arise as you gaze at it resting in your hand for 10 full breaths.</td>
</tr>
<tr>
<td>Intention</td>
<td>Intentional Media-First, consider what the affect may be of what you are choosing to consume. Are you getting on social media to connect, or to view others’ posts? Will you leave feeling satisfied, connected, or lonely and disconnected? This isn’t to label the platform as good or bad, but to recognize the effects of your choice. From this, decide on your intention for getting on social media.</td>
</tr>
<tr>
<td>Attitude</td>
<td>And the verdict is…-When on social media, acknowledge your first judgement about another users’ post. Try not to judge your judgement, instead observe it, and let it fade. Then, return to a mindful attitude.</td>
</tr>
</tbody>
</table>
Table 3-2. Participant demographics

<table>
<thead>
<tr>
<th></th>
<th>Intervention group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>2 (3%)</td>
<td>4 (7%)</td>
</tr>
<tr>
<td>15</td>
<td>11 (20%)</td>
<td>11 (20%)</td>
</tr>
<tr>
<td>16</td>
<td>10 (18%)</td>
<td>9 (16%)</td>
</tr>
<tr>
<td>17</td>
<td>1 (2%)</td>
<td>7 (13%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14 (25%)</td>
<td>18 (33%)</td>
</tr>
<tr>
<td>Female</td>
<td>15 (28%)</td>
<td>17 (31%)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>24 (44%)</td>
<td>22 (41%)</td>
</tr>
<tr>
<td>African American</td>
<td>1 (2%)</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Multi-racial</td>
<td>2 (3%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Asian</td>
<td>1 (2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Native American</td>
<td>1 (2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Grade level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>7 (13%)</td>
<td>9 (16%)</td>
</tr>
<tr>
<td>Sophmore</td>
<td>12 (22%)</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>Junior</td>
<td>9 (16%)</td>
<td>8 (15%)</td>
</tr>
<tr>
<td>Senior</td>
<td>1 (2%)</td>
<td>5 (9%)</td>
</tr>
<tr>
<td><strong>Extracurricular Activities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5 (9%)</td>
<td>4 (7%)</td>
</tr>
<tr>
<td>1-2</td>
<td>16 (30%)</td>
<td>13 (24%)</td>
</tr>
<tr>
<td>3-4</td>
<td>0 (0%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td><strong>Days spent with friends per week</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5 (9%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>1-2</td>
<td>13 (24%)</td>
<td>10 (18%)</td>
</tr>
<tr>
<td>3-4</td>
<td>7 (13%)</td>
<td>9 (16%)</td>
</tr>
<tr>
<td>5 or more</td>
<td>4 (7%)</td>
<td>5 (9%)</td>
</tr>
<tr>
<td><strong>Communicate with friends</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td>22 (41%)</td>
<td>21 (39%)</td>
</tr>
<tr>
<td>Facetime</td>
<td>19 (35%)</td>
<td>16 (30%)</td>
</tr>
<tr>
<td>Voice call</td>
<td>14 (25%)</td>
<td>18 (33%)</td>
</tr>
<tr>
<td>Snapchat</td>
<td>28 (51%)</td>
<td>14 (26%)</td>
</tr>
<tr>
<td>Instagram</td>
<td>18 (33%)</td>
<td>21 (39%)</td>
</tr>
<tr>
<td>Twitter</td>
<td>2 (3%)</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>Social media accounts</td>
<td>Intervention group</td>
<td>Control group</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>1</td>
<td>4 (7%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>2</td>
<td>6 (11%)</td>
<td>8 (15%)</td>
</tr>
<tr>
<td>3</td>
<td>9 (16%)</td>
<td>6 (11%)</td>
</tr>
<tr>
<td>4 or more</td>
<td>10 (18%)</td>
<td>10 (18%)</td>
</tr>
</tbody>
</table>

**Most accessed social media accounts**

<table>
<thead>
<tr>
<th>social media accounts</th>
<th>Intervention group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>0 (0%)</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Snapchat</td>
<td>17 (31%)</td>
<td>13 (24%)</td>
</tr>
<tr>
<td>Instagram</td>
<td>11 (20%)</td>
<td>5 (9%)</td>
</tr>
<tr>
<td>Twitter</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
</tr>
</tbody>
</table>

**Accessing social media**

<table>
<thead>
<tr>
<th>Accessing frequency</th>
<th>Intervention group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 weekly</td>
<td>2 (3%)</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>3-4 weekly</td>
<td>0 (0%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Once a week</td>
<td>0 (0%)</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>2-4 daily</td>
<td>4 (7%)</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>5-6 daily</td>
<td>7 (13%)</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>7-10 daily</td>
<td>6 (11%)</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>10 or more daily</td>
<td>10 (18%)</td>
<td>12 (22%)</td>
</tr>
<tr>
<td>Variable</td>
<td>Pretest Intervention Group</td>
<td>Pretest Control Group</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Variable</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>SMUQ</td>
<td>21.5</td>
<td>5.94</td>
</tr>
<tr>
<td>FoMOs</td>
<td>21.88</td>
<td>7.86</td>
</tr>
<tr>
<td>MSLSS</td>
<td>111.30</td>
<td>15.04</td>
</tr>
<tr>
<td>MAAS-A</td>
<td>52.04</td>
<td>12.08</td>
</tr>
</tbody>
</table>

Note: N = 54. M = mean; SD = standard deviation; SMUQ = Social Media Use Questionnaire; FoMOS = Fear of Missing Out Scale; MSLSS: Multidimensional Student Life Satisfaction Scale; MAAS-A = Mindful Attention Awareness Scale- Adolescents.
APPENDIX A
INSTRUMENTS

Demographic Questionnaire

Directions: Please indicate the response that best describes you.

1. Age: 13 14 15 16 17 18 19

2. Gender: Male Female Other: __________________________

3. Race/Ethnicity:
   African American Asian/Pacific Islander Hispanic/Latino
   Multiracial Native American/American Indian White
   Other: __________________________

4. Grade level: Freshman Sophomore Junior Senior

5. GPA: 3.5-4.0 3.0-3.4 2.5-2.9 2.0-2.4
   1.5-1.9 1.0-1.4

6. How many extracurricular activities (i.e., clubs, teams, volunteering) are you involved in?
   0 1-2 2-3 3-4 5 or more

7. How often do you spend time with friends outside of school and extracurricular activities?
   0 days a week 1-2 days a week 3-4 days a week 5 or more days a week

8. How do you communicate with your friends? (Mark all that apply)
   Text Voice Call FaceTime Snapchat Facebook Twitter Instagram
   Other: __________________________

9. How many forms of social media accounts do you use if you have a Facebook, Instagram and Snapchat, you have 3 accounts)?
   1 2 3 4 or more

10. How often do you access at least one of your social media account(s)?
    1-2 times a week 3-4 times a week 5-6 times a week Once a day
    2-3 times a day 3-4 times a day 5-6 times a day 7-8 times a day
    9-10 times a day More than 10 times a day Other: __________________________
11. Do you often get on your social media account(s) within the first hour of waking up?
Yes  No

12. Do you often check your social media account(s) before falling asleep?
Yes  No

13. Which social media account do you log on most often?
Facebook Twitter Snapchat Instagram Other:
_____________________

14. Have you ever used mindfulness?
Yes  No
Social Media Use Questionnaire

Instructions: Below is a collection of statements about your social media use. Using the 0-4 scale below, please indicate how often these statements apply to you. Please answer according to what really reflects your experience rather than what you think your experience should be.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I struggle to stay in places, where I won’t be able to access social network sites.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel angry, when I am not able to access my social network account</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My relatives and friends complain that I spend too much time using social network sites.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I lose track of time, when using social network sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I use social network sites, when I am in the company of friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel anxious, when I am not able to check my social network account</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I stay online longer than initially intended.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I spend a large proportion of my day using social network sites.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel guilty about the time that I spend on social network sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission from the copyright owner. Further reproduction prohibited without permission.
Fear of Missing Out Scale

Instructions: Below is a collection of statements about your everyday experience. Using the 1-5 scale below, please indicate how true each statement is of your general experiences.

<table>
<thead>
<tr>
<th></th>
<th>Not true of me at all</th>
<th>Slightly true of me</th>
<th>Moderately true of me</th>
<th>Very true of me</th>
<th>Extremely true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>I fear others have more rewarding experiences than me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I fear my friends are having more rewarding experiences than me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get worried when I find out my friends are having fun without me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get anxious when I don’t know what my friends are up to.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is important that I understand my friends’ “in jokes”.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes, I wonder if I spend too much time keeping up with what is going on.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It bothers me when I miss an opportunity to meet up with friends.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I have a good time it is important for me to share the details online (e.g. status updates).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I miss out on a planned get-together it bothers me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
When I go on vacation I continue to keep tabs on what my friends are doing.

Reproduced with permission from the copyright owner. Further reproduction prohibited without permission.
Mindful Attention Adolescent Scale

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

<table>
<thead>
<tr>
<th></th>
<th>Almost Never</th>
<th>Very Infrequently</th>
<th>Somewhat Infrequently</th>
<th>Somewhat Frequently</th>
<th>Very Frequently</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I could be experiencing some emotion and not be conscious of it until some time later.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I break or spill things because of carelessness, not paying attention, or thinking of something else.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I find it difficult to stay focused on what's happening in the present.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I tend not to notice feelings of physical tension or discomfort until they really grab my attention.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I forget a person’s name almost as soon as I’ve been told it for the first time.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It seems I am “running on automatic,” without much awareness of what I’m doing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I rush through activities without being really attentive to them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get so focused on the goal I want to achieve that I lose touch with what I’m doing right now to get there.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do jobs or tasks automatically, without being aware</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
of what I'm doing.

<table>
<thead>
<tr>
<th>I find myself listening to someone with one ear, doing something else at the same time.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I find myself preoccupied with the future or the past.</td>
</tr>
<tr>
<td>I find myself doing things without paying attention.</td>
</tr>
<tr>
<td>I snack without being aware that I'm eating</td>
</tr>
</tbody>
</table>

Reproduced with permission from the copyright owner. Further reproduction prohibited without permission.
Multidimensional Students’ Life Satisfaction Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy being at home with my family.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My family gets along well together.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like spending time with my parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parents and I do fun things together</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My family is better than most.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members of my family talk nicely to one another.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parents treat me fairly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My friends treat me well.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My friends are nice to me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wish I had different friends.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My friends are mean to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My friends are great</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a bad time with my friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a lot of fun with my friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have enough friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My friends will help me if I need it</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I look forward to going to school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like being in school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School is interesting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wish I didn’t have to go to school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are many things about school I don’t like</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy school activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I learn a lot at school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel bad at school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like where I live</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wish there were different people in my neighborhood</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wish I lived in a different house</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wish I lived somewhere else</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like my neighborhood</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like my neighbors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This town is filled with mean people</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My family’s house is nice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are lots of fun things to do where I live</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think I am good looking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am fun to be around</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am a nice person</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most people like me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are lots of things I can do well</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like to try new things</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like myself</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission from the copyright owner. Further reproduction prohibited without permission.
APPENDIX B
IRB DOCUMENTS

IRB Approval

On 7/9/2019, the IRB re-approved you to continue conducting the above-listed research project. You are approved to enroll 132 subjects. This study is approved as expedited because it poses minimal risk and is approved under the following expedited category/categories:

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behaviors) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation or quality assurance methodologies. Note: Some research in this category may be exempt from the regulations for the protection of human subjects as noted in 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.

Approval Includes:

Dated and watermarked IRB-approved Informed Consent Form(s)
Given your protocol, it is essential that you obtain signed documentation of informed consent from each participant over 18 years of age and from the parent or legal guardian of each participant under 18 years of age.
Principal Investigator Responsibilities:

The PI is responsible for the conduct of the study.

- Using currently approved consent form to enroll subjects (if applicable)
- Renewing your study before expiration
- Obtaining approval for revisions before implementation
- Reporting Adverse Events
- Retention of Research Records
- Obtaining approval to conduct research at the VA
- Notifying other parties about this project’s approval status

Should you have questions or need additional information please contact our office at 352-392-0433 or via email at irb2@ufl.edu.

Study Team:

Jacqueline Swank Co-Investigator

The Foundation for The Gator Nation
An Equal Opportunity Institution

Confidentiality Notice: This e-mail message, including any attachments, is for the sole use of the intended recipient(s), and may contain legally privileged or confidential information. Any other distribution, copying, or disclosure is strictly prohibited. If you are not the intended recipient, please notify the sender and destroy this message immediately. Unauthorized access to confidential information is subject to federal and state laws and could result in personal liability, fines, and imprisonment. Thank you.
Protocol Title: A Mindfulness-based Intervention for Adolescent Social Media Use

Purpose of the research study:
The purpose of the study is to examine the use of a mindfulness-based intervention with adolescents who use social media.

What you will be asked to do in the study:
By consenting, you are allowing your child to participate in this study, which involves your child answering a few questionnaires about their basic information (gender, age, grade, etc.), social media use, mindful attention, and life satisfaction. Your child’s writing may be selected for data after the group. Your child may also be selected to partake in a brief structured interview after the group as well. The assessments will take approximately 30 minutes for your child to complete. These assessments and interviews will not occur during the group session time. Some children will participate in the mindfulness group, while others will complete the assessments, but not participate in the mindfulness group to serve as a control. Your child will be assigned a code number to allow us to correlate her/his data collected during the project, without using your child’s name, and the list of codes will be destroyed following the completion of the study.

Time required:
Time required: 1/2 hour for completion of questionnaires (15 minutes each time for two times), approximately 5 hours for group sessions if your child is selected to participate in the group, approximately 20 minutes for an interview if your child participates in the group and wants to talk with the researchers about her/his experience.

Risks and Benefits:
There are no known risks to your child for participating. Additionally, there are no direct benefits to your child for participating. However, the counseling profession may benefit from knowing if the intervention is effective.

Compensation:
There is no compensation for participating in this study.

Confidentiality:
Your child’s identity will be kept confidential to the extent provided by law. When the researchers write about the results of the study, your child’s name will not be used. Quotations from your child’s interview may be used, but they will be reported in a way to not reveal the identity of your child. All data will be stored on an encrypted, password protected computer and flash drive. The recordings will be destroyed after being transcribed.

Voluntary participation:
Your child’s participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study:
Your child has the right to withdraw from the study at anytime without consequence.

University of Florida Department:
School of Human Development and Organizational Studies in Education, 2-103 Norman Hall, PO Box 117046, Gainesville, FL; phone: (352) 273-4326

Whom to contact if you have questions about the study:
Jo Lauren Weaver, MS, Un University of Florida, School of Human Development and Organizational Studies in Education, 2-103 Norman Hall, PO Box 117046, Gainesville, FL 32611; phone: (256) 612-9995; email: jlauren.weaver@ufl.edu
Jacqueline Swank, PhD, University of Florida, School of Human Development and Organizational Studies in Education, 2-103 Norman Hall, PO Box 117046, Gainesville, FL 32611; phone: (352) 273-4326; email: jswank@coe.ufl.edu

Whom to contact about your child’s rights as a research participant in the study:
IRB02; email: irb2@ufl.edu; phone 392-0433.
Parent/Guardian Informed Consent - Verbal

Protocol Title: A Mindfulness-based Intervention for Adolescent Social Media Use

Hi!

My name is Jo Lauren Weaver and I am a doctoral student at the University of Florida. I am conducting a study at your child’s school with my faculty mentor, Dr. Jacqueline Swank, and wanted to ask if you’d be willing to allow your child to participate. By consenting, you are allowing your child to participate in this study, which involves your child answering a few questionnaires about their basic information (gender, age, grade, etc.), social media use, mindful attention, and life satisfaction. Your child’s writing may be selected for data after the group. Your child may also be selected to partake in a brief structured interview after the group as well. The assessments will take approximately 30 minutes for your child to complete. These assessments and interviews will not occur during the group session time. Some children will participate in the mindfulness group, while others will complete the assessments, but not participate in the mindfulness group to serve as a control. Your child will be assigned a code number to allow us to correlate her/his data collected during the project, without using your child’s name, and the list of codes will be destroyed following the completion of the study.

Time required:
Time required: 1/2 hour for completion of questionnaires (15 minutes each time for two times), approximately 5 hours for group sessions if your child is selected to participate in the group, approximately 20 minutes for an interview if your child participates in the group and wants to talk with the researchers about her/his experience.

Risks and Benefits:
There are no known risks to your child for participating. Additionally, there are no direct benefits to your child for participating. However, the counseling profession may benefit from knowing if the intervention is effective.

Compensation:
There is no compensation for participating in this study.

Confidentiality:
Your child’s identity will be kept confidential to the extent provided by law. When the researchers write about the results of the study, your child’s name will not be used. Quotations from your child’s interview may be used, but they will be reported in a way to not reveal the identity of your child. All data will be stored on an encrypted, password protected computer and flash drive. The recordings will be destroyed after being transcribed.

Voluntary participation:
Your child’s participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study:
Your child has the right to withdraw from the study at anytime without consequence.

University of Florida Department:
School of Human Development and Organizational Studies in Education, 2-103 Norman Hall, PO Box 117046, Gainesville, FL; phone: (352) 273-4326

Whom to contact if you have questions about the study:
Jo Lauren Weaver, MS, Un University of Florida, School of Human Development and Organizational Studies in Education, 2-103 Norman Hall, PO Box 117046, Gainesville, FL 32611; phone: (256) 612-9995; email: jlauren.weaver@ufl.edu

Jacqueline Swank, PhD, University of Florida, School of Human Development and Organizational Studies in Education, 2-103 Norman Hall, PO Box 117046, Gainesville, FL 32611; phone: (352) 273-4326; email: jswank@coe.ufl.edu

Whom to contact about your child’s rights as a research participant in the study:
IRB02: irb2@ufl.edu; phone 392-0433.
Child Assent

Hello! We are trying to learn about teenage social media use and mindfulness. We will be working with teens that go to school here. You have been selected to be a member of the mindfulness group. If you decide to participate, then you will be a part of a 6-8-week group about mindfulness and social media use. In addition, you will be asked to answer some questions twice. The questions are related to basic information about you, such as age and gender, and qualities about yourself. The questions will take about 30 minutes to answer each time. You also may be asked to participate in an interview, and have some of your writing collected after the final group. You do not have to answer every question if you do not want to do so. Your [parent / guardian] said it would be OK for you to participate. Would you be willing to participate in this study?
Child Assent

Hello! We are trying to learn about teenage social media use and mindfulness. We will be working with teens that go to school here. If you decide to participate, you will be asked to answer some questions twice. The questions are related to basic information about you, such as age and gender, and qualities about yourself. The questions will take about 30 minutes to answer each time. You do not have to answer every question if you do not want to do so. You have the option to participate in the 6-8-week mindfulness group upon completion of the project. Your [parent / guardian] said it would be OK for you to participate. Would you be willing to participate in this study?


BIOGRAPHICAL SKETCH

Jo Lauren Weaver was born in Hartselle, Alabama. She completed bachelor’s degree from the University of Alabama and her master’s degree from the University of South Alabama. She earned her Bachelor of Arts degree in English and graduated cum laude in 2013. Jo Lauren completed her Master of Science degree in Clinical Mental Health Counseling and enrolled in the Counseling and Counselor Education program at the University of Florida in 2017. She earned her Doctor of Philosophy in 2021. She is a nationally certified counselor and an associate licensed counselor. Jo Lauren plans to complete the requirements necessary to become a licensed professional counselor.

Her clinical training provided her with extensive opportunities to work with diverse populations. She has experience working with those in crisis, including answering calls for crisis and suicide hotlines as well as working at a crisis stabilization unit. As a counselor, Jo Lauren worked with at-risk youth in various settings, including a detention center, pediatrician’s office, and an alternative GED program. Her work with adolescents inspired further investigate the effects of social media and internet use in this generation, and to create Mindful Connections.

Jo Lauren plans continue her development as a clinician, teacher, and researcher. Her primary career goal is to become a research faculty member in counselor education. She also hopes to continue her clinical work part-time in private practice.