2022

Mediating Effects of Self-Esteem and Sense of Flourishing on the Relationship Between Social Network Addiction and Motivated Strategies for Learning

Debbie Denise Taylor
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Debbie Denise Taylor

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Review Committee
Dr. Rochelle Michel, Committee Chairperson, Psychology Faculty
Dr. June Wilson, Committee Member, Psychology Faculty
Dr. John Agnew, University Reviewer, Psychology Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
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Abstract

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by

Debbie Denise Taylor

MA, University of Phoenix, 2015

BS, State University of New York Empire State College, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

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Abstract

This study with college and university emerging adult undergraduates ($N = 189$) aged 18–24 tested the social learning and flourishing theory hypotheses, examining to what extent the relationship between social networking addiction (SNA) and student-motivated strategies for learning are mediated by self-esteem (M1) and a sense of flourishing (M2). Four instruments were used: the Bergen Social Media Addiction Scale, the Rosenberg Self-Esteem Scale, Diener's Flourishing Scale, and the Motivated Strategies for Learning Questionnaire. A nonexperimental cross-sectional quantitative parallel mediation research design to assess the literature implications indicated that emerging adults endure biopsychosocial damages when excessive, problematic, or addictive patterns in technological behaviors, such as internet addiction, problematic internet use, problematic social media use, and SNA behaviors, become habitual in learning. The regression analysis revealed that SNA was not positively correlated when regressed on the parallel mediators (path *a*). Mediators M1 and M2, when regressed on the dependent variables (path *b*), were not positively correlated, and social networking addiction regressed on motivated strategies for learning (path *c*) revealed no direct relationship. The scores obtained from the instruments identified the need to understand different forms of technological behavior addiction and their potential to disturb emerging adult cognition. Healthy social networking mastery may foster and promote positive social change through increased knowledge accessibility, awareness, and communication, deepen social relationships, and empower activism to right the wrongs in government and social institutions where systematic policies of discrimination may exist.

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Dedication

This is for you. Mommy and Daddy, in loving memory, Jimmie (Jay) Taylor. I dedicate this paper to the three most beautiful girls in the world: Natasha Renee, Armani Tahji, and London Blu Taylor. Over the years you have watched me work diligently to pursue my passion for education and positive social change. I want you to know there is nothing too difficult to achieve; there will always be trials, tribulations, and disappointments, but you will make it through, Trust God! and move forward toward the actualization of your dreams. Additionally, I would like to dedicate this milestone to the Taylor family. To my siblings, nieces, aunts, cousins, uncles, and my loving grandmother Minnie Haslam, we are Taylor Strong!

To my extended family Vivian Washington and Vershone Bowser, we have laughed, cried, prayed, and supported each other for decades; your kindness and loving support has never wavered. Thank you for loving me and listening to all the aches and pains that come with life and this scholarly award and praying me through the difficult days. The bible says it is of dust that comprises us and to dust that we return; until that day (Genesis 3:19) I will forever walk beside you both. To Felita Prunty across the Atlantic Ocean in the United Kingdom, we shared a dream of becoming scholars. We had no idea that the imprint made at that residency would unite a friendship. Thank you! Finally, to my mentor Dr. Martin Luther King and the minorities who lost their lives in the struggle of police brutality, ". . . We cannot walk alone. And as we walk, we must make the pledge that we shall always march ahead. We cannot turn back. There are those who are asking the devotees of civil rights, 'When will you be satisfied?' We can never

be satisfied if the African American is the victim of the unspeakable horrors of police brutality" (I Have a Dream, March on Washington, 1963).

Acknowledgments

I give the ultimate praise Hallelujah and thank you Jesus, to my Lord and Savior, the Alpha and the Omega and creator of all things for blessing me with the competency and determination to learn and understand this scholarly endeavor and see it through to its completion. Nothing is more important than my relationship with you.

Thank you, Dr. Albert Bandura; it was a pleasure to study your lifelong commitment to social learning theory. You wrote, “Psychology cannot tell people how they ought to live their lives. It can, however, provide them with the means for effecting personal and social change.”

Thank you, Dr. Shou Andreassen, and the various literature scholars for edifying the world about social networking addiction.

Thank you, Dr. Ed Diener and Dr. Martin Seligman, for enlightening the disciplines that individuals require positivity to thrive and bolster life satisfaction. Flourishing and positive affect is just as important in life functioning.

Thank, you, Dr. June Wilson, and Dr. John Agnew, for believing in my ability and always heightening my spirits through your counsel and reviews.

Thank you, Dr. Rochelle Michel; Maya Angelou declared, “people will forget what you said, people will forget what you did, but people will never forget how you made them feel.” You are a mentor worthy of being praised. You listened, healed, and held my hand to the finish line. I am elated and grateful for your sincerity and stanchness to academic excellence.

Thank you, Monsieur Thioune, it is done! Alhamdulillah

Thank you, Walden University for this glorious milestone.

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Chapter 1: Introduction to the Study

Introduction

In the United States, a Pew Research Center survey found that 75% of young adults aged 18–24 use Facebook, Instagram, and Snapchat, and most use these sites once or more each day. These results have remained unchanged since 2018 among the age demographic (Perrin & Anderson, 2019; Smith & Anderson, 2018). A recent social media survey found that although emerging adults' use of social media remains stable, Instagram, Snapchat, and newcomer TikTok are the preferred platforms of emerging adults instead of Facebook and YouTube (Auxier & Anderson, 2021). Vannucci et al. (2017) and Brunskill (2013, 2014) argued that the use of social media is developmentally necessary for evolving adults; this may especially be the case for students. Networking technologies can enrich the classroom by easing information flow, cultivating discussions, promoting self-regulation learning strategies, and building real-world resilience tactics.

However, in recent studies, emerging adults, undergraduate students, have been considered developmentally fragile (Ahmad et al., 2018; Brunskill, 2013, 2014; Wang, 2018). Ritchie et al. (2011) stated that underdeveloped self-clarity concepts in students lead to stress when not mediated by positive emotion and subjective wellness. Researchers Andreassen et al. (2017) described social networking use in the addictive sense as a person's inability to stop the preoccupation. For such an individual, all their efforts are devoted to staying engaged in social networking, and their primary responsibilities to life commitments are impaired or hindered. Other researchers have

found that extreme social media usage cultivates angst in self-development characteristics such as self-criticisms, self-evaluation, self-image, and self-presentation in and out of learning settings (Al-Sharqi et al., 2015; Mushtaq, 2018; Rouis et al., 2011; Shensa et al., 2017).

Social networking addiction (SNA) and internet addiction (IA) are considered behavior addictions (Griffiths, 1995; Young, 1999). However, researchers have yet to reach a consensus for inclusion in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association [APA], 2013). The APA (2013) has encouraged clinicians to conduct further research in this area. Although social media's positive and negative attributes have been identified, results have been inconsistent (Alt, 2015, 2018). Inconsistent results imply a further need to examine the phenomenon. In this research, a positive psychology approach was adopted to focus on and examine the extent to which self-esteem and a sense of flourishing mediate the relationship between SNA and motivated strategies for learning.

The study results may have practical applications in behavioral, cognitive, education, teaching, and social psychology in understanding the importance of direct and indirect effects of motivated strategies for learning, thus revealing and allowing for focused interventions. In subsequent stages of this chapter, I will (a) provide a brief review of relevant literature that informed my study; (b) identify a specific research problem; (c) describe the mediation model that drove the purpose of the study and the research questions that I intended to answer; (d) describe a theoretical framework and how it relates to the mediation model and research questions; (e) specify the design of the

study and describe from whom and how data were collected; (f) provide definitions of key terms; (g) briefly discuss assumptions critical to the meaningfulness of the study and the scope, delimitations, and limitations of the study; and (h) preview the potential contributions of the results of the study.

Background

Social media use is said to impact users positively and negatively (Alt, 2015, 2018; Banjanin et al., 2015). Students use social networking for many activities, for a sense of belonging (Hoffman et al., 2002). This social phenomenon continues to grow in interest. An emerging concern in research is the need to understand the associations between SNA and emerging adults' student motivation (Anderson et al., 2017; Donnelly & Kuss, 2016; Perrin & Anderson, 2019; Smith & Anderson, 2018; We Are Social, 2020). Several studies have established that excessive use and addiction to social networking sites (SNS) and social technology devices may be problematic in young adults (Banyai et al., 2017; Kircaburum & Griffiths, 2018; Li et al., 2019b; Sural et al., 2019). The social networking phenomenon's increasingly high use levels have deleteriously impacted student motivation and academic performance (Andreassen, 2015; Kuss & Griffiths, 2011; Li et al., 2019b). Studies in higher education have established that personality plays a unique role in the development of SNA (Andreassen et al., 2012, 2013; Hong et al., 2014). Research has further indicated that an individual's self-evaluative thoughts surrounding self-esteem directly impact SNA (Andreassen, 2015; Forest & Wood, 2012). More so, narcissistic traits found in young adults epitomize

ostentatious self-admiration and SNA (Andreassen et al., 2017; Malik & Khan, 2015; Wang et al., 2015).

Several studies have demonstrated students' self-reported psychological distress due to engagements on Facebook (Chabrol et al., 2017; Mamun & Griffiths, 2019; Marino et al., 2018; Moreau et al., 2015; Shensa et al., 2017). Excessive social networking site use resulted in student ailments and addictions (Andreassen et al., 2016; Banjanin et al., 2015; Donnelly & Kuss, 2016; Marino et al., 2018), depression (Ahmad et al., 2018; Andreassen et al., 2017; Kumar & Mondal, 2018; Mamun & Griffiths, 2019; Shensa et al., 2017); loneliness (Blachnio et al., 2016a, 2016b; Thomas et al., 2020); and low self-esteem and suicidal ideation (Banjanin et al., 2015; Jasso-Medrano & Lopez-Rosales, 2018).

In addition to psychological concerns in students, studies linked to SNA and academic performance, specifically the six domains of motivation (i.e., extrinsic goal motivation, intrinsic goal motivation, task value, control beliefs, self-efficacy for learning performance, and testing anxiety) in the Motivated Strategies for Learning Questionnaire (MSLQ), have indicated that SNA has significant positive and negative relationships with student engagement, intrinsic goals, learning strategies, performance, and test anxiety (Hartnett, 2016; Naeim et al., 2020; Zheng et al., 2016). Ugur and Basak (2018) found that students' intrinsic motivations, such as the need to establish a better connection, engage with family, and create multiple friendship resources, were more prone to addiction than student extrinsic factors. Students unmotivated by intrinsic factors fall into the category of extrinsic motivation. Students who demonstrate extrinsic motivations are

not motivated by personal interest or goals. However, they are motivated through others such as parents and peers, or by learner competition awards such as grade point average (GPA) honors and recognition. Antecedents in SNA and learning engagements established negative correlations (i.e., academic achievement, learning engagement, learning weariness, intrinsic motivation), revealing that the implications of SNA are academically widespread (Lu & Hao, 2011; Salmela-Aro et al., 2016; Tsitsika et al., 2011; Wu, 2016).

While SNA was the primary predictor of the probe, I aimed to explore whether the relationship between SNA and students' motivated strategies for learning (MSFL) could be influenced by students' self-esteem and a sense of flourishing, employing a mediation path analysis. A distinction between the two constructs and how they influence student behavior and motivation is extended to measure the psychological constructs self-esteem and a sense of flourishing. Self-esteem has been a stable concept for over a century. It is described as a positive or negative self-evaluation of one's character that predicts one's behavior over time and is further defined through one's relationships with others (Donnellan et al., 2015; Kong et al., 2015; Leary & Baumeister, 2000; Leary et al., 1995b; Orth & Robins, 2014, 2019). The flourishing concept is defined as a healthy and emerging state of positive affects when viewed humans display positive emotion, engagement, relationship, meaning, and achievement (PERMA) through character strengths and behaviors (Positive Psychology Center, 2020; Seligman, 2011; Seligman & Csikszentmihalyi, 2000, 2014). Under the tenets of positive psychology, the concepts of self-esteem and a sense of flourishing were essential to the exploration, as the benefits of

self-esteem and flourishing have been linked to longitudinal stable behaviors and psychological wellness (Kong et al., 2015; Leary & Baumeister, 2000; Rosenberg, 1979; Seligman & Csikszentmihalyi, 2014; Seligman, 2011).

SNA research that included student self-esteem and the six motivated strategies for learning found that undergraduate emerging adults who use social networking sites displayed low self-esteem and were impacted negatively by harmful content such as hate speech and direct attacks (Forest & Wood, 2012). Those who exhibited high self-esteem received compliments for their emotional discordance and did not suffer any injurious consequences from their self-revelations. Lately, literature has described emerging adults lacking self-regulation and self-esteem in their academic tasks and goal setting. The findings indicated that SNA influenced student anxiety, depression, and other adverse psychosocial effects on academic achievement (McCain et al., 2016; Moon et al., 2016; Shensa et al., 2017; Wang et al., 2016).

The literature has shown that SNA significantly impairs students' self-esteem and academic performance, disrupts subjective wellbeing, and causes anxiety and depression among emerging adults. As a result of these negative implications, there is a need for additional research. Although the antecedents established that the impacts from SNA on motivated strategies might not have been direct, an indirect relationship may be explored through self-esteem and a sense of flourishing to expand the literature.

Problem Statement

Social networking is an everyday staple among emerging adults. Emerging adults view social networking sites as a fundamental necessity in their identity formations and

socialization (Perrin & Anderson, 2019). Due to the interrelatedness of the internet and emerging adults' daily functioning, technological addictions have become pervasive (Brunskill, 2013, 2014; Griffiths, 1995; Vannucci et al., 2017). The argument for examining emerging adults' SNA rests in the psychosocial stages of human development. Sarang et al. (2019) declared that emerging adults are highly susceptible to SNA during Erikson's sixth early adult psychosocial development stage of intimacy versus isolation. During this stage, emerging adults may begin to formulate intimate relationships through activities such as dating, peer connections, social commitments, potential engagements, and marriage, or they may negatively retreat from building meaningful relations, giving rise to social isolation. Because of emerging adults' cognitive vulnerabilities, the psychological and social transition between stages finds most mentally and socially ill equipped to critically gauge excessive and addictive networking behaviors. Blum et al. (2015) and Ritchie et al. (2011) stated that emerging adults with weakened mental and social development skills have issues defining themselves and identifying in the world. When students have issues in the core beliefs that characterize them, they often become inundated by stress when not mediated by PERMA (Blum et al., 2015; Ritchie, 2016; Ritchie et al., 2011).

Empirics Andreassen and Pallesen (2014) argued that behavior addiction becomes compulsory when individuals cannot free themselves of the activity, so much so that the action drives them to ponder the engagement repeatedly without a thought given to break the motivation. The scholars characterized SNA compulsion as being

> driven by a strong motivation to log on to or use social networking sites, and to devote so much time and effort to social networking sites that it impairs other social activities, studies, career, interpersonal relationships, and psychological health and wellbeing. (Andreassen & Pallesen, 2014, p. 4054)

Relatedly, significant deficiencies in thought processes, self-regulation, and trust are reported throughout the undergraduate population globally (Ahmad et al., 2018; Andreassen et al., 2017; Baker & Algorta, 2016; Bazarova et al., 2017; Hawi & Samaha, 2017). Eisenberg et al. (2009) and Garlow et al. (2009) connected student anxiety and depression with increased suicidal ideation. When students suffer from anxiety and depression, motivation levels are anticipated to wane, and positive learning outcomes may become hampered.

Because emerging adults, age 18 to 25, are the largest population in social networking communities (Auxier & Anderson, 2021; Perrin & Anderson, 2019; Smith & Anderson, 2018), they face unprecedented challenges linked to the intensifying need to stay engaged in social networking communities such that basic human functioning tasks go neglected (Hou et al., 2019; Kuss & Griffiths, 2011, 2017). Some studies have shown that distinct types of internet addiction cultivate different disorders and impact student functions differently, such as cognitive dissonance, identity development, personality structures, and social development (Monacis et al., 2017; Starcevic & Billieux, 2017; Tang et al., 2017; Wery & Billieux, 2017; Yang et al., 2019; Young, 1999). Overall, the literature on SNA has demonstrated that emerging adults experience a range of damages, including and not limited to those on the lower spectrum of the age demographic having

lower levels of social importance and educational success and being more prone to SNA (Anderson et al., 2017; Andreassen et al., 2017). Brunskill (2013, 2014) found that impaired self-perceptions led to a lack of mental awareness, while Jackson and Luchner (2017) associated self-criticism with false identity representation and McCain et al. (2016) and Moon et al. (2016) linked narcissistic tendencies with excessive social media use. Other studies suggested that social networking site misuse wasted students' time and money (Mushtaq, 2018), while depression and suicidal ideation lowered emotional support and goal motivations and were linked to psychosocial pathologies (Shensa et al., 2016, 2017; Wang et al., 2016).

Arnett (2000) said that emerging adults are overwhelmed by advancing technologies, and social networking sites put emerging adults at risk for developing addictive behaviors and personality disorders. SNA has continued to foster an imminent threat to emerging adults' subjective wellbeing, especially in the last decade (Andreassen et al., 2017; Shensa et al., 2018). With the increase in research underscoring psychosocial injury, the call to awareness has increased among clinicians, educationalists, and scholars. Because of the positive undertones in this study, students' positive affect is fundamental to student academic performance, flourishing, self-esteem, self-efficacy, and life satisfaction (Elphinstone et al., 2020; Padilla-Walker & Nelson, 2017; VanderWeele, 2017; Wolbert et al., 2021). As a result of students' precariousness in thought processes and awareness of vulnerabilities regarding the threats of SNA, educators and social networking site developers should realize that SNA develops in some students and not others (Rouis et al., 2011). Examining SNA's latent impacts on students' psychological

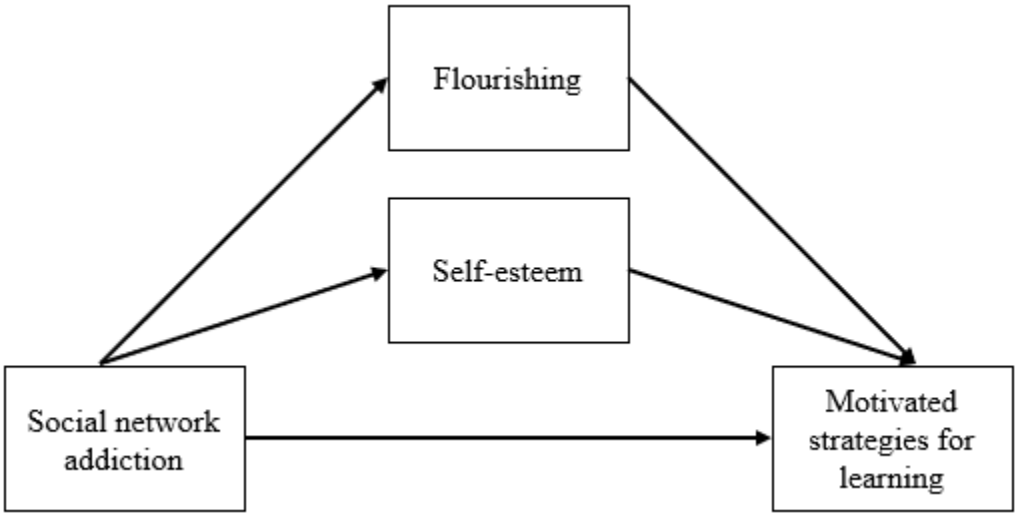
capacities is most important in today's educational environment. Those in the scholarly community do not know the extent to which students' self-esteem and sense of flourishing mediate the relationship between SNA and each of the six domains characterized in Part 1 of the MSLQ.

Purpose of Study

The purpose of this quantitative study was to examine to what extent the relationship between SNA and motivated strategies for learning is mediated by self-esteem and a sense of flourishing. Figure 1 shows the generic mediation model used in this study. SNA is the independent variable (IV). Self-esteem and a sense of flourishing are the parallel mediating variables (M1, M2), and the MSLQ, six motivation strategies for learning subscale's extrinsic goal and intrinsic goal orientation, task value, control beliefs, self-efficacy for learning and performance, plus test anxiety serve as the study's dependent variables (DVs). A parallel mediation path analysis was conducted, using Hayes's (2018) PROCESS-Model 4 for SPSS.

Figure 1

Generic Parallel Mediation Model



Research Question and Hypothesis

In this research study, I examined to what extent the relationship between SNA and motivated strategies for learning (MSFL) is mediated by self-esteem and a sense of flourishing as described in Part 1 of the MSLQ, employing a parallel mediation path analysis. The methodology and study variables are further described in Chapter 3.

RQ1. To what extent is the relationship between SNA and MSFL mediated by self-esteem and a sense of flourishing?

Ho1. Self-esteem and a sense of flourishing are not significant mediators of the relationship between SNA and MSFL.

Ha1. Self-esteem and a sense of flourishing are significant mediators of the relationship between SNA and MSFL.

Theoretical Frameworks

To examine the relationship of SNA and emerging adults' criteria for behavior addiction influence on motivated strategies for learning, I adopted the sociological and positive psychology frameworks of Bandura's (1971, 1977) social learning theory (SLT) and Diener's (1984), flourishing theory. Bandura (1977) postulated that all learning is an interplay between personal and social environments. Over the decades, Bandura's evolving theory has provided a foundation for human learning and social understanding that has merged social psychology, cognition, and environmental causation to contextualize how and why behaviors are observed, modeled, motivated, reinforced, and therefore sustained (Bandura, 1977). Diener's (1984, 2000) flourishing theory deepened the theoretical framework of SLT in the study. Diener (1984) asserted that flourishing is a state of social and psychological affluence that offers a subjective wellbeing extension in the concept of positive psychology. When exhibited, individuals exude optimism, self-esteem, relationship prosperity, and focus on intent and purpose in obtaining life satisfaction and goals. The alignment between positive wellbeing and flourishing is central in the development of student wellbeing. The approach to the theoretical frameworks of the study was influenced by positive psychology, which underscores those human beings require a state of wellbeing that encompasses positive emotions, engagements, relationships, meaning, and achievement PERMA to create a life of value (Seligman & Csikszentmihalyi, 2000, 2014).

The study's primary focus was investigating the impact of SNA on student learning strategies. Self-esteem and flourishing are the mediating variables of that

relationship. The past two decades have observed a rise in idiosyncratic discussions and sociocontextual experiences driving instructional learning. Social networking resources now assist knowledge transfers to strengthen and cultivate student performance and belonging. However, studies have revealed that students' performance levels suffered from the constant intervening of social media engagements to foster learning (Ahmad et al., 2018; Andreassen et al., 2017; Busalim et al., 2019; Primack et al., 2017; Shensa et al., 2017, 2018). The educator's role is to create an environment conducive to learning and provide practical learning strategies that incorporate advancing technologies to encourage and support learners. By doing this, educators enrich educational environments to bolster academic achievement. Bandura (1989) declared that humans are inherently social beings; his SLT addressed how social networking sites' social experiences can lead to SNA when assessed as social learning environments that may affect student motivation. Applying this fundamental understanding to the study under the scope of positive psychology for adult learning may help define the relationships between SNA and the six domains associated with the motivated strategies for learning in undergraduate emerging adults. An in-depth investigation of the study's theoretical alignment and constructs of interest is presented in Chapter 2.

Nature of Study

This study applied a nonexperimental cross-sectional quantitative research design, employing a parallel mediation path analysis for the MSLQ subscales under investigation (Pintrich et al., 1991, 2004). Cross-sectional research designs in social science and education research allow for a descriptive examination of many prevailing characteristics

in a population without regulating the variables (Creswell & Creswell, 2018). A purposive sampling technique was employed to select participants who complied with the study criteria in terms of educational level (undergraduate), age (18–25), and universities within the United States. For inclusion in the study, students needed to be enrolled at a college or university during the period of the survey.

Amazon Mechanical Turk (MTurk) was sourced to recruit study participants. MTurk was selected for recruitment because of the nature of the investigation and the advantages that MTurk offered, such as the simple and user-friendly interface, low fees and costs, and widespread use in published social science research. Moreover, MTurk includes infrastructures that manage identity verification, data security, and payment (Chandler & Shapiro, 2016). This statistical approach of mediation path analysis was in direct alignment with the research question and problem statement.

Definitions

Many studies have investigated the terminologies associated with SNA, and researchers have described SNA differently across disciplines (Andreassen, 2015; Griffiths, 1995, 1998; Griffiths et al., 2014; Kuss et al., 2014; Young, 1996, 1998). For this study, I investigated SNA, the trait characteristic self-esteem, and the subjective wellbeing (SWB) concept of a sense of flourishing for their influence on emerging adults' motivated strategies for learning. The following list of terms and definitions provides contextual clarity on their use in the analysis.

Academic motivation: Learners strive to accomplish their goals and sustain the positive effects of obtaining mastery skills (Ginsberg & Wlodkowski, 2017).

Control of beliefs: Listed as an expectancy value, describes students' belief systems when learning. Students believe that they can attain positive outcomes with effort regardless of external factors that may hinder their efforts (Pintrich et al., 1991).

Emerging adult learners: Emerging adult learners are adult students between 18 and 25 who are learning in a higher education setting, a college or university in the United States (Arnett, 2000).

Extrinsic goal orientation: Listed as a value component, describes students' perceptions concerning participation rewards in grade recognition, evaluation, performance, and honorable mentions as magnifying students' competitive nature for self-gratification and peer veneration (Pintrich et al., 1991).

Intrinsic goal orientation: Listed as a value component, describes a state of aptitude awareness in which learners demonstrate an interest in the goal, where the rationale behind their goal interest leads to personal value. Usually, learners undertake academic tasks based on the desire to acquire mastery in a particular skill or because they perceive the task to be challenging with the reward of generating enlightenment (Pintrich et al., 1991).

Motivated strategies for learning: The assessment of college students' motivational orientations (core beliefs and values) and their use of different learning strategies in a college course, in addition to students' anxiety over test performance in the course (Pintrich et al., 1991).

Self-efficacy of learning and performance: Listed as an expectancy value, describes an assessment in student confidence whereby a student can master a task and make the necessary judgments to complete the task (Pintrich et al., 1991).

Sense of flourishing: "The fulfillment of the needs of competence, relatedness, and self-acceptance as well as the possession of psychological capital such as flow and engagement" (Tong & Wang, 2017, p. 2).

Task value: Listed as a value component, describes an appreciation of a task comparative to the student's belief orientation toward goals. For example, students would ask themselves how the present goal (i.e., utility and germaneness) would help achieve their personal goals (Pintrich et al., 1991).

Test anxiety: Listed as an affective component, describes a state of emotions (i.e., positive, or negative effects) that ensue when faced with cognitive measures to test learning performances (Pintrich et al., 1991).

Assumptions

The primary assumption of this study was that participants would answer the questionnaire honestly and accurately, providing an authentic self-representation that was exact, truthful, and exempt from bias. To further ensure accurate results, participants' anonymity was safeguarded and assured through informed online consent disclosures. Participation in this study was voluntary, and students could opt out of participation at their discretion without consequence. In addition to truthful representation in the questionnaire responses, the analysis involved the assumption that the theoretical framework's applicability to self-esteem and flourishing provided a paradigm for

understanding SNA when determining its addictive tendencies toward social learning. It was also assumed that social networking developers pursuing social technology advancements did not foresee that emerging adult would develop addictive behavioral tendencies. The combination of four psychometric inventories was assumed to provide reliable and valid results (Andreassen et al., 2016; Bringle et al., 2004; Diener et al., 2010a; Hou et al., 2019; Pintrich et al., 1991) as observed in similar past studies that identified and measured the debilitating effects of problematic internet use (PIU), problematic social media use (PSMU), and SNA on students' psychological capacities.

Each instrument's reliability and validity were reviewed and are further detailed in Chapter 3, along with instrumentation and operationalization of constructs. Finally, it was assumed that undergraduates aged 18 to 25 sought allegiances with social networking communities, and through social networking engagements, emerging adults learned to use social comparisons to validate their accomplishments. Based on these assumptions, the intention is to shed light on how students perceive social networking learning engagements to discuss direction and strengths in the relationships between SNAs and learner motivation.

Scope and Delimitations

The parameters of this study rested entirely within the context of SNA. SNA is characterized as an addictive technological behavior associated with the internet (Andreassen & Pallesen, 2014; Kuss & Billieux, 2017; Kuss & Griffiths, 2011; Young, 1999; Young et al., 2017), which is pervasively used among American undergraduate populations aged 18 to 25 (Auxier & Anderson, 2021; Perrin & Anderson, 2019; Smith &

Anderson, 2018). The study solely investigated the role of self-esteem and a sense of flourishing as parallel mediators of the relationship between SNA and students' motivated learning strategies. Adults above 25 were excluded from the study, considering that Pew Research scholars (e.g., Auxier & Anderson, 2021; Perrin & Anderson, 2019; Smith & Anderson, 2018) argued that emerging adults under 25 were the most pervasive social networking users in the 21st century.

Delimitations in exploratory analysis narrowed the study's scope by confining it to interest areas (Creswell & Creswell, 2012). In the capacity of each study's exploratory analysis, there are limitations. A nonexperimental cross-sectional research design was selected for this study instead of experimental analysis that incorporates techniques to control and manipulate the variables to induce cause and effect (Creswell & Creswell, 2012). Experimental research participants are subjected to controlled environments and manipulated conditions such as random assignments and intervention procedures. In contrast, nonexperimental designs focus on participants' self-report of real-life situations. A survey instrument is passive, not restrictive, thus conforming to a nonexperimental research design (Creswell & Creswell, 2012). I investigated Locke et al.'s (1981, 1986) goal-setting theory and McClelland's (1985, 1987) human motivation theory, which may have benefited the study. However, as a delimitation, Bandura's (1971, 1977) SLT and Diener's (1984) flourishing theory using a positive psychology approach (Seligman & Csikszentmihalyi, 2000) were selected to investigate strategies in human motivation and students' social learning within social networking site activities.

Limitations

Limitations are potential weaknesses in a study's research design (Simon, 2011). Every research design has limitations. This study utilized a correlational research design using mediation path analysis to investigate relationships between SNA, self-esteem, a sense of flourishing, and motivated strategies for learning (Creswell & Creswell, 2018). However, it should be noted that establishing a correlation does not demonstrate causation. Therefore, researchers should be extremely cautious when drawing causal inferences because many confounding variables could influence the study's results. Only when unconfounded variables appear among mediated pathways can causality be significantly interpreted (Lee et al., 2019). The study's four prepublished survey instruments and limited sample size may present weaknesses or problems within the research methodology. Measures are limited explicitly to the BSMAS, FS, MSLQ, and RSES to analyze the study represented in Appendices A, B, C, D, E, F, and G.

Although each instrument is reliable, sample-specific reliabilities may vary, so study parameters were set to examine only one population, emerging adults. If this study's sample-specific reliabilities were low, statistical conclusion validity would be limited. In today's social protest culture, limitations in college students' willingness to participate in this study may be a concern to assess classroom motivation strategies. Due to the civil unrest happening across the national landscape, protest among students has become commonplace in America as students contest the wrongs of criminal and social injustices perpetrated against minorities. Police brutality has unsettled college cultures, resulting in American students taking to the street to engender positive social change.

Social networking sites streamed these concerns. As a result, limitations in cognitive congruence and societal perceptions among students could impact the study's findings.

Significance

This study's results may reveal how the adverse effects of students' social networking activities on motivated strategies for learning are mediated by the students' self-esteem and sense of flourishing. This study may have practical applications in behavioral, cognitive, education, instructional teaching, and social psychology to understand students' extrinsic goal orientation, intrinsic goal orientation, tasks value, control beliefs, self-efficacy for learning and performance, and test anxiety. While each can affect learning, the importance of the paths from the extent of SNA, self-esteem, and sense of flourishing may differ, allowing for focused interventions. The potential for positive social change is ingrained in this study, as the study's results may strengthen emerging adult social relationships and motivate them to cultivate PERMA states of positive wellbeing to augment cognitive congruence. By augmenting positive emotions, positive behaviors, and thoughts, students can maintain the tenets of wellbeing to effectuate academic prosperity and life satisfaction.

Flourishing, a dominant factor in subjective wellbeing theories, is said to buffer harmful situational circumstances and increase positive wellness attitudes when engaging in activities accessed through social networking sites (Diener et al., 1995, 2010b; Seligman & Csikszentmihalyi, 2000, 2014). Knowles (1973, 1978), the founder of adult education termed *andragogy*, maintained that prior experiences are fundamentally necessary for adult instruction. Student engagement with social networking sites can

encourage individuals when used pragmatically. Social networking can be transformational and serve as a shining example of acuities to develop student confidence-building beyond shared knowledge. The function of social networking in education is to create a learning environment so that the inclusion of socio-contextual experiences may come together to increase learnedness, motivation, and performance.

Summary and Conclusion

This study was an exploratory investigation into the concept of SNA. Past literature indicated relationships between SNA, PIU, and PSMU. In this study, I aimed to identify the influence of SNA among students, particularly in the United States, to understand better the extent of SNA in education and the behavioral and social disciplines of psychology and sociology. This study supports positive psychology assumptions as a running theme to understand SNA, influence on social learning, and flourishing to examine student motivation in learning settings. In this chapter, I sought to align the study's purpose and significance to the emergent phenomenon of SNA in emerging adults' academic motivation to ask the following societal question: How does SNA influence students' motivation for learning? Additionally, I sought to investigate the question of imminent psychological damage occurring in emerging adults due to their SNA engagements as indicated in the literature review implications.

Chapter 1 briefly identified the constructs of interest, research design, methodology, and theoretical foundation for the study. The next chapter presents a literature synthesis on the construct of SNA, motivated learning strategies, and the parallel mediator's self-esteem and a sense of flourishing. In Chapter 3, I explain the

methodological approach in subsections on the research design and rationale, population, sampling, recruitment procedures, and operationalization of the constructs. In Chapter 4 and 5, I convey the study results, interpretation of the findings, positive social change implications and impart the conclusion.

Chapter 2: Literature Review

Introduction

The purpose of this study was to examine the relationship between SNA, self-esteem, and a sense of flourishing in American undergraduates' motivated strategies for learning (MSFL). The study aimed to investigate whether self-esteem and a sense of flourishing mediated the negative impacts of SNA on student motivation. To address the study's social problem, I synthesized the existing literature to understand better SLT's applicability to SNA's influence on student learning motivations. According to Bandura's SLT, a psychological theory that indicates that humans learn in a social context of experiences, what people observe, model, and imitate is executed through observational learning and cognitive mediation (Bandura, 1971, 1977). A theoretical inference can be made about a student's willingness to learn and achieve goals under the influence of social networking. Student academic and life evaluations may be instrumental in this analysis of social behavior. The literature review highlights the psychosocial concerns regarding SNA prevalence in students, ranging from everyday functioning to advanced mental processing in academic performance. The significant sections in the literature review include the introduction to the study problem, literature search strategy, theoretical foundations, and literature synthesis of the study's independent, dependent, and mediating constructs. The chapter ends with a summary and a preview of Chapter 3, the methodology section.

Restatement of the Problem

There is a growing concern in American higher education surrounding learning methodologies, such as instructional designs for adult learners, that embrace digital connections and student-centered approaches, given the prevalence of addiction to technology in today's emerging adults (Allen et al., 2016; Duke et al., 2013; Siemens, 2004, 2005; Utecht & Keller, 2019). According to the literature on SNA, this addiction is a socio-psychological concern in the 21st century. The socio-psychological argument that emerging adults are impacted by using social network sites suggests that social networking creates a dependency that may impact student functioning (Vannucci et al., 2017). Arnett (2000) described emerging adults as adults between 18 and 25 entering the earliest stage of adulthood. Brunskill (2013, 2014) and Vannucci et al. (2017) argued that SNA is complex when investigating its psychological impacts on individuals, contending that it is difficult to determine causality in that SNA can affect some students and not others, which could, in turn, affect learning. Vannucci et al. supported Jacobs's (1986) argument that the nature of addiction is idiosyncratic, with each person having a level of attraction and dependency that is distinguishable from that of another person. Because SNA is considered pervasive and habit forming, it has a compound effect on human functioning (Hou et al., 2017, 2019; Kuss & Griffiths, 2011, 2017).

Studies have postulated that the internet and its host of knowledge dimensions have become a penchant for young adults and society as a whole and that its broad approach to transferring data has gained phenomenal approval in higher education learning theories (Duke et al., 2013; Rouis et al., 2011; Siemens, 2004, 2005). According

to Smith and Anderson (2018), the psychological wellness of individuals ages 18–25 who engage in social networking across multiple sites has generated concerns regarding mental stability. The researchers claimed that the target audience's attitudes and behaviors when engaging in social networking sites presents a perplexing mixture of technological activity in 18 – 25-year-old emerging adults, which is greater than any other age demographics. High social networking site usage is also prevalent among Facebook, Instagram, Snapchat, Twitter, and YouTube users (Auxier, 2020; Auxier & Anderson, 2021; Perrin & Anderson, 2019; Smith & Anderson, 2018). Vannucci et al. (2017) and Brunskill (2013, 2014) asserted that social networking sites were habit forming, leaving no aspect of human interaction untouched by their presence, and leading to SNA. The Online Learning Consortium (OLC, 2017) posited that nearly one third (29.7%) of all students were enrolled in at least one distance learning class. Allen et al. (2016) argued that social-media-constructed learning designs were unavoidable in higher education. As a result of engagement in social networking sites, social media program developers and cyberlaw regulators neglected to examine the potential impact that this fusion of educational learning designs and social networking sites may have on students.

SNA is one of three technological compulsions that threaten student wellness. Two less severe behavioral addictions exist, specifically PIU and PSMU. PIU and PSMU can have negative consequences, including unpredictable moods, disturbances in everyday functions, emotional instability, and problems in personal relationships (Anderson et al., 2017; Andreassen, 2015; Andreassen et al., 2013; Griffiths, 1995; Griffiths et al., 2014). Ioannidis et al. (2018) and Kiraly et al. (2015b) found that PIU

coincided with student failures in academia, finance, and relationships, with similar impairing behaviors attached to PSMU. A group of studies revealed threats to mental stability in students presenting with symptoms of anxiety, depression, lack of self-determinism, and impeded self-development (Al-Sharqi et al., 2015; Brunskill, 2013, 2014; Shensa et al., 2016, 2017, 2018). Hou et al. (2017) found that PIU is preventable when college students are taught psychological resilience when under distress or experiencing stressful events. However, in a singular study by the National On-Campus Report (NOCR, 1996), excessive internet use led to academic dismissal, indicating that threats to self-determinism and impeded self-development correlated with social networking. Anderson (2001) found that declining social involvement and failure to establish and sustain classroom and real-life relationships may decrease academic retention. Additional studies found significant negative relationships demonstrating that excessive social networking use led to self-criticism and difficulties in self-actualization, self-image, and self-presentation (Al-Sharqi et al., 2015; Mushtaq, 2018; Rouis et al., 2011).

Ongoing studies have supported the idea of impaired psychological capacities given the nature of student compulsory or excessive usage when engaging with combined social networking sites (Ahmad et al., 2018; Al-Sharqi et al., 2015; Baker & Algorta, 2016; Bazarova et al., 2017; Brunskill, 2013, 2014; Marino et al., 2018; Mushtaq, 2018; Rouis et al., 2011; Shensa et al., 2016, 2017, 2018). Others have indicated psychological threats to student wellbeing revealing that emerging adults' experience impeded performance, diminished psychological capital, and was linked to a host of injurious

indicators, such as psychological issues, anxiety, depression, social anxiety, and weakened self-regulation (Brunskill, 2013, 2014; Shensa et al., 2017, 2018; Vannucci et al., 2017). Rouis et al. (2011) uncovered that social networking sites promote issues in poor self-regulation, untrustworthiness, and unstable temperament. Andreassen et al. (2013) further argued that personality disorders share a relationship with internet behavior addictions. Additional studies on global student populations have linked SNA with adverse effects, citing anxiety, depression, low self-esteem, and cognitive dissonance in academic performance and achievement (Andreassen et al., 2017; Azizi et al., 2019; Baker & Algorta, 2016; Dong et al., 2011; Hou et al., 2019; Kumar & Mondal, 2018; Li et al., 2019b; Monacis et al., 2017).

Literature Search Strategy

The literature review process involves a lengthy and exhaustive search to collect knowledge about a research topic. In this study, I aimed to address the gap in the literature connecting SNA and student MSFL. Employing terms associated with SNA, including PIU and PSMU, led the literature selection process to extend the scope of technology behavior addiction. I searched for significant peer-reviewed articles published between 2015 and 2020 as literature sources for the research using the following databases: EBSCO, ERIC, GALE, Health and Psychosocial Instruments (HaPI), Mental Measurement Yearbook with Tests in Print, PsycINFO, PsycTESTS & Health, and Psychosocial Instrument Combined Search, Sage Journals, ScienceDirect and Thoreau Multi-Database Search. Google Scholar and the scholar website Academia provided direct access to articles not offered in the other databases. The articles were then linked

with Boolean operators to include PIU, PSMU, and SNA with young and emerging adults, student mentation, psyche, and psychological capacities. I identified a breadth of keywords, and search terms were identified to target the subject matter. The terms included *academic achievement*, *academic performance*, *academic self-efficacy*, *adult elearning*, *andragogy*, *attachment styles*, *cognitive distress*, *connectivism* and *constructivism pedagogy*, *depression*, *distance learning*, *DSM-IV*, *Facebook*, *flourish*, *general addiction theory*, *Instagram*, *learning behavior*, *learner outcomes*, *learning theories*, *nontraditional students*, and *online learning*.

A second and third search for literature produced associations to SNA using the terms *personality disorder*, *personal self-efficacy*, *positive psychology*, *PSMU*, *psychological wellness*, *self-assessment*, *self-esteem*, *self-identity*, *self-regulation in young adults*, *sense of belonging communities*, *social cognitive theories*, *social media addiction*, *social media communities*, *social media use*, *social networking addiction*, *student engagement*, *subjective wellbeing*, *Facebook*, *Instagram*, *Snapchat*, *Twitter*, and *undergraduates*. I conducted a seminal search surrounding the works of Albert Bandura and Ed Diener using the key phrases *social learning theory*, *flourishing*, *positive psychology*, and *subjective wellbeing theory*.

Theoretical Foundation

The theoretical foundations used to construct this study included Bandura's SLT and Diener's flourishing (FS) theory, an extension of positive psychology known as subjective wellbeing. Bandura's and Diener's theories were examined through the philosophical lens of positive psychology. Each theory makes known a general

understanding of human social learning processes and a state of wellbeing that humans need to engage, be motivated, and perform in the pursuit of living a life of satisfaction and positive wellbeing. The coalesced theoretical views of Bandura and Diener supporting this study span decades, with each assumption revered for its groundbreaking contribution to human study. Following in the theories' chosen order, researchers have used Bandura's SLT to explain the social and environmental context through which all human beings observe, model, and imitate to learn (Bandura, 1971, 1977; Deaton, 2015; Goddard et al., 2015; Horsburgh & Ippolito, 2018; Stajkovic et al., 2018). The origin of flourishing addresses the innate needs in humans that require positive psychological and positive social relationships to function in a positive state of wellness (Diener, 1984; Seligman & Csikszentmihalyi, 2000; VanderWeele, 2017).

Social Learning Theory

SLT embodies the importance of human learning (Bandura, 1971, 1977). Bandura claimed that humans learn by observing, modeling, and imitating others' behaviors, actions, and emotions. Observed individuals are considered models. The process of modeling can impact another's learning capacities. SLT draws upon the environment's ability and other factors to enrich learning, with social modeling experiences serving as situational stimuli in human engagements. The observational learning theory became known in the famous yet controversial Bobo doll experiment as a "theory of psychological processes central to human behavior" (American Psychological Association, 2016, p. 432). Bandura proclaimed that social learning is the essence of all

human understanding; however, social experiences alone will not fulfill the tenets of learning, as learning requires much more.

Bandura (1977) asserted three primary assumptions in SLT: (a) individuals learn through the observation of others, (b) the act of mentation is needed to process learning through intrinsic reinforcement, and (c) learning has no guarantees; all learning does not translate to changes in behaviors. Bandura deduced only that the process of learning, known as modeling, directly affects learning. Individuals must consciously decide which actions to model; even then, those observations are subject to limitations in the learning process for successful imitating. Bandura declared that learning in its purest form necessitates conditioning, which leads to learning; however, conditioning requires additional mental processing. Bandura asserted that each process adds a more profound learning dimension, giving way to the Gestalt ideology that learning does not function in parts but is only operational when the sum of its parts is whole. Bandura contended that the brain performs a mediating process that transpires between stimulus and stimulus responses (S-R) not priorly established in behaviorism, which he classified as mediation. Mediation is an essential element in human conditioning, yet mediation with cognitive processing is not enough to validate learning processes. He declared that learning requires four cognitive conditioning processes to affirm learning. Cognitive conditioning processes are mental procedures in attention, retention, motor reproduction, and motivation that bolster learning.

The steps in the cognitive process by Bandura (1977) may be summarized as follows. The mental process of attention is the first stage in learning, and attention

requires that the imitator operating in the observation process of learning must first recognize the behavior to model it. The behavioral actions should captivate or attract the observer to take notice to foster said imitation. The process of retention requires the observer's captivation; once the behavior is remembered, the process of rehearsal commits it to memory. The third stage in the cognitive process is motor reproduction; this occurs when the observer can replicate the behavior observed and act it out overtly. The last step, identified as motivation or intrinsic reinforcement, orchestrates the process of modeling. The observer of the behavior to be modeled must want to demonstrate what was learned. Reinforcers in the process can determine if something is reproduced or what gets reproduced (Bandura, 1971, 1977; Kretchmar, 2018). To these concepts, Bandura underpinned three types of observational learning models. Per Bandura (1977) and Kretchmar (2018), the SLT elements of observational learning models require live models to act out a particular behavior, verbal instructional models, demonstrators to use verbal indications or explanations in behavior; and symbolic representation of real or fictional behaviors extracted for modeling (Bandura, 1971; Kretchmar, 2018).

Observational learning became a phenomenon that distinguished critical factors in the modeling process—attention, retention, motor reproduction, and motivation/reinforcement—as the driving forces behind active learning. When using these components, a person can model the behavior of another successfully. Bandura's speculation that behavior needs no reinforcement advanced individual preferences to model or not model, and the role of observational learning and its impacts on behavior is idiosyncratic. For example, SNA becomes prevalent when the observants become

psychologically obsessed and therefore emotionally dependent upon their modeled behaviors and the ideologies learned (Andreassen et al., 2016; Brunskill, 2013, 2014; Forest & Wood, 2012; Jackson & Luchner, 2017; McCain et al., 2016; Shensa et al., 2016, 2017). The American Psychological Association (2013) has defined *observational learning* as "the acquisition of information, skills, or behavior through watching the performance of others, either directly or via media as films and videos" (p. 305).

Learning is a collaborative exertion in mentation, and the complete process amounts to the bridging of behaviorist theories in classical and operant conditioning (Bandura, 1977, 2002). Bandura maintained that SLT is a pragmatic approach to learning put forth as a direct response to Skinner and Watson's assumptions in behaviorism as the sole explanation for human behavior. Bandura argued that classical and operant conditioning is essential to learning; however, learning ceases to flourish without mediation and observational learning. Thus, Bandura indicated that there is an overlap between stimulus and cognitive inferences in learning that contrasts with behavioralist dogmas. To explain this notion, Bandura stated that specific determinants explain modeling outcomes in human behavior cognitive structures, vicarious learning, and self-regulation mechanisms. These three detections in cognition were what sparked Bandura's exodus from Watson and Skinner's classical and operant conditioning theories to advance social cognitive theory (Bandura, 1989, 2002; Deaton, 2015; Kretchmar, 2018).

The examinations of behaviorism and SLT concluded that the two distinctive approaches to classifying behavior share functionalities that are expansive. Bandura conceived that human agency is the heart of motivation. It is one of the significant

biopsychological effects in determining how people approach undertakings and regulate efforts to achieve specific tasks and goals. Bandura's never-ending tenacity in seeking to understand the human condition and the interplay of cognition and learning continues to shape advances in the science of human behavior theoretically. In this study, I chose SLT to assess students' SNA learned behaviors to understand technological addiction social influence on emerging adult student motivation using the MSFL value components extrinsic and intrinsic goal orientations, task value, expectancy components control of beliefs, self-efficacy in learning and performance, and affective component test anxiety in emerging adults.

Flourishing: A Positive Psychology Theory

Seligman, the father of positive psychology, presented his PERMA model at the American Psychological Association conference as the new president-elect, introducing the state of wellbeing classified as flourishing. The PERMA acronym put forth five positive psychology (PP) assumptions to sustain wellbeing: positive emotion, engagement, relationships, meaning, and achievement (Seligman, 2011; Seligman & Csikszentmihalyi, 2000, 2014). Flourishing, a psychological construct within PP, promotes a state of wellbeing that reflects an increase in positive effects, including happiness, inner joy, life satisfaction, optimism, and to inspire psychological performance (Diener & Seligman, 2002; Ryan & Deci, 2001; Schotanus-Dijkstra et al., 2016; VanderWeele, 2017). Schotanus-Dijkstra et al. (2016) stated that flourishing is the latest theory in positive psychology.

Diener et al. (2003) declared that flourishing is a state of emotional positivity that overflows into one's attitudes, behaviors, and actions they demonstrate toward achieving life and relationship success. The self-appraisals in life satisfaction and health determine people's general wellbeing. While other studies in flourishing posited the concept of flourishing encompasses living within the boundaries of positive engagements and having positive overall regard (Diener, 1984, 2000; Diener & Ryan, 2009; Diener & Seligman, 2002; Diener et al., 2017; Lyubomirsky et al., 2005; Seligman & Csikszentmihalyi, 2000, 2014). The flourishing concept is new to academic research; nevertheless, similar studies support the general hypothesis, flourishing is essential to human motivation and academic achievement (Datu, 2018; Selvaraj & Bhat, 2018; Seyranian et al., 2018; Tansey et al., 2018).

In a recent study, the concept of flourishing was equivalent to all things positively influenced. VanderWeele argued that the culminating effect of positive aspects shapes one's life evaluation; he declared to flourish means having a good life (VanderWeele, 2017). Schotanus-Dijkstra et al. (2016) maintained that flourishing is a pioneering approach in positive psychology that encourages the functionalities in human performance. Strengthening positive emotions and engagements in a social, educational, and organizational task helps shape human agency and collective views. The SWB theory of flourishing embraces a transformational attitude of positive effects to bolster happiness and goal attainment (Diener, 1984, 2000; Seligman & Csikszentmihalyi, 2000, 2014). A direct contrast from the current disease-modeled psychology that promotes clinical intervention to treat mental health disorders. Seligman and Csikszentmihalyi (2000)

argued that the remainder of the healthy population also needs mental health attention to support flourishing ideologies to sustain their psychological wellness (Seligman & Csikszentmihalyi, 2000).

Social Networking

Six Degrees, the first social networking site, emerged in 1977 to express that every individual is connected to others by six degrees of separation (Boyd & Ellison, 2007). This speculation led Milgram (1967) to hypothesize "the small world problem," which imagines an interconnected narrative of mutual acquaintances, i.e., a friend of a friend of a friend, which narrows the scope between other individuals in different settings. The American Psychological Association College Dictionary of Psychology defines *social networking* as a set of relationships organized by individuals that socially link persons, groups, and organizations together for multiple purposes using technology (APA, 2016). Research shows that social networking sites and online networking sites (ONS) provide a means for individuals to link personal engagements in technology-assisted platforms. Social groups and organizations vary according to individual preferences. Multiple social networking sites include but are not limited to cybersex, health and wellness, education, teletherapy, gaming, shopping, and entertainment. At the same time, federal agency platforms that include banking and finance, public and social services facilitate and aid in the everyday functions of human beings (Allen et al., 2016; Brunskill, 2013, 2014; Duke et al., 2013; Hou et al., 2019; Perrin & Anderson, 2019; Smith & Anderson, 2018; Vannucci et al., 2017).

In the past two decades, researchers have argued that emerging adults have reached a level of digital saturation that has negatively impacted student learning and achievement (Al-Sharqi et al., 2015; Andreassen et al., 2017; Brunskill, 2013, 2014; & Shensa et al., 2016, 2017). Blum et al. (2015) conducted a study that showed overwhelming tendencies and cognitive dissonance, particularly in emerging adults transitioning between adolescence and young adulthood. The cognitive stages between adolescents and emerging adults are cognitively unstable because the prefrontal cortexes cannot regulate impulse controls. Blum found that the prefrontal cortex regulates differentiation in thoughts such as conflict and agreement, good and bad, sad, and angry emotions. Blum et al. (2015) further implied that the entire nervous system lacks maturity, therefore, leaving emerging adult populations susceptible to addictive behaviors. SNA interferes with cognitive processing, as it places too much emphasis on connecting multiple resources to a singular processing unit, the emerging adult brain (Blum et al., 2015). Lastly, Blum stated that the combination of a lack of cognitive aptitude and cerebral immaturity co-occurring in the emerging adult stage of development is potentially damaging without the addition of SNA (Blum et al., 2015).

Modern classrooms in higher education use andragogic learning strategies and social networking sites in a hybrid approach to promoting student performance. Andragogy, also regarded as constructivism, is a form of learning specific to adult learners. Matthews Knowles, the father of andragogy, posited that adults have different learning needs from the standard pedagogy for children. Adults are disciplined, motivated, and ready to learn, requiring learning principles specific to their level of

cognition (Bartle, 2021; Knowles, 1973, 1978). However, all learning presents challenges; and the bridge between social networking use and learning instruction is no different. Some studies found that adopting social networking sites in learning tasks cultivates adverse effects on student learning performance and self-efficacy. The reason being students found it mentally challenging to stay focused, goal-orientated, and subjectively healthy due to the lasting effects of social networking overload (Ahmad et al., 2018; Kuss et al., 2014; Siemens, 2003, 2004; Wang, 2018). Andreassen et al. (2012, 2016), creators of the Facebook Addiction Scale (FBAS), revised the instrument to reflect the growing need to examine the broadening social networking sites outside of Facebook. Andreassen et al. (2016) observed student dependency on social networking sites as students self-reported a subconscious need to be socially connected. Andreassen et al. (2017) and Vannucci et al. (2017) deduced that social networking sites offered many positive attributes, including social support groups, esteem boosting, sense of belonging, and goal-sharing to mediate personal challenges and elevate awareness. However, these platforms also acknowledged self-reports of developmental anxiety, feelings of personal inadequacy and fostered harsh critical self-evaluation. Students lacked confidence in their self-image and identity representation at home and college settings (Al-Sharqi et al., 2015; American Psychological Association, n. d.; Hou et al., 2019; Mushtaq, 2018; Rouis et al., 2011; Shensa et al., 2017). The literature additionally found deficiencies in self-regulation, sense of belonging, subjective wellbeing, and trust among students' (Ahmad et al., 2018; Al-Sharqi et al., 2015; Andreassen et al., 2017; Bazarova et al., 2017; Kuss & Griffiths, 2017).

Social networking sites promote both good and bad behavioral characteristics. Research acknowledges the positive attributes of the use of social networking. For example, Kuss and Griffiths (2017) postulated in "ten lessons learned about the internet," social networking and smart devices have revolutionized the social experience bestowing both positive and negative aspects to having contextual knowledge instantly. Monacis et al. (2017) and Kuss and Billieux, (2017) asserted that acquiring instant knowledge is incredible in the advancing digital age. The social influences that come along with SNS have spilled over into spontaneous relationship building. Therefore, allowing emerging adults to create virtual relationships and establish social connections in non-traditional settings unlike ever before to fulfill a sense of belonging and self-representation. Social networking sites provide everything for emerging adults.

Shensa et al. (2017) argued that having an overabundance of networking relationships has become a modern standard for fostering students' self-confidence. Social networking sites play a crucial role in facilitating a sense of belonging, high self-esteem, problem-solving, identity development, self-presentation, and respectability among emerging adults attending college or universities (Ahmad et al., 2018; Andreassen et al., 2017; Baker & Algorta, 2016; Brunskill, 2014; Glaser et al., 2018; Kumar & Mondal, 2018; Perrin & Anderson, 2019; Shensa et al., 2016; Smith & Anderson, 2018). In another study, Shensa et al. (2016) revealed that social networking users are esteemed for having high social indices of networking friends and therefore receive a great deal of perceived emotional support. Emerging adults with high social indices are considered social influencers. The social influencer's title is a position awarded by following

engagers of similar social networking sites including institutions, organizations, groups, entertainment, and company sponsors, of which emerging adults are continually active and initiate modeling goals to reach ten thousand or more followers. Pew Researchers asserted that social networking is the emerging adult's pervasive pastime having both positive and negative impacts on their growth-related developmental functioning (Auxier & Anderson, 2021; Perrin & Anderson, 2019, Smith & Anderson, 2018).

Social Networking: A Technological Behavior Addiction

Since its inception, the internet has posed significant risks due to individuals' impulsivity and lack of self-regulation (Beard & Wolf, 2001; Griffiths, 1995; Shaffer et al., 2000; Young, 1999). Griffiths (1995) and Griffiths et al. (2014) used the term "technological addiction" to express non-chemical behavioral addiction, which is seemingly more prevalent as the linkage between humans and machines becomes actively dependent. He declared, no longer is the internet solely a stream of virtual communities configured to strengthen humanity; virtual reality is social networking, and internet use provides a sense of home for some and an escape for others. The internet can also be a source of negative dependencies and consequences for many individuals. Research has indicated several areas in which social networking has become a threat to one's psychological comportment. Some studies have argued that excessive social networking use led to a host of psychological distresses related to life functions in emerging adults (Andreassen & Pallesen, 2014; Andreassen et al., 2016; Baker & Algorta, 2016; Glaser et al., 2018; Hussain & Griffiths, 2018; Kumar & Mondal, 2018; Kuss et al., 2014; Monacis et al., 2017; Shensa et al., 2017, 2016, 2018).

Young (1996, 1999, 2004) was the first to conceptualize a scale to measure internet addiction using pathological gaming guidelines. Young's (1998) clinical criterion to measure internet addiction, labeled Diagnostic Questionnaire (DQ), consisted of eight survey items. Young's (1998) study sought correlations between internet addiction and human functioning. Those who answered yes to more than five of the eight questions were classified as dependent internet users. Dowling and Quirk (2009) and Beard and Wolf (2001) criticized the scale for lacking differentiation between addicts and at-risk individuals. Beard and Wolf's study identified that half of the original study participants reported mental disturbances in professional and academic settings.

Subsequent studies in cyber technology internet addiction, SNA, and mobile device addiction (MDA) have championed some of the latest advances in discovering additional subcategories in technology behavior addictions (Bianchi & Phillips, 2005; Billieux, 2012; Billieux & Van der Linden, 2012; Billieux et al., 2015). For example, King et al. (2013) studied an unusual case of nomophobia: a thirty-year-old lawyer suffering from extreme anxiety and excessive perspiration limiting him to his home and virtual community. The lawyer admitted that escaping from his professional stress, perceived unlikability, and low self-worth had strengthened his bond to the internet, where he gained increased self-esteem and personal rewards. An additional study by Yen et al. (2012) revealed a positive effect of internet use on 2,348 college students who had participated in real and online social activities, which eased their social anxieties.

Because of individual's inabilities to escape technology, several studies disclosed emerging adults experience cognitive disruptions to life functions in their capacity to

manage personal and professional assignments and goal setting (Alt, 2018; Griffiths, 1995; Kircaburum et al., 2018; Kuss & Griffiths, 2011; McCain et al., 2016; Moon et al., 2016; Wagner et al., 2016). Moreover, students showed inadequate self-regulation capacities, comorbid diagnosis, and substance abuse patterns like those associated with pathological gamers (Anderson, 2001; Bai et al., 2001; Billieux & Van der Linden, 2012; Shapira et al., 2000). Several academics have argued that social networking is pervasive. It provides a gateway to preoccupation in modern society as humans use social networking engagements to foster and strengthen societal bonds (Al-Sharqi et al., 2015; Glaser et al., 2018; Monacis et al., 2017). The literature on social networking as a technological behavior addiction identified the pervasiveness of social networking use affecting multiple life domains in students. More recently, scholars have shifted their focus to student subjective wellbeing.

In today's social networking culture, scholars have discovered that too much online interest for emerging adults causes harm to the individual's subjective wellbeing (Ahmad et al., 2018; Andreassen, 2015; Brunskill, 2013, 2014; Wang, 2018). More importantly, correlational studies confirmed that undergraduates with SNA exhibited psychological distress with anxiety, depression, weakened self-determination, and self-regulation (Rouis et al., 2011; Shensa et al., 2016, 2017). Kuss and Griffiths (2017) posited that a rise in excessive internet and social networking use posed a threat to social and behavioral processes. Griffiths (1995, 1996, 2000, 2005) and Hussain and Griffiths, (2018) maintained that the differences between the various categories in problematic social networking site use (PSNSU) which comprise PIU, PSMU, and SNA are small, as

they each demonstrate addictive components akin to non-chemical dependency referenced in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; APA, 2013). According to the APA (2013), internet gaming disorders inclusion in the DSM has set a behavioral precedent that shares specific characteristics with PSMU. The DSM listed internet gaming disorder as a condition that warranted further study, therefore, setting a series of criteria, i.e., symptoms, to establish a threshold of concern.

In a recent study, Kumar and Mondal (2018) contended internet disorder is currently under investigation by the American Psychiatric Association in the DSM (APA, 2013). Recently, Hou et al. (2019), Hussain & Griffiths (2018), Kiraly et al. (2015b), and Kuss and Griffiths (2017) all demonstrated that PSMU and SNA exhibited excessive use, and those addictive dependencies have correlated with negligence of core responsibilities to connect to virtual pastimes. Based on the multitude of behavior addiction categories, scholars have agreed that the internet plays a vital role in social development but that it also presents challenges to cognitive functioning and congruence (Ahmad et al., 2018; Al-Sharqi et al., 2015; Marino et al., 2018; Vannucci et al., 2017). PSMU and SNA are the two dominant and emergent concerns affecting emerging adults today (Andreassen et al., 2017; Shensa et al., 2016, 2017, 2018).

Problematic Social Media Use

Shaffer et al. (2000) and Young (1999) characterized PSMU as a person's incapacity to disconnect from their virtual communities, which eventually damages the academic, professional, psychological, and social compartments of the individual's life. Hussain and Griffiths (2018) defined it as a multi-symptomatic internet-based global

psychological disorder. They argued that the internet has over two billion users worldwide and that PSMU is consistent in individuals' overuse practices in both internet and social networking sites. Moreover, Andreassen and Pallesen (2014) and Griffiths et al. (2014) classified PSMU as an unappeasable desire to use social media to the extent that responsibility to self and others are neglected, accompanied by negative ramifications. Anderson et al. (2017) addressed social networking definitions, concluding that it is essential for research to acknowledge PIU, PSMU, and SNA to validate their presence in contemporary society using various instruments.

Kuss and Griffiths (2017) and Kircaburum et al. (2018) contend that only a small percentage of social networking users developed addictive proclivities. They argued that the percentage of individuals who prioritized SNA over other life functions developed a fixation, causing altered temperaments and induced mood modification. The World Health Organization (WHO) addressed the evolution of problematic internet disorders, stating PSMU was linked to several pursuits (WHO, 2018). Ko et al. (2012) linked gaming while Griffiths (2003) and King and Barak (1999) correlated pornography-viewing. Brand et al. (2011) and Laier et al. (2013), and other researchers (Cooper, 1998; Cooper et al., 2000; Wery & Billieux, 2017) found positive significance with cybersex as a PIU disorder. While other studies (Griffiths, 1996, 2003; Kiraly et al., 2015b; Muench et al., 2015; Wery & Billieux, 2017) found excessive use problematic, to say the very least. The WHO advocated global awareness of the plight of PSMU and SNA, arguing that the internet was a useful tool; but that it could also cause significant psychological injuries when misused (WHO, 2018). The organization argued that internet users should

be wary of the internet's allure in supplementing life's everyday norms and the importance of face-to-face social interaction and the development of mastery pursuits (WHO, 2018). Ioannidis et al., (2018) argued that the extent of the three correlating disorders thus far established their pervasiveness in origin. In the future, more rigorous multifaceted studies are necessary to understand individual dysfunctions in internet use and gratification.

Anderson et al. (2017) referenced Douglas et al. (2008) description of social networking as a form of self-gratification. The researchers and founders of Douglas' Internet Addiction Model (IAM), framed social networking as an inward process of faceless interplay, as observed on social networking platforms, which comprises a push and pull paradigm. The push factors address the positive aspects of the internet and its influence on motivation and sense of belonging. The pull factor cultivates the addictive nature through its ease of membership, low cost, and social anonymity. A growing number of studies in higher education have asserted that PIU and PSMU impact some college student's performance (Ahmad et al., 2018; Al-Sharqi et al., 2015; Andreassen et al., 2017; Banyai et al., 2017; Billieux & Van der Linden, 2012; Li et al., 2019b; Mushtaq, 2018; Shensa et al., 2017).

Problematic Internet Use and Problematic Social Media Use in Global Education

Anderson et al. (2017) postulated that the constructs PIU and PSMU have primarily been researched by European scholars who have had a challenging time defining social addictions due to the complexity of the concept. PIU, a behavioral habit presents an outlet to personal satisfaction and social reward. PIU's underlying impulsivity

factor is also demonstrated in SNA, an emergent phenomenon currently undergoing exploratory investigation for the past decade (Anderson et al., 2017). Education researchers have observed the psychological impacts that PIU and PSMU have on student cognition and performance. As a basis for understanding the distress that PIU and PSMU cause, Anderson et al. (2017), conducted a systematic longitudinal review of 29 studies involving participants aged 18 to 29 to identify determinants across instruments. The review highlighted inconsistencies in nomenclatures and various term definitions, which impacted the ability to interpret the concepts effectively. According to Andreassen et al. (2017), Hou et al. (2019), and Ioannidis et al. (2018) PIU is an ongoing concern to researchers as the nature of its epidemiology is entangled in the struggle to bring uniformity among the terms, thus slowing the progression of its validation and hindering its indoctrination in the DSM as a psychological concern to human functioning.

Researchers Anderson et al. (2017) and Andreassen et al. (2017) found in numerous global studies (Chen et al., 2015; Cho et al., 2013; Gamez-Guadix, 2014; & Ko et al., 2009) employing confirmatory factor analysis, that the scales used to test PIU and PSMU revealed positive relationships with the following symptoms: anxiety, depression, cognitive distress, and developmental dysfunctions found in attention-deficit/hyperactivity disorder and autism spectrum disorder. In various gender-related studies (Chen et al., 2015; Choo et al., 2015; Gentile et al., 2011; Haagsma et al., 2013; Hong et al., 2014; Willoughby, 2008; Yu & Shek, 2013) males developed PIU significantly more often than females (Anderson et al., 2017). In Asian studies, Shaw and

Black, (2008) and Tsai et al. (2009) found that Asian males have a higher prevalence over other cultures in developing SNA than other ethnicities (Andreassen et al., 2017).

Longitudinal and large national survey studies (van den Ejinden et al., 2010; Yu & Shek, 2013) employing SWB background factors revealed that happy family orientations shielded PIU from occurring (Anderson et al., 2017; Andreassen et al., 2017). In contrast, researchers Anderson et al. (2017) and Andreassen et al. (2017) cited the studies of (Chen et al., 2015; Choo et al., 2015; Ko et al., 2007; & Willoughby, 2008) underpinning dysfunctional family backgrounds contributed to PIU (Anderson et al., 2017; Andreassen et al., 2017). Other studies found that using the internet for peer and social engagements generated negative and positive correlations with PIU characteristics (Chen et al., 2015; Gamez-Guadix et al., 2013; Thorsteinsson & Davey, 2014; Willoughby, 2008). These systematic reviews of SNA and its hierarchal nature of disorder, including PIU and PSMU, provide the distinguishing factors needed to expand its impact on American emerging adult culture (Anderson et al., 2017; Andreassen et al., 2017).

Social Networking Addiction: A Pervasive Behavior Model

Andreassen and Pallesen (2014) defined SNA as a pervasive thought process that drives a person to frequently be connected to the internet or portable devices to the point that it impairs self-regulation mechanisms and triggers disturbances in attitudinal behaviors. The addictive mechanism in SNA allows for regular commitments, such as school, employment, and family obligations, to be fragmented (Andreassen & Pallesen, 2014). Griffiths, (1995, 2000) and Young (1998) recognized that social networking sites

are a catalyst for addiction. They stated SNA is not symbolic of traditional substance dependency but a behavioral model of addiction. According to Griffiths, (2005), Kuss and Billieux, (2017) and Marks, (1990) there is a stark difference between behavioral and chemical-based addictions. In 2013 the American Psychiatric Association added behavioral addiction to the DSM-5 revising the edition to reflect pathological gaming is now considered a gambling disorder. However, the authors noted that SNA is a habit-forming and psychologically impairing behavior disorder, but it currently lacks psychiatric validation (APA, 2013).

Turkle (2011) argued that the twenty-first century has brought about a new way of living in which technology fosters a pseudo-reality for its users. Individuals feel comforted by virtual togetherness but separate and alone in the absence of physical intimacy. They feel compulsively controlled by the engagements that foster habit-forming addictive social attachments. Whatever the personal justification for addictive usage, these patterns can cause SNA. Griffiths (1995, 2005) and Young (1996, 1998) argued that behavioral addictions and substance abuse shared distinct traits, including salience, mood modification, tolerance, withdrawal, conflict, and relapse, establishing self-regulation and impulse control concerns. The WHO argued that SNA was a global concern as technology and society are fundamentally intertwined (WHO, 2018). The interconnection between technology and social networking is individualistically defined. Social networking use is structured so that individuals are free agents in their social development, thus allowing tailored and controlled technological habits.

Monacis et al. (2017) argued that social networking sites like Facebook and others are social structures built upon Bandura's SLT. People can become absorbed in the observational learning and modeling process where fragility in social development concepts exists. To fulfill the missing social voids, people may develop social addiction through social networking attachments. Attachment styles are an individual's behavioral system that mediates how individuals build relationships between associations. Monacis et al. (2017) used the Italian Bergen Social Media Scale (IBSMS) to measure the causal relationship between social attachment styles and social networking sites. They concluded individuals with secure attachment were at lower risks of developing SNA. Jenkins - Guarnieri et al. (2012) found that individuals with secure attachments used multiple social networking sites to increase their social interaction. In comparison, Lin (2015, 2016) maintained that anxiously attached social network users had insecure attachment styles and were obsessed with their self-image, self-presentation, and social perception. Lin further argued anxiously attached social networkers utilize social networking sites more frequently than others for self-worth.

Comorbidity Research in Social Networking Addiction

Comorbidity is the "simultaneous presence in an individual of more than one illness, disease, or disorder" (APA College Dictionary, 2016, p. 83). The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) is a collective classification of mental illness disorders and comorbidities (APA, 2013). According to the DSM, specific disorders, such as depression, may coexist with other conditions, particularly post-traumatic stress, substance abuse, and chronic illnesses. The DSM-5 linked anxiety to

bipolarism and schizophrenia to post-traumatic stress. While schizophrenia, a psychotic mental disability, coexists with anxiety, depression, and substance abuse, individuals suffering from these disorders also experience behavior, cognition, and emotion regulation problems (APA, 2013). In the past two decades, studies in SNA have established several associations between psychiatric comorbidities in PSMU and SNA that support (Griffiths, 1995) six behavioral addiction elements and Young's (1998) clinical distinction of internet disorders.

Several studies were analyzed to understand better the psychological threats that SNA poses to emerging adult users. Several studies have investigated anxiety and depression (Andreassen et al., 2017; Hussain & Griffiths, 2018; Shensa et al., 2017, 2018), maladaptive personality types (Hussain & Griffiths, 2018; McCain et al., 2016; Moon et al., 2016) and psychopathology (Jackson & Luchner, 2017) in emerging adult student populations. The WHO (2018) identified depression as the leading debilitating global disorder, and Greenberg et al. (2015) stated that depression is strongly associated with psychiatric comorbidity. Shensa et al. (2017) postulated that depression was globally debilitating and significantly impacted the United States, costing an average of $210 billion.

The WHO (2016) has associated social networking sites with depression, declaring a biological, psychological, and social interrelatedness between the constructs. Griffiths (2005) posited SNA caused a biopsychosocial framework of disturbance in human subjective wellbeing. He claimed that the addictive process was not unique to consumed substances. He conveyed that addiction was a multifactorial process that

includes behaviors comparable to drug consumption. More so, addiction affects the internal and external processes of individuals. Although causes of addiction are unique, addiction indicators are common across individuals.

In recent literature, Anderson et al. (2017) found that multiple studies examined the association between addiction and psychopathy. When conducting a cross-sectional review, she linked SNA to ADHD. Researchers (Ginsberg et al., 2014; Kooij et al., 2010) found ADHD was a serious concern for adults often associated with comorbidities. The link made by Anderson et al. (2017) between SNA and ADHD are important to understand for the field of psychiatry states ADHD is often under-diagnosed paralleling SNA. Weinstein et al. (2014, 2015) declared behavior addiction components salience, mood modification, tolerance, withdrawal, conflict, and relapse promote inhibited levels in mentation, and young adults experience higher levels of social anxiety when addicted to the internet and or social networking. Eisenberg et al. (2009) and Garlow et al. (2009) found that the morbidities of anxiety and depression significantly correlated with increases in suicidal thoughts. The studies revealed that because of student suicidal ideations, students were expected to exhibit decreases in motivation due to experiencing depression, which hampered positive outcomes. Moon et al. (2016) and McCain et al. (2016) found that the social networking sites Instagram, Snapchat, and Twitter caused addiction in user frequency, posting style, and selfie content. The researchers noted that these three engagement activities posed significant psychotic associations between narcissism and psychopathology in personality dimensions. The link between the two, narcissism, reflects self-centered personality and overindulgence with self-image (APA,

2016). In comparison, psychopathology refers to mental and social disorders (APA, 2016).

Brunskill (2013, 2014) argued that social networking relationships centering on dependency were dysfunctional, comparing such relationships to an aggressive war between the genuine or authentic self and the unreal self. Brunskill (2013) posited that the unreal self is the false representation of the self-concept, a common approach used in social networking engagements between emerging adults. In other SNA studies, selfie posting, an activity where individuals post images of themselves, was found to obstruct student psyches (McCain et al., 2016; Singh et al., 2018). Brailovskaia and Margraf (2018) reported a common association between SNA, mental health, and subjective wellbeing in a population of German students. Their meta-analysis revealed an association between the narcissistic evaluation of self, explicitly found in selfie postings, and frequency rates when posting updates. The researchers stated that other platforms besides Facebook deserve equivalent investigation. Although platforms like Twitter and Instagram receive scant attention, studies (McKinney et al., 2012; Panek, et al., 2013) have linked Twitter with negative associations to mental health disorders, anxiety, depression, and stress. Brailovskaia and Margraf (2018) stated that the impact of SNA had altered the concept of human agency in that personal agencies are esteemed over the collective. They argued that narcissism was a concept of personal agency occurring in millennials. Twenge et al. (2008a, b) and Moon et al. (2016) agreed that the social networking experience was an individual reward and lacks collectivism.

Similarly, Moon et al. (2016) and McCain et al. (2016) found the role of student self-promotion and inflated self-concepts to negatively impact social agency when persons seek to be superior to others. Twenge et al. (2008a) stated that there was a definite change in individualist perceptions and goals. The researchers declared each generation sees upward shifts in ego and personality structures among young adults; in other words, individuals are more self-centered today than in previous generations. Kuss and Griffiths (2017) postulated that narcissistic tendencies might emerge because of student tendencies to post selfies for self-esteem and a sense of belonging so that social acceptance might emerge. Twenge et al. (2016) declared narcissism is a perceived sense of self-importance for someone self-centered. The researchers maintained that a narcissist displays an exaggerated view of the self and often highly regard power and attractiveness of the agentic traits.

Twenge et al. (2008a) argued that narcissism levels had increased generationally as human beings have become more idiosyncratic in an earlier study. The researchers conducted a cross-temporal meta-analysis testing 85 American college students from San Diego State University, University of South Alabama, University of Georgia, and the University of Michigan between 1979 and 2006, revealing a 30% narcissism increase between the years 1979 to 1985 (Twenge et al., 2008a). In a subsequent study conducted at the University of California, Twenge et al. (2008b) found no significant generational changes in narcissism. However, the authors attributed this result to the influx of Asian populations, complicating the assessment. They suggested that self-enhancement views may have differed from American customs and belief systems. That linguistics issues

may have impeded comprehension, invalidating the metric, which was believed flawed due to miscommunication and self-reported grading. More recently, Twenge et al. (2016) argued that Asian culture and traditions do not promote individualism over the collective agency, making the intent of the testing construct culturally misaligned. The preponderance of SNA studies has suggested that SNA is globally pervasive (Brunskill, 2013, 2014; Vannucci et al., 2017) and that the social experience is different between cultures (Twenge et al., 2016) and genders (Anderson et al., 2017; Chen et al., 2015; Choo et al., 2015; Gentile et al., 2011; Haagsma et al., 2013; Hong et al., 2014; Willoughby, 2008; Yu & Shek, 2013).

Overall, studies found PIU, PSMU, and SNA disturb emerging adult students flourishing and generate dysfunction among the most significant population who utilize social networking sites (Perrin & Anderson, 2019; Smith & Anderson, 2018). Kumar and Mondal (2018) argued that SNS psychological hold on young adults' cognitive processing warrant deeper reflection as all three technological behavior addictions PIU, PSMU, SNA pose challenges to students' learning, motivation, and performance observed in the literature. Starcevic and Billieux (2017) expressed that the internet is a source for developing an addiction. The range of disorders that occur due to usage requires each range to be categorized individually instead of using an overarching term. The authors postulated that technological behavior addiction or internet addiction are shadow terms, not representative of the variances in the phenomenon and that psychopathy should be attached to each entity rather than the single entity when those entity disorders are demonstrated through abuses in social networking sites use. Social

networking sites uphold social autonomy as they reflect the idiosyncratic views of humanity. Social networking can spurn positive and negative reflection in society, as social networking adopts a workstation for human understanding (Starcevic & Billieux, 2017). Kumar and Mondal (2018) stated that the urgency in influencing student self-esteem as a mediator to control SNA in students is the most critical variable in education to combat anxiety, depression, and psychopathy. SNA was proven to be pervasive in emerging students (Brunskill, 2013, 2014; Vannucci et al., 2017), but it can be mediated by high self-esteem (Kong et al., 2015; Leary et al., 1995b; Yeap et al., 2016; Yucen & Uzer, 2018).

The research literature thus far has yielded that SNA types of IA, PIU, PSMU, and SNA promote inflated self-concepts and self-promotion, negatively impacting student agency (McCain et al., 2016; Moon et al., 2016). SNA types cause cognitive disruptions in family dynamics, life functions, and goal settings (Alt, 2018; Kircaburum, 2018). Lastly, negligence of core responsibilities and self-regulation implicate assessment in student motivation and learning are adopted under Bandura's social learning scope. Bandura's (1971, 1977) SLT, which maintains that humans are social and therefore learn from a social perspective, was pertinent to the study.

The assumptions that comprise the study align the study's predictor, SNA, to harmful impacts in student cognition, learning strategies, and a lack in motivation and performance when influenced by SNA. The subsequent section will address self-esteem and a sense of flourishing on students' social learning, motivation, and performance. Self-esteem and a sense of flourishing, the mediators in this study draw upon the

assumption that individuals are self-efficacious in their personal and academic pursuits when believing in their abilities and mastery skills to accept and achieve tasks. From the success of accomplishing the task, individuals find purpose and motivation, which is strengthened from their social gratification and belief values to succeed (Bandura, 1971, 1977, 1989, 2002).

Self-Esteem

Self-esteem theories date back to William James, making self-esteem one of the oldest conceptions in psychology's subspecialties (DeWolfe, 2020; Leary et al., 1995b; Mruk, 2006; Wagner et al., 2016). James argued that self-esteem is a sign of "being fruitful and competent," which is particularly germane to emerging adults in educational environments (Mruk, 2006 p. 8). Mruk (2006) declared self-esteem to be an internal process like the energy of intuition that empowers one's capacity to nurture one's subjective wellbeing. Doing so allocates the will to decide what engagements foster positive development and silences negatives that negate value and worth. James's self-esteem theory was renewed in the mid-1960s by Rosenberg's (1965) experiential analyses of the construct. Rosenberg broadened James' self-esteem concept dimensions by employing inventories that established self-esteem psychometrically worthy of examination. Rosenberg (1965) defined self-esteem as a feeling of emotional stability that carries into one's sense of personal worth. Rosenberg advanced that a stable sense of worth is cultivated through social interaction and an individuals' connections to structures like family, institutions, and schools. The totality of the elements could negatively or positively affect one's self-esteem orientation, which would shape the

broader context of a person's self-concept. The self-esteem concept is relevant to student learning motivations and performance.

The study incorporated the concept of self-esteem to emphasize that positive effects in self-development strengthen student motivations to achieve academic goals. Instructors at the Khan Academy of Health and Medicine adopted the RISE acronym to describe teachings in self-esteem as a means of keeping students motivated. The acronym RISE stands for recovery, interest, strong, and enjoyment (Desai, 2014). When viewed as a collective agency, individuals with stable self-esteem view tasks in terms of mastery, developing an interest in their goals, enjoy participation, and generate a sense of commitment to the task that promotes subjective wellbeing. When tasks are complex, people with solid self-esteem admire the challenge of digging deeper to attain successful outcomes. According to Desai (2014), individuals with high self-esteem quickly recover from setbacks or disappointments and start again with a healthy outlook. In contrast, individuals with low self-esteem are overwhelmed with thoughts of failure, sometimes becoming so devastated they cannot recover. Negative affect and low self-esteem might invoke irrational behavior in some individuals, which threatens the wellbeing of human capital.

Rama and Sarada (2017) characterized self-esteem as a bifactor structure, regarding it as a state of feeling competent in overcoming life challenges and individuals considering themselves as worthy of experiencing life satisfaction and happiness (Rama & Sarada, 2017). The researchers (Rama & Sarada, 2017) adopted Leary et al. (1995b) philosophical view that trait and state best describe self-esteem. The trait perspective

holds that those behavioral expressions of one's emotions involving situational circumstances can fluctuate. However, the average indication of one's value reverts to the most common manifestation of individual worth. According to Rama and Sarada (2017), the concept of state self-esteem treats the fluctuation in self-esteem as a buffer to protect individuals' vulnerability to criticism in the absence of emotional avoidance of harm to protect the stability of self-worth. Individuals with state self-esteem cycle in and out of high and low self-esteem beliefs based on situational circumstances.

The concept of self-esteem as a sociometer could be of use to aid the study's understanding of social networking importance among emerging adults. Leary (1990), Leary and Downs (1995a), and Leary et al. (1995b) argued that self-esteem is a sociometer of personal existence. Leary et al. (1995b) presented self-esteem as a stabilizing sociometer using the internal drives of self-esteem as markers to understand how one interacts with others and whether individuals are included or excluded in a social context. Self-esteem concerning SNA use is applicable in the following manner in this study. If self-esteem is considered a sociometer, self-esteem can protect individuals against the rejection or exclusion of their positioning related to social networking status. DeWolfe (2020) argued that self-esteem is necessary for students to have personal value and demonstrate self-efficacy in their tasks. Self-esteem is a long-standing concept among researchers and globally recognized to strengthen student participation in tasks and goal evaluation (DeWolfe, 2020; Kong et al., 2015, Leary et al., 1995b; Yu et al., 2016).

Self-Esteem in Academic Studies

Dixon and Kurpius (2008) studied 455 students for depression and college stress related to self-esteem and mattering in a large public southwestern university sampling from 31 general courses. A gender analysis yielded no significant difference between males and females. The authors employed the Rosenberg Self-Esteem (RSE; Rosenberg, 1965) and General Mattering Scales (Marcus, 1991). The study had a 90% participation rate between an emerging adult population age 18 to 23. It sought to differentiate self-esteem relationships from depression and the identity association between mattering and self-esteem. Rosenberg and McCollough (1981) defined mattering as the emotional value or fate that one expects of individuals tied to psychosocial wellbeing. The concept is essential to understanding undergraduate environments. Dixon and Kurpius (2008) conducted a zero-order correlation revealing that self-esteem and mattering were positively correlated and that college depression and college stress were also significantly positively correlated. According to Dixon and Kurpius (2008), the concepts of self-esteem and depression are often associated with positive correlation (see e.g., Garber et al., 1997; Heyman et al., 1992) in research studies. Although these studies were completed in the earlier part of the twentieth century, the variables in their analysis were fundamentally necessary to include and substantiate a pattern of ongoing psychosocial determinants affecting undergraduate students' welfare on self-esteem (Garber et al., 1997; Heyman et al., 1992)

Wong et al. (2016) contended that self-esteem is always in a flux state interconnected with external influences. They argued self-esteem shifts across the life

trajectory based on intrinsic beliefs because of the endogenous nature of self-esteem in human behavior and personality. The authors conducted a study based on the assumed effects of trait and state self-esteem effects on self-concept clarity. The sample included 77 females and 60 males, with one exclusion for a final sample size of 136. Employing Wilcox's robust statistics in R and multiple regression, the researchers found that students with higher self-concept clarity demonstrated positive self-esteem attractors and weaker repellers. In contrast, lower clarity produced low self-esteem attractors and stronger repellers.

Yildiz and Karadas (2017) performed a correlational designed serial mediation of self-esteem and perceived social support in loneliness and life satisfaction among 398 university students in a Turkish study. The correlational analysis was statistically significant, but loneliness on life satisfaction diminished when the model was sequenced with the mediating variables independently. Finally, students performed academically well when the concepts of self-esteem and social support were combined. A recent study by Harris and Orth (2019) argued Lin's (1986) position in a multi-analysis longitudinal study that self-esteem and social relationships are reciprocal influencers. The longitudinal studies employed the Rosenberg Self-Esteem Scale (RSES) in most cases, and the remainder of the assessment used Hartner's perception scale. Various ethnicities in participants aged 4 - 76 encompassing parent, peer, romantic, general, combination, found a bidirectional positive relationship existed between social relationships and self-esteem. The findings revealed a similarly reciprocal relationship over time (B= .08

bidirectionally). A moderator analysis determined characteristics such as age, gender, ethnicity held the same effects in the assessments behaving as a generalized standard.

The literature on self-esteem has suggested that self-esteem is a stable concept crafted and not impersonated (Blascovich & Tomaka, 1993). The endogenous concept is idiosyncratic and vital to human functioning (DeWolfe, 2020; Leary et al., 1995b). The literature revealed that social relationships strengthened self-esteem and that social involvement created a positive loop in student subjective wellbeing and other social contexts across the lifespan (Blascovich & Tomaka, 1993; Harris & Orth, 2019; Lyubomirsky et al., 2005; Wong et al., 2016). The positive aspects of having high self-esteem have shielded adverse events and harmful effects (Rama & Sarada, 2017). In addition to employing self-esteem to buffer SNA's damaging effects on student cognition, this study investigated flourishing as a paralleling mediator to examine the influence of positive affect in psychological capital to strengthen student-motivated strategies learning.

Flourishing

Positive psychology scholars have theoretically explored a range of positive effects to serve as characteristics in the definition of optimal wellbeing in human functioning (Diener & Seligman, 2002; Lyubormisky et al., 2005). Diener's (1984) work in positive psychology argued that mental health plays an essential role in student performance and life satisfaction. He stated individuals should ascribe to having a life filled with meaning and purpose and lead a fulfilled life by embracing positive emotions and social engagements to encourage self-actualization. Flourishing promotes a state of

wellbeing that reflects an increase in positive effects, including happiness, inner joy, life satisfaction, optimism, and wellbeing, to inspire psychological wellbeing and performance (Diener & Seligman, 2002; Ryan & Deci, 2001; Schotanus-Dijkstra et al., 2016; VanderWeele, 2017). Flourishing in this study is used to distinguish a state of student awareness, whereby an increase in positive mentation inspires student performance. Flourishing is interchangeable with other nomenclatures such as flow, thrive, prosper, and blossoming (Seligman & Csikszentmihalyi, 2000, 2014). According to positive psychologists, flourishing is viewed as inner joy, character strengths, and positive effects to navigate life. Researchers (Diener & Ryan, 2009; Diener et al., 2010; Diener & Seligman, 2002; & Seligman & Csikszentmihalyi, 2000, 2014; Lyubormisky et al., 2005) argued flourishing as a state of emotional positivity that overflows into one's attitudes and behaviors and the actions; they demonstrate toward achieving relationship success.

VanderWeele (2017) postulated the concept of flourishing was needed in higher education, and it has been widely accepted, in sociological and psychological studies of student wellbeing. Flourishing measurements have received global recognition, as more countries have begun implementing wellbeing instruments to assess various populations. Arnett (2000, 2016) and Reifman et al. (2007) maintained that students are vulnerable when transitioning into college during the period of emerging adulthood. Moreover, students transform socially and biologically; it is a unique departure from youth stages to adults. The effects of the biological transformation in students can be traumatically impactful. The concept of flourishing, also referred to as thriving, is vital in motivating

college students' performance and retention rates when influenced by social media (Alt, 2015a, b). The current study suggests that the parallel mediators may buffer SNA similarly to the effects that self-esteem positively correlated with life satisfaction, social support, and social relationships when examining SNA on student motivated strategies for learning (Kong et al., 2015; Yildiz & Karadas, 2017).

Flourishing in Academia

Arnet (2000, 2016) postulated that students experience a physiological transformation in the entire development system when entering from one phase of development to another. He stated that although these are typical factors in human functioning, student flourishing can be disturbed by anxiety, fear, and depression, demonstrating problems in self-efficacy and self-esteem. Schotanus-Dijkstra et al. (2016) conducted a study in Norway of less than physically and mentally content adults comprised of females (85.8%), individuals with post-secondary education (74.6%), and people who were employed at the time of the study (67.6%). The study found the Flourishing Scale (FS) reliable and valid measurement for assessing positive mindsets. Most of the female participants perceived themselves to be stable in sociopsychological functioning. The FS was regarded as an excellent tool to measure flourishing, paralleling the Rasch model. The Rasch model (RM; Rasch, 1960) is simple and intuitive model of measurement created by Greg Rasch used in the social sciences to analyze surveys and questionnaires related to latent traits in categorical variables such as attitudes, beliefs, and flourishing (Boone, 2016; Nielsen & Kreiner, 2021). The degree of significance of the

FS's reliability and validity indicated that the FS unidimensional structure performed successfully in the context of flourishing.

Howell and Buro (2015) examined the general psychometric properties of the FS and Scale of Positive and Negative Experience (SPANE) for model fitting exploring latent variables, such as positive and negative emotions regarding flourishing, in addition to measuring differential predictiveness in the unique aspects of flourishing. The study examined (n = 478) students at a western Canadian university. The university characteristics indicated that it was highly student-centered learning with a 15:1 student-to-teacher ratio. The reliability was excellent compared to prior study analysis (Diener et al., 2010; Howell & Buro, 2015) and the score distribution was equally demonstrable, with 95% of participants scoring higher than in past studies (Helliwell et al., 2012) and with the mid-point distribution paralleling economically sound societies. The flourishing prediction scores for affect, self-transcendence, self-enhancement, openness to change, and conservation using regression analyses were found significant.

In recent studies, Datu et al. (2020) found that the concept of student flourishing and achievement goals led to more significant outcomes in goal orientations and reduced collectivist gratification in Filipino undergraduate students. In an earlier study, Datu (2018) correlated flourishing to understand students' well-being concerning higher academic achievement and social learning engagements. Datu's studies examined students' flourishing perception measuring the latent variables self-esteem, positive emotions, positive affect, and negative affect within the social-psychological prosperity domain of subjective well-being.

The collected study data found that students' self-reported perceived academic outcomes and flourishing associations resulted in positive affect and greater life satisfaction in mastery approach goals. Second, students' behavioral and emotional engagements due to flourishing attitudes revealed that students were more eager to participate in school-related endeavors demonstrating more joy and excitement in their performance approaches and mastery-avoidance. The well-being construct of flourishing positively impacts students' life satisfaction and significantly mediates negative classroom effects. Overall, Datu's studies yielded positive reliability in the FS psychometric with flourishing and academic achievements resulting in Cronbach's alpha of (a =.87 and a =.85). Students who display higher flourishing levels were more motivated to understand learning constructs. Also, master classroom techniques that include the utilization of social networking engagements without the negative correlation shown in undergraduate social network addiction studies.

Motivated Strategies for Learning

There was a noticeable lack of academic motivation studies within education until the University of Michigan professors Pintrich and McKeachie sought to improve learning capacity in post-secondary teaching and learning environments (Duncan & McKeachie, 2005; Pintrich et al., 1991). McKeachie et al. (2015) stated that the construct of motivation deals firsthand with an individual’s desire to learn new things when there is a lack of interest in learning; motivation can impact the inclination to learn. Duncan and McKeachie (2005) revealed that other studies (e.g., Lockhart & Schmeck,1984; & Torrance et al., 1977) likewise argued that motivational learning styles and individual

differences need specific assessment. They explained that inventories such as the Myers-Briggs personality test did not comprehensively assess student behavior and cognitive processes surrounding motivation, thus generating ambiguous results. As a result, the MSLQ was introduced. Because motivation is central to adult learning, Weinstein, and Underwood (1985) criticized previous researchers' claims in andragogy learning theory, arguing that adult learning's conceptual framework was too flawed. According to Duncan and McKeachie (2005), the social-cognitive model underscored motivation as the interplay between the "cold" cognition and "hot" motivation concepts in relationship to student performance and lifelong learning, later prompting the development of the MSLQ (Duncan & McKeachie, 2005 p. 117).

The MSLQ assesses students' acuities instead of concentrating on instructors' points of view (Duncan & McKeachie, 2005). The instrument's primary purpose was to evaluate students' self-efficacy beliefs taking the undergraduate course Learning to Learn. The MSLQ was used in the Learning to Learn course for the effectiveness of learning strategies and motivation on Michigan undergraduates, with data collected from over 1000 respondents. Duncan and McKeachie (2005) claimed that the purpose of the MSLQ was to measure student motivation specific to courses of instruction. The course is considered a single unit of measure in which instructors gain feedback on the course objectives from the learner, which allows for adjustments to the curriculum. The student's aptitude for their course is self-evaluative.

In 1986, Pintrich et al. (1991) began formally developing the MSLQ to evaluate the Learning to Learn course relative to student motivation. McKeachie and Pintrich

(2005) argued that motivation and learning strategies are not inherent student traits, asserting that motivation stimulates learning. They disputed the role of motivation as an expelled energy specific to the learning endeavor, which can vary depending on undertakings. In contrast, learning strategies are techniques operationalized through the control of its learner, who either allows or hinders the learning process (Duncan & McKeachie, 2005). Pintrich and Schunk (1996) declared that motivation is a force of energy that is intrinsic. They fashioned this statement regarding motivational energy from researchers Hancock (2004) and Baron (1992) antecedent philosophies that motivation, an intrinsic force generates a goal, then puts forth the psychological effort to accomplish the goal. The researchers also had a penchant for Brophy's (1988) philosophies. Brophy declared that motivation in the learning context happens when the learner is enthusiastic and purposed in the goal (Pintrich & Schunk, 1996).

First Order Dimension

The MSLQ has first – and second-order dimensions. The first-order dimension was derived from the construct of motivation and its effect on learning. Second-order dimensions classified as Learning Strategies Scales were not used in this study. The motivation subscales in the MSLQ speak directly to student values, expectancy, and affect, further categorized into the first-order dimension, encompassing intrinsic and extrinsic goal orientation, task value, control beliefs, self-efficacy in learning and performance, and test anxiety. The MSLQ expectancy-value-affect model is based on the learners' belief system relative to academic tasks, performance, and the importance of achieving a task based on their motivation (McKeachie et al., 1986; Wigfield & Eccles,

2000; Eccles & Wigfield, 2002). Additionally, each measure reveals the students' beliefs regarding their courses, skills, aptitudes, ability to succeed, and anxieties. The previous chapter provided detailed explanations for each subscale of the MSLQ plus the definition of terms. According to Pintrich (1988, 1989, & 1998), Part A of the MSLQ employs three universal constructs of motivation related to life goals and learning tasks, which offer the general hypothesis that individuals expect to succeed in their endeavors. Success must have a purpose or value attached to the individual's desire to be successful. The effect must be pleasurable, secure, and progressive to be resilient in the student acquiring the learning objective or goals.

Motivated Strategies for Learning Questionnaire in Academia

Pintrich and DeGroot (1990) conducted a preliminary study to test the MSLQ on seventh graders by administering a shorter version of the MSLQ scale, which employed five scales instead of six: self-efficacy, intrinsic value, test anxiety, self-regulation, and performance. Based on the original questions on motivation and self-regulation, the results were expected. The researchers sought to correlate performance levels in seven English and eight science seventh grade classes. The correlation analysis yielded higher self-efficacy levels, and task value positively correlated with higher cognitive strategy use levels. The cognitive strategy was negatively correlated to test anxiety in the sample of 173 students (Pintrich & DeGroot, 1990). The second correlational analysis between motivational variables, metacognitive strategies, and self-efficacy found that the scales were intercorrelated and further analyzed as dependent variables in a MANCOVA analysis with the end, of course, and first semester grades. Pintrich and DeGroot (1990),

disclosed Schunk (1985) interpretation of the MSLQ found that self-efficacy is necessary for cognitive engagement, and performance strategies like self-regulation encourage positive academic outcomes. More so, Corno and Mandinach (1983), Snow (1989) and Weinert (1987) concluded that the reliability and validity of the MSLQ and the theoretical framework were significantly correlated to measure individual differences in performance outcomes, motivation orientations, cognition, and self-regulation in the classroom setting (see Pintrich & DeGroot, 1990).

The theoretical framework relationships for the MSLQ were adequate for future testing in motivation and self-regulation (Pintrich & De Groot, 1990). In a new study, Jackson (2018) employed the MSLQ to analyze science, technology, engineering, and math (STEM) courses through a prespecified approach adopting the MSLQ-R at North Carolina Central University, a historically Black university. According to Jackson, the MSLQ does not apply to diverse populations without adaptation. Jackson's full inquiry was applied to STEM taught courses utilizing the entire 81-item test. A key variable in African Americans' targeted sample population was distinguishing them as contributors to the workforce competitiveness and talent. However, recruiting and retaining STEM students is difficult (National Science Board, 2015; National Academy of Science, 2011). The racial gap in this population's enrollment indicates adolescents' lack of knowledge aptitude (Jackson, 2018).

Early researchers in STEM education Zimmerman and Martinez-Pons (1990) noted that students involved in challenging majors such as STEM must have a sense of purpose, high regard for self-regulated learning, and resilience in demanding learning

orientations. Students who possess these virtues will adapt to the challenges and meet the demands of graduating by adjusting their fundamental goals, attitudes, and beliefs toward self-efficacy and performance. Researcher Chen (2009) asserted that only 28% of African American students select STEM majors, half of them deselecting their STEM program or exiting their major entirely. To address the gap in minority populations, enrollment and degree attainment in STEM programs, President Obama allocated $850 million in scholarships and funding to prioritize minority education and promote competitiveness in STEM workforce professions (U.S. Department of Education, 2016).

In prior years researchers have posed significant concerns over the development of the MSLQ psychometric. Concerns were leveled at its population norm of white upper-middle-class universities, declaring the MSLQ inappropriate to measure aptitudes in achievement, motivation, and self-regulated learning among ethnic populations around the country, especially in HBCU's. According to Garcia and Pintrich (1996) and Pintrich et al. (1993), established fit indices in the MSLQ determined that the HBCUs (Historically Black Colleges & Universities) were a poor fit, not meeting the criteria of white institutions third-order factoring. Third-order factoring is the use of all 81 test items as categorized in the MSLQ that encompasses both motivation and learning strategies subscales. The respecified MSLQ factor structure modified for ethnic populations underwent confirmatory factor analysis for construct item relatability in value, expectancy, and affect measures of motivation, and cognitive, metacognitive, and resource management related to learning strategies in HBCU populations. Researchers

Cho and Summers (2013) and Pintrich et al. (2000) called for more diverse population studies using the MSLQ.

Consequently, the scale was adapted for the HBCU population, removing extrinsic goal orientation, test anxiety, peer learning, and help-seeking for a total of 48 items and 11 scales for the final administering (Jackson, 2018). The MSLQ-R found that the third-order factor model was reliable and validated for invariances among four HBCU student groups. Results showed high correlations between the end grades and student self-efficacy, task value, effort regulation, and study environments. In his concluding summary, Jackson (2018) held concerns relating to the reliability and validity of the MSLQ in ethnic populations, stating that the test was adequate for inventory purposes. However, inventory must be adapted to ensure fit indices are leveraged for a positive outcome and establish validity in populations outside of the inventories' use in White institutions and populations.

Before Jackson's (2018) STEM research, Ballen et al. (2017) upheld that underrepresented minority (URM) populations are disproportionately registered at a lower rate in science, technology, engineering, and mathematics (STEM) due to a lack of historical recognition of revered African American accomplishments over decades. He argued to retain the minority students' population's traditional learning approaches must be adopted. Ballen et al. (2017) found active learning pedagogy (ALP) versus traditional learning decreased the gap in STEM enrollment and performance, allowing for students to feel appreciated and valued in traditional undergraduate settings, for example, lecture halls, introductory classes, endorsements, and recruiting. Underreported minorities

(URM's) reported that the addition of class activities and pre-lecture preparation presented a warmer climate for assimilation.

The study results found that ALP significantly improved science self-efficacy; however, ALP did not prove significant in non-URM students (Ballen et al., 2017). Jacobs (1986) and Rachal (2002) argued that instructional designs are problematic because all cultures and emerging adults may not benefit from traditional learning methods. Haskell (2016) argued self-efficacy is critical to academic learning and performance. She recognized the American Society of Horticultural Science (2011) suggesting that active learning strategies influence motivation and achievement. Haskell offered that those classrooms can be socially isolating and hinder learning. As the literature indicates in STEM, she suggested providing more one-on-one time outside of the classroom and incorporating a flipped classroom model mediated deficient performance. The flipped model asks that students acquire resources and knowledge independently by utilizing textbooks, power points, YouTube, Khan Academy, and Coursera to allow for informal classroom discussions and participation to improve belonging (Haskell, 2016). These studies illustrated that emerging adults require learning strategies that are all-encompassing and varied, specifically in retaining African American students in STEM programs. Nevertheless, with the exercise of the MSLQ, a validated assessment method, and ALP, it was proven across URM populations that student performance is positively correlated. These studies show that decreasing the gap in STEM-related courses is both challenging and promising (National Academy of Science, 2011; National Science Board, 2015).

Summary and Conclusions

The literature review synthesized the existing studies surrounding SNA, self-esteem, a sense of flourishing, and motivated strategies for learning to understand the potential impacts on emerging adult students. The goal of the literature review was to draw associations between the constructs SNA and the study variables to provide a fundamental understanding of what is known in the discipline of psychology and teaching prior to the investigation. The literature review revealed multiple psychological impacts on student performance, which speaks to the current study's aim and purpose. What is not known in the scholarly community is the extent to which student self-esteem and sense of flourishing mediate the relationship between SNA and each of the six domains characterized in Part 1 of the motivated strategies for learning questionnaire. The culmination of the literature presented a comprehensive account of the technological behavior addiction SNA, disclosing SNA characteristics and associated risks to emerging adult undergraduate populations which fulfils the research gap in the literature, and extends the range of knowledge in psychology regarding social learning and student motivation in learning in adult education, which were spotlighted and discussed. Chapter 3 outlined the study methodology. The constructs of interest were analyzed to determine whether a mediating relationship exists between SNA, self-esteem, a sense of flourishing, and motivated strategies for learning in student populations in American colleges and universities.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to examine the simultaneous mediation effects of self-esteem and a sense of flourishing on the relationship between SNA and motivated strategies for learning in a sample of American undergraduate students. The first major section of the chapter describes the overall approach to the study using the research design and rationale. The following sections describe the specific methodology used, including population, sampling, recruitment, participation, and data collection procedures. Then, for future replication, a detailed description of the instrumentation and operationalization of the study constructs, as well as the threats to validity and ethical procedures, is provided.

Research Design and Rationale

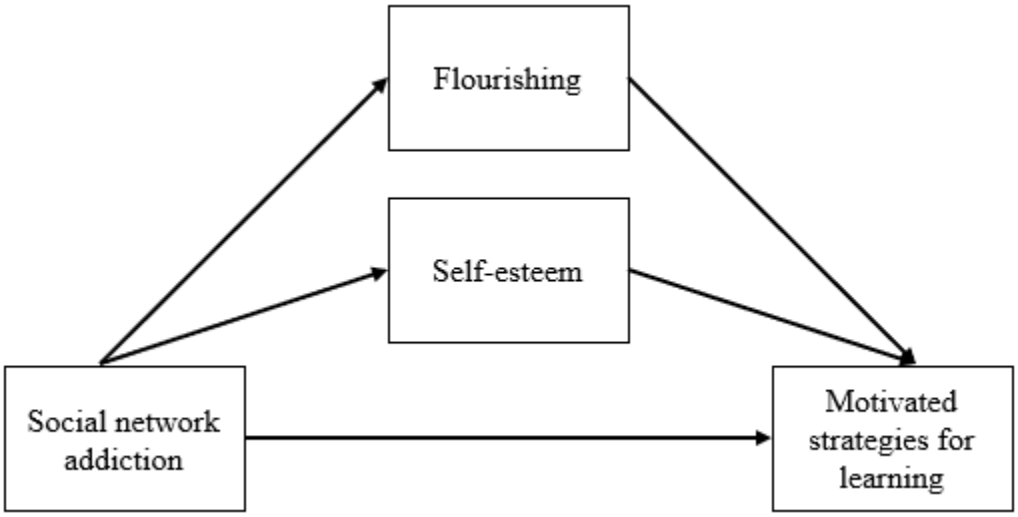
A cross-sectional quantitative correlational research design was found by Campbell and Stanley (1963) to test causal hypotheses (Stevenson, 2020). The cross-sectional correlational research design in social science and education allows for inferential examination of prevailing characteristics in a population without manipulation (Creswell & Creswell, 2012, 2018). More specifically, the design employs parallel mediation (Hayes, 2018). Mediation analysis has been commonly used across decades in the social sciences and psychological literature. Schoemann et al. (2017) documented mediation analysis in 208 studies between 2010 and 2016 in the *Journal of Social Psychological and Personality Science* alone.

In this study, I used a battery of four measures: (a) the Bergen Social Media Addiction Scale (BSMAS; Andreassen et al., 2012, 2016), (b) the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), (c) the Flourishing Scale (FS; Diener, 2010a), and (d) the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich & De Groot, 1990), which included six motivation subscales. SNA, as measured by the BSMAS, functioned as the independent variable. A sense of flourishing (FS) and self-esteem (RSES) were the mediating variables. The six MSLQ subscales were the dependent variables: intrinsic goal orientation, extrinsic goal orientation, task value, control beliefs, self-efficacy for learning performance, and test anxiety (Pintrich & De Groot, 1991).

I conducted mediation path analyses with the two mediators acting in parallel, employing Hayes's (2018) PROCESS macro, Model 4 template in SPSS. Hayes (2018) described mediation analysis as a statistical process to test the assumption of causality. The body of Hayes's statistical work indicates that mediation is a statistical association between variables demonstrated along with path analysis that measures both direct and indirect causal relationships. The generic mediation model is found in Figure 2, which is a representation of Figure 1 in Chapter 1.

Figure 2

Representation of Figure 1: Generic Parallel Mediation Model



Methodology

Population

Undergraduate students in the United States comprised the target population. They needed to have been enrolled at a college or university within the United States at the survey time. Students were between the ages of 18 and 25 and reported themselves as users of social networking sites. According to research procedures for statistical examination, the target sample size determination must be computed using standards that comply with correlation and regression analysis (Creswell & Creswell, 2018; Schoemann et al., 2017). Preacher and Kelly (2011) and Schoemann et al. (2017) posited that to determine the targeted sample size, researchers should use a power analysis for mediation models to test direct and indirect effects. Research standards for a two-mediator parallel model for the study's research design comprised alpha = .05, with all pairwise

correlations of medium size (r = .30); a sample size of 170 has power = .70, and a sample size of 200 has power = .80. The target maximum sample size for this study was 200 participants (Preacher & Kelly, 2011; Schoemann et al., 2017).

Sampling and Sampling Procedures

I employed a nonprobability purposive sampling strategy in this study. It was essential to find a diverse student population among large universities in the United States to fulfill the research criteria. A national study can be complicated due to the number of educational institutions in the United States. However, purposive sampling allows the researcher to carefully execute the criteria outlined in the population requirements regardless of recruitment challenges (Creswell, 2009, 2012; Creswell & Creswell, 2018). There were no exclusion criteria in the study except for age, country, and education level demographics outside of the research design parameters.

Procedure for Recruitment, Participation, and Data Collection

To recruit study participants, I employed Amazon MTurk with a survey design constructed in SurveyMonkey. There are numerous advantages to using MTurk. The interface is simple to use, fees and cost are minimal, and the online site is widely used in social science research publications. Moreover, identity verification, data security, and payment infrastructures are handled within the MTurk platform (Chandler & Shapiro, 2016). Data for the proposed analysis were advertised using SurveyMonkey online survey platforms for MTurk worker participants to complete a Human Intelligence Task (HIT), also regarded as the survey instrument. Eligibility requirements include (a) age, (b) current enrollment as an undergraduate at a college or university in the United States,

and (c) user of SNS. Those who qualified proceeded to the survey, and those who did not were led to the disqualification page. At the beginning of the survey, consent to participate was displayed. At the end of the questionnaire, the study debriefed and thanked participants for their contributions to scientific knowledge related to SNA and its potential impact on adult learning strategies and motivation. A two-paragraph debriefing statement on the study's purpose and a disclosure on the benefits of mindfulness and subjective wellbeing related to academic performance were also displayed (see Appendix L).

Instrumentation and Operationalization of Constructs

This study used a combined inventory to measure the mediating effects of self-esteem and a sense of flourishing on the relationship between SNA and MSFL. The instruments included the BSMAS to measure emerging adults' SNA. The traits of self-esteem and a sense of flourishing were measured with the RSES and Diener's FS. Student MSFL was measured utilizing the six domains of intrinsic goal orientations, extrinsic goal orientations, task value, control beliefs, self-efficacy for learning performance, and test anxiety. These six domains are further classified as value, expectancy, and affective components by the MSLQ manual of operations (Pintrich et al., 1991). All four instruments have been used in prior studies, both individually and in combination, whereby important levels in the instruments' reliability and validity were significantly demonstrated. The use of the scales is permissible in educational research as demonstrated in the footnotes of each instrument (Andreassen et al., 2012; Diener et al., 2010a; Pintrich et al., 1991; Rosenberg, 1965). Although each instrument provided

authorization for use, permission from the Norwegian clinical developer of the BSMAS was sought. See Appendices A and B for permission requests and approval for educational use.

Bergen Social Media Addiction Scale Instrumentation and Operationalization

The BSMAS was developed to examine SNA habits in a broader context. The BSMAS measures the criteria of the six behavior addiction components of salience, mood modification, tolerance, withdrawal, conflict, and relapse, as described in Griffiths (1995, 2005) classification of behavioral addiction. One question regarding SNA hours of daily use was added before the scale to aid the BSMAS in the narrowing of the study focus. The BSMAS's six criteria may be summarized as follows:

- Salience: Occurs when social networking's activity dominates a person's cognitive functioning, thinking, feeling, and behaviors and becomes the most important activity in the person's life.
- Mood modification: Occurs when social networking experiences elevate or lower one's mood.
- Tolerance: This is observed when the user of social networking sites increases the usage amount to satisfy prior effects.
- Withdrawal: Arises when unpleasant emotions occur due to the unavailability of social networking sites' networks because of technology failure.
- Conflict: Arises when addictive behaviors challenge real-life situations. SNA can disrupt human functioning.

- Relapse: This is an action that individuals partake in comparable to individuals who are chemically addicted and cannot control the experience (Griffiths, 1995, 2005).

If participants answered yes to three or more of the scale's six components, they were considered addicted to social networking. The BSMAS has shown reliability and validity in its administration. Published studies in emerging adult education revealed positive Cronbach alpha significance in test items and scale reliability and validity using the BSMAS (Andreassen et al., 2016; Banyai et al., 2017; Hou et al., 2019; Lin et al., 2017; Monacis et al., 2017; Shensa et al., 2017). For example, a large cross-sectional study with 23,533 participants ages 18 to 88 explored the relationships between SNA and four psychiatric disorders: attention-deficit/hyperactivity disorder (ADHD), obsessive compulsive disorder (OCD), anxiety, and depression. The study found positive and significant correlations linking abnormal personality dimensions and single marital status. Additionally, female SNA was declared more prevalent than male behavior addiction. SNA's reliability and validity results revealed a Cronbach's alpha of .88, indicating consistency among the survey items.

Banyai et al. (2017) found that Hungarian students suffered from low self-esteem, elevated levels of depression, and excessive social networking use in at-risk youths correlated with PSMU and SNA. Cronbach's alpha was .85, affirming internal consistency among test items. Overall, the BSMAS has shown excellent Cronbach's alpha reliability, typically > .8, for measuring SNA. Additional researchers (Griffiths & Pakpour, 2017; Monacis et al., 2017; Pontes et al., 2016) have announced that besides

having good psychometrics, the measurement tool MSLQ has been validated worldwide with translations in Italian, Persian, and Portuguese (Banyai et al., 2017). These results have underscored the research initiative to examine humanity's SNA as a complete construct in American technology behavior addictions (Andreassen et al., 2016).

Self-Esteem Instrumentation and Operationalization

The mediation variables self-esteem and a sense of flourishing scales are simple in their instrumentation. The RSES is a single-dimension scale that measures high and low self-esteem appraisal through self-disclosure. Rosenberg (1965) developed the RSES with three criteria in mind: face validity, ease, and economy of administration, and measuring one psychological construct using a 10-item scale (Blascovich & Tomaka, 1993). In comparison, Diener et al. (2010a) created the well-being scale to assess flourishing in human attitudes, behavior, and emotion. The study's mediators, self-esteem and flourishing, were predicted to act simultaneously with the other to assess positive affects in life evaluations (Diener et al., 2003).

Sense of Flourishing Instrumentation and Operationalization

The FS is brief, consisting of eight items that measure self-evaluation in various human function aspects from personal to professional relationships. The scale is a unidimensional assessment of psychological wellbeing that initially yielded a Cronbach's alpha of .87 (Diener et al., 2010a). The scale integrates positively and negatively worded statements, with negative ones reversed coded to compute a composite score (Blascovich & Tomaka, 1993; Bringle et al., 2004). The FS is scored by calculating the sum of the item responses, ranging from 1–7. The lowest value for the total score is 8, and the

highest possible score achievable is 56 (Diener et al., 2010a). A high score of 56 signifies a person with various psychological strengths, including resilience, tenacity, positive outlook, and approach to life situations combined with skill building. Several studies have shown similar positive associations in reliability and validity employing the RSES in educational research (Blascovitch & Tomaka, 1993; Bringle et al., 2004), and the FS and MSLQ (Crede & Phillips, 2011; Datu, 2018; Jackson, 2018; Jackson & Luchner, 2017; Soemantri et al., 2018).

Motivated Strategies for Learning Questionnaire Instrumentation and Operationalization

This study utilized Part 1 of the motivation section of the MSLQ, which consisted of 31 test items spread over six motivation subscales to measure college students' goals, values, and beliefs associated with a course of learning, strategies, and test anxiety. The relationship of each subscale with SNA was analyzed with self-esteem and sense of flourishing as simultaneous parallel mediators. The MSLQ, an aptitude measure, was modeled using the three characteristics that define self-regulation in learned behavior, metacognition, and motivation (Jackson, 2018; Pintrich et al., 1991).

The MSLQ has two modes of administration: whole or partial, using any of the 15 subscales independently (Artino, 2005; Crede & Phillips, 2011; Duncan & McKeachie, 2005; Pintrich et al., 1991; 1993). This study utilized a partial administration using six of the 15 scales, which required 20 to 30 minutes to administer (Pintrich et al., 1991, 1993). The scoring system in the MSLQ is based on a 7-point Likert scale. The scale records students' reflections on a continuum, ranging from 1, labeled *not at all true of me*, to 7,

labeled *very true of me* (Artino, 2005; Crede & Phillips, 2011; Duncan & McKeachie, 2005; Duncan et al., 2015; Pintrich & De Groot, 1990; Pintrich et al., 2018). Pintrich et al. (1991) stated that individual subscale scores are calculated by adding the scale items to determine the average.

The MSLQ is an often-cited multi-item scale developed (Duncan & McKeachie, 2005; Pintrich et al., 1991) to assess student motivation strategies and self-regulation in learning. Pintrich and De Groot (1990) analyzed several MSLQ studies (e.g., Corno & Mandinach, 1983; Snow, 1989; Weinert, 1987), which established that the theoretical framework of the MSLQ is sufficient to measure individual differences in performance outcomes, motivation orientations, cognition, and self-regulation. Corno and Mandinach (1983), Snow (1989), and Weinert (1987) each stipulated that understanding the intersection of each component in student self-regulation advances academic performance (Pintrich & De Groot, 1990). Therefore, the MSLQ is adequate for future testing in motivation and self-regulation (Pintrich & De Groot, 1990). During the development of the pre-MSLQ, three targeted student populations between the formulation years 1982–1986 affirmed the MSLQ's appropriateness for testing student motivations (Crede & Phillips, 2011; Duncan & McKeachie, 2005; Pintrich & De Groot, 1990; Pintrich et al., 1991).

Multiple correlational studies have established that the MSLQ demonstrates instrumental validity (Bandalos et al., 2003; Brookhart & Durkin, 2003; Zusho et al., 2003) in various populations (Artino, 2005; Campbell, 2001; Datu, 2018; Green, 2001; Hong & Aqui, 2004; Neber & Heller, 2002; Seibert, 2002; Vogt, 2003). Studies in

education research like the current study (Artino, 2005) found in a meta-analysis administration of the MSLQ to measure self-efficacy that it was reliable and valid in various student populations. The findings were established in middle and high school students (Bong, 2001), African American business course students (Campbell, 2001), reflective learning in clinical medical students (Soemantri et al., 2018), and goal theory studies (Walter, 2004).

Motivated Strategies for Learning Questionnaire Instrumentation: Six Domains of Motivation

The MSLQ has six domains in Part 1 of the motivation portion of the scale. The six domains are broken down into three categories that represent the six domains as mentioned in the study's definition of terms. Intrinsic goal orientation, extrinsic goal orientations, and task value are considered value components. Control of beliefs and self-efficacy for learning and performance are distinguished as expectancy components. The third category is the affective component with one study construct test anxiety. The definition for each domain has already been defined and the instrumentation for each scale is simplistic in nature. The combined motivation subscales ask a series of questions totaling 31 items. For example, the value component has 14 questions, expectancy has 12 questions, and affective has 5 questions to be answered using a Likert scale for responses.

Sociodemographic Instrumentation and Operationalization

Lastly, a socio-demographic analysis was conducted to provide the participants' descriptive information to aid the study. Study participants answered the six demographic questions at the beginning of the questionnaire before taking the sixty-one-item survey.

The demographic questions age, gender, dependency status, race/ethnicity, social status, and university location allowed for a comprehensive view of the sampled population to suit the research needs. The race/ethnicity background is a six-level measurement, measured with American Indian or Alaska Native identified as (1) Asian (2), Bi-Racial (3), Black or African American (4), Hispanic or Latino (5), Caucasian or White (6). Age is an eight-level measurement used to assess emerging adults 18 to 25. Gender is a two-level for males and females. Females were identified as (1) and males (2) in the analysis. Social status is a two-level measurement with single status identified as married (1) and single (2). University location is a five-level measurement indicating regions in the United States that universities are located. See Appendix J for student demographics. For example, the University of Texas is in the southern region (4) of America. The regions of America are identified as Central (1), Eastern (2), North (3), South (4) and Western (5).

Data Analysis Plan

The data underwent statistical analyses using a SPSS version of the Hayes (2018) PROCESS model. The dataset collected through MTurk was screened to evaluate its appropriateness for analysis. MTurk's built-in screening software processes the collected data allowing for outliers, speeded responses, and straight liners of inaccurate information to be deleted from the dataset. Missing cases that include incompleteness of survey questionnaires are discarded in the preliminary screening as well. This prevents any corrupted data from impacting the study's results. MTurk, a crowdsourcing microtask platform, has taken a more aggressive stance on data quality in recent years. New vetting techniques that focus on participant attention, attention checks, engagement,

and the comprehension of the English language now provide increased reliability and validity in human intelligence tasks. The incorporation of technology that assesses bot-like answers block low-quality responses and approved HIT list participants are available for social science data collection for a reduction in speeded responses, outliers, and straight liners (Chandler et al., 2019, 2020; Hauser & Schwarz, 2016). Once completed, the dataset underwent statistical evaluation using Hayes (2018) PROCESS Template Model - 4 to answer the research question. Multiple regression statistical analyses were conducted employing bootstrapping to measure the mediation path analysis's direct and indirect effects. The relationship between SNA (X), self-esteem (M1), sense of flourishing (M2), and motivated strategies for learning (Y) variables should be linear to minimize error (Hayes, 2018). In this study, no covariates or confounding variables were identified. Although covariates can boost accuracy in a study by specifying factor associations with SNA, the study relied solely on the motivation subscale scores in the MSLQ to provide dimensionality in the responses.

As stated in the introductory chapter the study's proposed research question was designed to measure the direct and indirect relationship of SNA on motivated strategies for learning. Student MSFL were assessed applying the six subscales in Part 1 of the MSLQ: intrinsic goal orientation, extrinsic goal orientation, task value, control beliefs, self-efficacy for learning performance, and test anxiety when mediated by student self-esteem and a sense of flourishing employing a parallel mediation path analysis. The analysis of the predictors (a) supports the study rationale, (b) assessed SNA effects on emerging adult's learner capacities, and (c) assessed if student self-esteem or a sense of

flourishing played a significant role in mediating SNA the (X) variable on student motivated strategies for learning (Y) outcome variable. A combination of statistical analysis was performed in the study including univariate, bivariate and regression analyses to test for mediation.

Research Question

RQ 1. To what extent is the relationship between social networking addiction (SNA) and motivated strategies for learning (MSLF) mediated by self-esteem and a sense of flourishing,

Ho 1. Self-esteem and a sense of flourishing are not significant mediators of the relationship between SNA and MSLF.

Hα 1. Self-esteem and a sense of flourishing are significant mediators of relationship between SNA and MSLF.

Threats to Validity

When developing quantitative research analysis, threats to internal and external validity may exist in the study's design. Researchers propose to minimize threats to validity in research designs by setting a threshold to meet the statistical guidelines for confirmatory analysis. To do so, Creswell and Creswell (2018) characterized three essential components needed for research (a) does the item content of the researcher's study design measure the proposed constructs (b) does the instrument of measurement have predictability or congruence with other study results to advocate its validity, and (c) do the scores of the instrument influence positive outcome of the constructs to be accepted into practice (Creswell & Creswell, 2018 p. 153). Finally, the study's research

questions must be represented in the concluding results. Matching the study findings to the research questions may suggest validity in the studies' external and statistical findings.

External

Based on the sample size determinations and the world's current state, a discussion in study feasibility is warranted concerning the Coronavirus pandemic (CDC, 2021; PAHO, 2021; WHO, 2021). Additionally, the United States was undergoing civil and racial discord relating to police brutality resulting in the murders of African American men and women. The death of George Floyd and others Ahmaud Arbery, Breonna Taylor, Eric Garner, Philando Castillo, Trayvon Martin incited social protest across the nation. Various organizations and news media classified the ongoing threat to black lives and people of color, the Black Lives Matter movement. The movement has received humanitarian support worldwide (NAME, 2021; NYTimes, 2020, 2021). The trial of police officer Derek Chauvin accused of murdering George Floyd after restricting Floyd's airway for 9.29 minutes due to applying extreme force to the back of Floyd's throat by the officer's knee. This depraved act is said to have caused cruel and unreasonable punishment resulting in the death of Floyd for his tender of a counterfeit twenty-dollar bill in a community store (National Geographic, 2020; The New York Times, 2021; Wikipedia, 2021).

The civil and racial discord led to multiple social protests in most American urban and metropolitan areas. A sizeable portion of the protestors were reported as emerging adults and college students (Wikipedia, 2021). As emerging adults are the study's target

audience a leading concern is that undergraduate students have been undergoing a rapid and considerable amount of cognitive change in the past year. These changes deal with current and past existential concerns surrounding the coronavirus pandemic, police brutality, racial injustice, and race and identity in America. Students may have been experiencing anxiety and cognitive frustration due to the overwhelming social strains, which may outweigh motivation or concern for academic performance.

Therefore, in addition to traditional self-report biases, the current sample may show biases. The degrees of activity on social networking media may be heightened because globalized attention towards events transferred by social networking sites and news related media outweigh students' performance. These trauma-induced events may skew the results, as American undergraduates struggle to find new norms; social networking usage may provide a means of escape during this period. Additionally, with restrictions throughout the US, such as self-quarantine, individuals are less able to socialize in the traditional ways they have become used to, making social networking sites the only form of social relationships and communication styles for many. The coronavirus's social restraints inevitably cultivate addictive behavior as people are more prone to using their social devices.

Internal

Threats to validity and reliability was minimized in this study by relying solely on pre-published instruments that have been widely used and reviewed within the field's social science. Other threats to administration test length, test delivery, and collection will be resolved in the following manner. Because time can be considered an external

threat in research designs, the commitment of the participants' time will be slated for no more than 30 minutes. The test's length is based on the number of queries, which establishes a minimum period for administering the survey (Pintrich & De Groot, 1990).

The combined pre-published instruments have a total of 55 Likert-choice questions with an additional six demographic questions constructed as multiple choices totaling 61 items. The test administration allots 15-30 minutes for the entire 15 scales (Pintrich & De Groot, 1990). This study allowed 30 minutes for a total of 61 items. A timeframe of 2 to 4 weeks was set for the delivery and collection of the survey. The period was decreased as the number of results obtained to satisfy the sample population parameter for generalization achieved three days post MTurk's HIT advertisement. A statement posted in the MTurk dashboard regarding the outcome of the study results and debriefing disclosures of the research survey were provided to participants at the conclusion of the study's analyses.

Ethical Procedures

This study adhered to Walden's ethical guidelines on the treatment of human subjects. Certification to conduct doctoral research on human subjects was obtained from the CITI PROGRAM see Appendix K for the certificate. The following procedures were enacted to request the Walden Institutional Review Board (IRB) data approval. This study protected its participants' confidentiality and imparted ethical and sound recruitment practices to obtain the study objectives. All recruiting of participants were handled through Amazon Mechanical Turk. MTurk's crowdsourcing technology has a

built-in extension to collect data and provide data analysis protections in their study procedures.

Summary

Chapter 3 presented the methodology behind the study. The methodology consisted of a simultaneous parallel mediation path analysis to derive relationships between SNA and motivated strategies for learning when mediated by self-esteem and a sense of flourishing in students aged 18 – 25 enrolled in American college and universities. The study employed demographic factors to provide a more in-depth approach to aligning the study's aim with university regions in the US. This allowed the study to present a demographically area interpretation of SNA across the regions of America. The next chapter provides the results of the data analysis plan outlined in this chapter.

Chapter 4: Results

Introduction

This quantitative study examined the parallel mediation effects of self-esteem and a sense of flourishing on the relationship between SNA and motivated strategies of learning employing the MSLQ. The MSLQ encompasses six components—intrinsic goal orientation, extrinsic goal orientation, task value, self-efficacy of learning and performance, and test anxiety—in the sample population of emerging adult undergraduates aged 18–25 enrolled in American colleges or universities. The independent (predictor) variable was SNA. Studies have shown that emerging adults have a penchant for social networking (Anderson & Smith, 2018; Auxier & Anderson, 2021; Perrin & Anderson, 2019). As a result, different types of social networking concerns have arisen, including IA, PIU, PSMU, and SNA behavior addiction. Behavior addiction results when individuals become addicted to, excessively engaged with, or problematically engaged with technological devices or social internet practices (Andreassen & Pallesen, 2014; Griffiths, 1995, 2005; Kumar & Mondal, 2018; Young, 1998).

To better understand the influence of social technological behavior addictions on emerging adults, a sociodemographic profile of the sample populations comprised of age, dependency status, gender, race/ethnicity, social status, and university regions was explored to supplement the study's inquiry. The research question and hypotheses were based on Bandura's (1971, 1977) social learning and Diener's (1984) flourishing

theories. The research question is represented once again, as reflected in the previous chapters.

RQ 1. To what extent is the relationship between social networking addiction (SNA) and motivated strategies for learning (MSFL) mediated by self-esteem and a sense of flourishing?

Ho 1. Self-esteem and a sense of flourishing are not significant mediators of the relationship between SNA and MSFL.

Hα 1. Self-esteem and a sense of flourishing are significant mediators of the relationship between SNA and MSFL.

Data Collection

Data were collected using the online crowdsourcing survey platform known as MTurk. After receiving IRB approval (No. 06-11-21-0971130), MTurk announced and published the survey within its dashboard for all registered Amazon Human Intelligence Task (HIT) workers to observe. Participants who acknowledged their interest were recruited to complete the study's questionnaire through the HIT agreement. Participants interested in the survey HIT were anonymously identified by way of their worker identification numbers to maintain participant and research confidentiality. The process for recruitment occurred as indicated. Participants searched the MTurk or Turker Nation site for HITs of interest. Interested participants clicked on the link provided to them, advancing the HIT descriptive. Survey participants meeting the HIT requirements for age and status as an American college or university student were asked to indicate their consent on the informed consent page. Upon a participant's agreement to consent

electronically, a fully informed consent form approved by Walden's IRB was generated, informing participants of their right to exit the questionnaire at any time without consequence. Once participants agreed upon clicking "Yes" and then "Next," the entrance to the survey opened to gather the participants' sociodemographic information. Upon completion of the six demographic questions, the participants were led to complete the rest of the survey comprised of 61 questions.

The entire survey design encompassed a sociodemographic query and four prepublished survey scales, including the BSMAS, RSES, FS, and MSLQ (Andreassen & Pallesen, 2014; Diener, 2010a; Pintrich & De Groot, 1990; Rosenberg, 1965). The survey link was uploaded to MTurk and became operational on Monday, July 19, 2021, at 8:00 p.m., with an open status window until August 19, 2021, to achieve the sample goals. MTurk recruited a total of 200 participants, the maximum planned sample size for the recruitment. The valid sample goal ($N = 189$) was met within 3 days, and therefore, the link to the survey closed on Wednesday, July 23, 2021. At the completion of the data collection process, MTurk and SurveyMonkey performed separate screenings of the dataset in which a total of 11 participants were discarded from the dataset based on failure to complete. Upon cleaning of the dataset using the SPSS software, outliers ranging three standard deviations above the overall distribution of scores were excluded, and speeded responses to the questionnaire were also removed. The baseline descriptive and demographic results of the study were as follows.

In terms of gender, the population was primarily female (50.0% female, 46.0% male). Studies have found that emerging adult females have higher participation in

college/university research surveys (Moore & Tarni, 2002). Curtin et al. (2000) and Goyder, Warriner and Miller (2002) posited that more educated and financially stable students are more likely to participate than less educated and less prosperous students. In addition, the proportion of females to males is consistent with the current undergraduate population (e.g., Kircaburum et al., 2018; Nwosu et al., 2020; Thomas et al., 2020).

Demographic responses to questions regarding daily SNA hours, race/ethnicity, marital status, dependency status, and student university locations by U.S. regions were as follows. The relative distributions for race/ethnicity were as follows: Caucasian or White—69.3%, Black or African American—14.0%, Asian or Asian American—8.5%, Hispanic or Latino—5.0%, biracial—1.5%, and American Indian or Alaska Native—0.5%. Most students reported their marital status as being single (53.0%) and their dependency status as independent (70.5% vs. 25.5% dependent). Additionally, the survey measured five student university locations by U.S. regions. The descriptive characteristics of the five university regions clarified SNA behaviors across the American landscape. According to university regions, frequency statistics calculated the number of SNA hours in daily usage. Before the opening of the survey questionnaire, the final sociodemographic question asked participants to self-report whether they perceived themselves as excessive users of social networking sites. When asked about how many hours per day they used social networking sites, the most frequent response (36.3% of students) was 2–4 hours per day, and the second most common answer was 4–6 hours per day, which was endorsed by 32.1% of the respondents.

Research Data

The MTurk crowdsourcing platform collected the research data. MTurk, working in collaboration with the survey hosting platform SurveyMonkey, posted the data collection results into the researcher dashboard from which the SPSS file was extracted. The imported SPSS file underwent several preliminary tests (Mahalanobis, Cook's, and Leverage) for data accuracy before uploading to the Hayes (2018) SPSS PROCESS model 4 template designed for parallel mediation analysis. The preliminary data screening found that of the 200 undergraduates who participated in the survey, between 10 and 11 were disqualified. The term *incompleteness* was described as lacking information, constituting the incomplete survey as missing in the dataset. Speedy responses were participants repeatedly entering the same answers for each survey question, thereby invalidating the survey and its response. As a result of the disqualified survey cases, the sample population ranged between 189 and 190 respondents, depending on the subscale accuracy in completion rates. The study's descriptive statistics were as follows: behavioral addiction: Bevhaddi (N = 190, M = 17.431, SD = 3.87); self-esteem: Selfervs (N = 190, M = 18.03, SD = 5.14); flourishing: Flouri8 (N = 189, M = 27.27, SD = 9.27); and motivated strategies for learning: MSFL (N = 190, M = 2088.84, SD = 437.68).

Statistical Analysis

In the previous chapters, I explained that this study was conducted to fill a scientific gap in the extant literature concerning the deleterious impact that SNA has on student populations regarding strategies for learning and academic motivation. Numerous studies have reported a rise in college-aged emerging adult comorbidity symptoms such

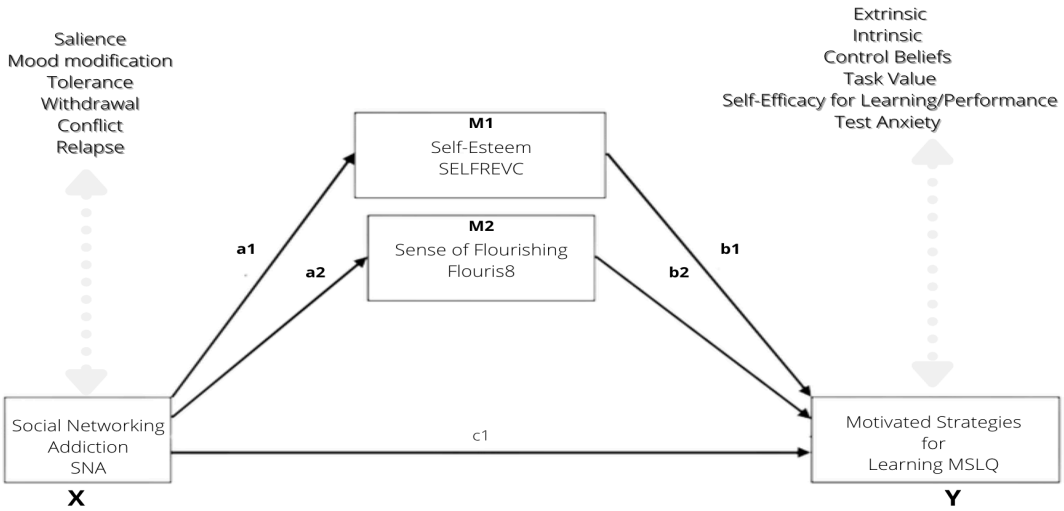
as anxiety, ADHD, depression, and pathological factors in combination with poor academic performance, implicating a greater need for exploratory analyses on undergraduate students' relationships with social networking (Andreassen et al., 2013; Griffiths et al., 1999; Primack et al., Shensa et al., 2017; Vannucci et al., 2017). The research gap was investigated using the causal approach to mediation. Baron and Kenny's (1986) method has been a staple for decades (Hayes, 2018).

However, in recent literature, experts (Agler & De Boeck, 2017; Hayes, 2018; Hayes & Scharkow, 2013; Kenny & Judd, 2014; O'Rourke & MacKinnon, 2015; Rucker et al., 2011, Zhao et al., 2010) in the field of mediation have challenged the science pertaining to the total effect determination of *X on Y* as an antecedent before measures of mediation can be tested. The collective ideology among the researchers pronounced that the purpose of mediation is to measure the indirect relationships in the model and the direct effect relationship is insignificant based on the principal perspective of mediation. To complete the statistical analysis, descriptive statistics were reported for the variables of interest. I conducted Pearson correlational analysis to explore the relationship between SNA and the variables self-esteem, sense of flourishing, and student MSFL. Bivariate analyses were conducted on the variables (a) to predict the value of one variable on another and (b) to measure the extent of how the variables are related (Frankfort-Nachmias & Guerro, 2018; Hayes, 2018; Wagner, 2017). Multiple regression analysis was used to test the mediator model for the effects of SNA on motivated strategies for learning relationships when mediated by self-esteem and a sense of flourishing exercising the Hayes (2018) PROCESS template model 4.

Hayes (2018) described mediation as the process of evaluating hypotheses in social science research, whereby the drawing of a causal association between variables is observed through a mediator(s) to measure the direct effect of *X* on *Y* and the indirect effect that (*M*) has on *Y*, which is pathed from the flow of influence that the mediator variables have on (*Y*) as demonstrated in the variables of interest parallel mediation path diagram (Figure 3). The Hayes (2018) PROCESS template model 4 was employed in this study to test for mediation. According to Hayes (2009, 2018), there are multiple steps to determine mediation. The primary step in the determination of mediation is that the researcher met the procedural assumptions prior to conducting mediation analysis. Before mediation, the data should be screened for accuracy. The preliminary data screening included histograms, normal Q-Q plot, and scatterplots to test for normality and the mediation analysis assumptions. When testing for the accuracy of the data, various tests were conducted including the Mahalanobis, Cook's, and Leverage in addition to tests for additivity, normality, linearity, homogeneity, and homoscedasticity (Frankfort–Nachmias & Leon–Guerrero, 2015; Hayes, 2018). The assumptions are reported in the results section.

Figure 3

Parallel Mediation Path Diagram Variables of Interest



Hayes (2018) posited to measure the indirect effect paths *a* and *b*, which are multiplied to achieve *ab.* To measure the direct effect, paths *a* to *c* are multiplied and represented as *c*. Mediation path analysis has its foundations in Baron and Kenny's (1986) classic approach; however, significant advances in the causal step process have led to more researchers employing Hayes's PROCESS model 4 to analyze multiple mediations in a single analysis, preferring bootstrapping analysis over the Sobel test to minimize statistical errors (Hayes, 2012, 2018). Hayes expressed that the causal step mediation approach is deficient in its application toward hypothesis testing. He asserted that the bootstrap method and the procedure of resampling are set at the thousands repeatedly. In this study, the level of bootstrapping using PROCESS was set at 5000 to calculate standard errors of the sample population, which also allows for an estimation of the variances in a single dataset. Bootstrapping of the representative sampling distribution of the indirect effects is used to determine the bootstrap confidence levels. The bootstrap

confidence level better allows for accuracy in the statistical interpretation of the indirect and direct effects, thus hindering incongruences in the statistical assumptions to be drawn when determining partial or full mediation. Hayes (2018), Lachowicz et al. (2018), and Schoemann et al. (2017) postulated that researchers often use mediation analysis to analyze latent variables, variables comprising psychological affect that are complex to interpret. They argued that the bootstrapping level set at 5000 is the expected standard for statistical analysis in social science mediation analyses.

A bootstrap confidence level of zero is expected for the results of the analysis to be interpretated appropriately. Hayes (2018) further suggested that the basic assumptions in mediation posited by Baron and Kenny (1986) are outdated and pose statistical threats in hypothesis testing for more than one hypothesis. He declared that the Hayes PROCESS model is more adept at analyzing multiple mediators in single-path analysis, thus allowing for a reduction in standard errors (Hayes, 2018). Hayes (2018) declared that bootstrapping is a straightforward process. The ability to process the statistical inferences is available in the extension built into the SPSS statistical model 4 template.

Results

Statistical Assumptions

The study's dataset consisted of both interval/ratio and nominal variables. The interval/ratio variables included SNA, self-esteem, and a sense of flourishing. The nominal variables included six motivated strategies for learning components. The Kolmogorov-Smirnova and Shapiro-Wilk test of normality demonstrated that the variable sense of flourishing (Flouri8) met the assumption of normality and statistical significance

(. 200) on MSFL, but the distributions for self-esteem (Selfervc) and motivated strategies for learning (MSLQ6) did not at alpha level .05. This finding was observed and confirmed through individual histograms. A multivariable scatterplot matrix revealed no linear relationships between SNA, self-esteem, and the motivated strategies for learning variables and a positive relationship between flourishing and motivated strategies for learning measured by the (MSLQ6) at the 0.01 level (2-tailed). Assessing the model for multicollinearity tolerance and variance inflation factor test indicated no collinearity between the variables, and the assumption of homoscedasticity was met based on the circular dot presentation centered in the regression standardized residual chart disclosing no patterns among the data plots.

Univariate tests were conducted on all variables of interest using boxplots and applying the interquartile range (IQR) and Tukey's box boundaries to calculate the assumptions. Seven outliers were identified for SNA, two outliers were identified for self-esteem, three outliers were identified for flourishing, and zero outliers were identified for motivated strategies for learning. In total, 12 outliers were identified. To assess the validity of the data outliers, histograms were evaluated. Hoaglin and Iglewicz (1987) postulated that the (IQR) multiplier set at 1.5 is inaccurate 50% of the time. The histograms of the variables of interest demonstrated normal distribution of the data, and no outliers were removed from the data except for the 11 as noted prior for incomplete and missing data due to the small sample population. In the next section, correlations of the data are presented.

Bivariate Correlations

The simple bivariate correlation coefficients presented in Table 1 indicate that the relationship between SNA (X), self-esteem (M1), sense of flourishing (M2) and motivated strategies for learning (Y) were nonsignificant in the study, shown in Table 1.

Table 1

Variables of Interest Intercorrelations, Means, and Standard Deviations

Psychometrics	*M*	*SD*	1	2	3	4	5
SNA (Bevhaddi)	17.43	3.87	.123	__	.009	.048	.070
Self-esteem (Selfervc)	18.03	5.14	.070	.070	.111	.124	__
Flouri (8) sense of flourishing	27.27	9.27	.087	.009	___	.077	.111
(MSLQ6) motivated strategies for learning	2088.84	437.68	.224**	.048	.077	__	.124

Note. Variables of interest: SNA= Bevhaddi, self-esteem = Selfervc, sense of flourishing = Flouri8, motivated strategies for learning = MSLQ6.

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

Research Question

The research question hypothesized that a relationship might exist between SNA and motivated strategies for learning when mediated by self-esteem and a sense of flourishing. A simple bivariate correlation coefficients test indicated that the relationships between the research question's variables were nonsignificant as reported in Table 1. To explore the direct relationship of the variables SNA on motivated strategies for learning a

regression analysis of variance (ANOVA) was conducted. The regression model was nonsignificant (F (1,189) = .434, p = .511), as shown in Table 2.

Table 2

Analysis of Variance Table for the Regression Model

	SS	*df*	*MS*	*F*	R^2	*p*
Regression	8342.68	1	83421.687	.434	.002	.511
Residual	36123520.9	188	192146.388			
Total	36206942.6	189				

[a] Dependent variable. [b] Predictors: (Constant), (SNA) bevhaddi.

Hayes (2018) declared the most important path in mediation is the indirect effect or the mediating effect that variable *X* has on *Y* that flows through *M.* Since a direct relationship did not exist between path *a* and path *c*, to test for indirect effects between the variables *X* on *M1, M2* and *M1, M2* on *Y* PROCESS was utilized to explore partial mediation. To reiterate the hypothesis proposed SNA would demonstrate an effect on MSFL (path c) directly while indirect paths of influence would exist between SNA (X) on self-esteem and a sense of flourishing (X on M1, M2) and (M1, M2) on motivated strategies for learning (path b). In Hayes PROCESS model 4, SNA was entered as the independent predictor variable, self-esteem (Selfrevc) and a sense of flourishing (FLOURI8) was entered as the mediator variables, and the motivated strategies for learning (MSLQ6) was entered as the dependent outcome variable. The results of the paths analysis are demonstrated in Table 3, 4, 5, 6, 7.

Table 3

Regression Coefficients for Path (a1)

	Regression coefficients			
	B	*SE*	*t*	*p*
SNA (bevhaddi)	.0923	.0971	.9512	.3428

Note. Outcome variable self-esteem (Selfervc).

As presented in Table 3, path a represents the variable SNA being regressed on the mediator self-esteem, the result of the statistical analysis demonstrated the relationship between SNA and self-esteem (*B* = .0923) is nonsignificant.

Table 4

Regression Coefficients for Path (a2)

	Regression coefficients			
	B	*SE*	*t*	*p*
SNA (bevhaddi)	.0225	.1751	.1286	.8978

Note. Outcome variable sense of flourishing (Flouri8).

As presented in Table 4, path a2 represents the variable SNA being regressed on the mediator a sense of flourishing (flourisi8), the result of the statistical analysis demonstrated the unstandardized coefficient (B = .0225) is nonsignificant.

Table 5

Regression Coefficients for Path b (M 1 & M2 on Y) and Path c

	Regression coefficients			
	B	*SE*	*t*	*p*
(SNA)Bevhaddi	4.177	8.254	.5060	.6134
(Selfervc) self-esteem	9.694	6.241	1.553	.1221
(Flouri8) sense of flourishing	3.0364	3.461	.8773	.3814

Note. Outcome variable motivated strategies for learning (MSLQ6).

As presented in Table 5, path b represents the mediator's self-esteem and a sense of flourishing being regressed (flourisi8), (B = 9.694, B = 3.036) on variable (Y) the result of the statistical analysis demonstrated the resulting unstandardized coefficient is non-significant. Path (c) represents the variable SNA being regressed on (Y) motivated strategies for learning (MSLF), the results were also non-significant (B = 4.177).

Table 6

Regression Coefficients for Total Effect of X on Y

	Regression coefficients			
	B	*SE*	*t*	*p*
Effect	5.140	8.2681	.6217	.5349

Note. Total effect measures the relationship between X and Y.

As presented in Table 6, the total effect of X on Y path c, demonstrated the unstandardized coefficients (B = 5.140) was nonsignificant.

Table 7

Regression Coefficients Direct Effect of X on Y

	Regression coefficients			
	B	*SE*	*t*	*p*
Effect	4.177	8.254	.5060	.6134

As presented in Table 7, the direct effect of X on Y, demostrated the unstandardized coefficients (B = 4.177) was nonsignificant.

Summary

In sum, the proposed mediation research question hypothesized to what extent is the relationship between social network addiction and motivated strategies for learning

mediated by self-esteem and a sense of flourishing. The parallel mediation resulted in a nonsignificant relationship between the variables: therefore, it is necessary not to reject the null hypothesis. An interpretation of the findings in accordance with the study's theoretical framework and its relationship to the existing literature is denoted in Chapter 5. In addition, the limitations of the study, future research recommendations and positive social change implications at the university and social learning level will be suggested.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Over the past two decades, the interaction between humans and the internet has become increasingly codependent, so much so that emerging adults pursue social networking engagements to foster computer-generated relationships and a plethora of activities characterized as technological behavior addictions (Perrin & Anderson, 2019; Smith & Anderson, 2018). These behaviors have been shown to have deleterious influences on student academic performance, cognition, life satisfaction, mental health, and personal development (Al-Sharqi et al., 2015; Bener et al., 2018; Blachnio et al., 2016a; Hussain & Griffiths, 2018; Monacis et al., 2017, WHO, 2018; Yu et al., 2016). Hussain and Griffiths (2018) revealed that North America and European countries are the highest rated users of SNS, with reports of 2 billion users globally. Bandura (1971) theorized that humans are social creatures, proclaiming that this is because of their need to belong. This may be a key factor behind how digital technologies have influenced behavioral addictions to social media use (Baumeister & Leary, 2000). Behavioral addictions (IA, PIU, PSMU, SNA) are complex and evolving psychological concepts that are examined from various aspects: biological, psychological, and sociological (Andreassen, 2015; Andreassen & Pallesen, 2014; Griffiths, 2005; Shensa et al., 2017; Young, 1998).

Within this context, the present study theorized that SNA might directly or indirectly affect undergraduates' motivated strategies for learning through the influence of mediators' self-esteem (M1) and a sense of flourishing (M2). I proposed a parallel

mediation path analysis model (see Figure 1) to explore the variables using the Hayes (2018) PROCESS model 4 template in SPSS. The sample population was emerging adults aged 18–25 enrolled at American colleges or universities. The predictor variable SNA encompassed six behavioral addiction characteristics: salience, mood modification, tolerance, withdrawal, conflict, and relapse (Griffiths, 1995, 2005). MSLQ, the outcome variable, comprised intrinsic and extrinsic goal orientations, task value, control beliefs, self-efficacy for learning and performance, and test anxiety (Pintrich & De Groot, 1990). The mediators or intervening variables were self-esteem (M1) and a sense of flourishing (M2) in the mediation model (Hayes, 2018).

Interpretation of the Findings

As hypothesized, the study explored the mediating effects of SNA on motivated strategies of learning mediated by self-esteem and a sense of flourishing. To the best of my knowledge, this is the first study to investigate SNAs' indirect and direct effects employing a parallel mediation analysis of the components in SNA and the MSLQ subscales of motivation. None of the variables in the study indicated a mediated effect. The lack of a mediating effect could have resulted from the student's inability to comprehend the independent variable SNA symptoms and its cognitive potential to impact psychological processes (Blum, 2015). According to the literature, emerging adults are fragile in understanding during the transition between adolescence and the emerging adult stages of development. The ability of emerging adults to discern logic and threats to mentation may be hindered due to biological limitations on mental growth (Blum, 2015; Brunskill, 2013, 2014; Griffiths, 1996; Young, 1998). Additionally,

cognitive and environmental factors may have influenced students' focus. The study's limitations and future research recommendations follow in the sections below.

Limitations of the Study

The study examined 189 American college or university emerging adults to measure SNA and its direct and indirect mediating effects on motivated strategies for learning through proposed mediators' self-esteem and a sense of flourishing. The study was limited to this subset of emerging adults. Results may or may not generalize to all emerging adult populations outside of university students. Social networking engagements may differ across social and organizational demographics. Each sample representation is unique and characteristically different. As previously stated, to the best of knowledge, this is the first study to examine SNA in emerging adult undergraduate populations employing the MSLQ motivation subscales. Given the study's established effect size (p = .3), the conventional standard used for midsized populations (Cohen, 1969, p. 76), the results yielded between 170 and 200 participants, with an alpha of .5 and power .80 confidence interval. Other studies related to SNA and education revealed a significantly larger undergraduate sample population due to differences in research design, requiring a more significant effect size (p = .05) due to the scope of systematic and longitudinal studies (Andreassen et al., 2017; Andreassen et al., 2016; Ioannidis et al., 2018; Primack et al., 2017; Shensa et al., 2018; Yeap et al., 2016). These studies yielded more than 400 participants while establishing statistical significance in their hypothesis.

In addition, this study was designed during two phenomena: (a) the coronavirus pandemic known as COVID-19 and (b) the American culture of social protest surrounding police brutality, inequality, and disparities in social liberties among minority subgroups. Possible limitations and biases from these environmental factors may have influenced the validity of the study's purpose and/or design. There may have been other elements related to the design, the time at which data were collected, or other factors that suppressed the reliability and validity of this study, especially where findings were not consistent with previous results that have been reported in the professional literature to corroborate technological behavior addiction and its negative influence on American emerging adult college students and students abroad (Ahmad et al., 2018; Banyai et al., 2017; Li et al., 2019; Mushtaq, 2018; Vaghefi et al., 2020; Wang, 2018).

Recommendations

Emerging adults are the most prominent internet users and form more social relationships online than other age demographics (Auxier & Anderson, 2021; Perrin & Anderson, 2019; Pew Research Center, 2021; Smith & Anderson, 2018). With the increasing personal and professional need to be adept in the advanced era of internet technology, the more the social intensity grows toward increasing social engagements and the cultivation of technological behavior addiction. This research focused on emerging adults' engagements with SNA. Previous researchers who have examined IA, PIU, PSMU, and SNA have explored psychological distress, anxiety, depression, loneliness, and psychopathological factors (Chabrol et al., 2017; Mamun & Griffiths, 2019; Marino et al., 2018; Shensa et al., 2017). Others have explored character factors in

gambling, narcissism, and psychopathy (Andreassen et al., 2017; Banyai et al., 2017; Donnelly & Kuss, 2016; Sural et al., 2019). However, most of the studies have not implemented the use of longitudinal and qualitative analysis. More research is needed to address the continuing need of emerging adults to stay connected and the effects of cognitive dissonance, which threaten learning motivation and strategies in college and university settings.

Implications

The implications of the study's findings in a larger context revealed that the development of SNA is not generalized to every individual who partakes in usage. As denoted prior, SNA is subjectively unique in its development, and the characteristics that separate and define everyone constitute the determining factor of SNA pervasiveness across individuals (Andreassen et al., 2017; Brunskill, 2013, 2014; Griffiths, 1995; Rouis et al., 2011; Young, 1998). Contrary to the study's findings, negative correlations with SNA and academic performance, intrinsic motivation, and learning are implicated in numerous studies globally (Alt, 2018; Salmela-Aro et al., 2016; Tsitsika et al., 2011; Vannucci et al., 2017; Wu, 2016). Research suggests that the past two decades have created increased anxiety and depression in emerging adults' experiences with technological learning and the saturating effects of social networking sites on cognitive congruence. The result has negatively impacted college learning and performance (Al-Sharqi et al., 2015; Andreassen et al., 2017; Brunskill, 2013, 2014; & Shensa et al., 2016, 2017).

The results from the current study suggest that more emphasis should be placed on SNA and its counterparts IA, PIU, PSMU in postsecondary curriculums that explore hybrid instruction. Although positive correlations were not attained through the research question, research has significantly proven that negative associations exist between internet addictions and student psychological wellbeing and learning. When examining social networking sites and SNA implications for positive social change from the American social structures of individuals, communities, and societies, the principal benefit that this study spotlighted is that social networking use fundamentally presents students and humanity with an invaluable educational and social resource. As identified empirically in this study, social networking use influences positive social change through advancements in technology, promotes awareness of social conditions, and increases knowledge in social institutions. Overall, theoretically, social networking sites encourage social relationships, improve individuals' awareness of their environment, and generally aid in the transferring and receiving information, leading to increased enlightenment and the potential to reach millions of learners within seconds of connecting to the internet.

According to Bandura (1977), all learning originates from social learning engagements; learning engagements are the essence of social networking. These engagements have often been shown to redirect societal behaviors toward unity and progressive thought (Anderson & Smith, McClain et al., 2021). Baron (1992) and Schunk and Pintrich (1996) have shown that motivation in learning can positively influence behavior toward seeking a common goal (Hancock, 2004). As a result of emerging adults' protests, positive social change support became a national idea in which

individuals and governments utilized social networking platforms to address inequalities in civil rights (Auxier, 2020; Auxier & McClain, 2020; McClain et al., 2021; Schaeffer, 2021). The utilization of social networking sites for shared learning and knowledge demonstrates a basic level of societal aptitude in world systems. As it relates to society, individuals share engaging experiences, and those experiences motivate them to share concepts and ideologies that foster and support worldviews.

The takeaway, the excessive, problematic, or addictive utilization of social networking sites gives rise to mental incongruences in our most vulnerable population of emerging adults. Relatedly negative affects in emerging adults can lead to decreased motivation in academic performance. Considering recent events surrounding police brutality, voting procedures, hate crimes, bigotry, and racism, all areas of protest during the current study, social networking activism positively influenced social awareness, thus affording an increased and evolving understanding of the phenomena engulfing this study (Auxier, 2020). In totality, social networking sites promote positive social change by challenging thought and behavior patterns, utilizing positive social learning engagements to stimulate and transform individuals, communities, and social institutions, in hopes of evolving humanity toward the greater good of all.

Conclusion

What are the consequences of SNA on undergraduates and its social influence on their learning motivation and academic performance in general? Scholars are still measuring the shared body of research. What is known, thus far, is that prior research has shown that (a) SNA is a technological behavior addiction that presents in individuals and

groups differently, and (b) the effects of excessive internet use and the development of SNA represent a critical psychological and sociological concern in emerging adults. Scholars agree that there is a need for further research in this area. More importantly, there is a need for greater understanding of the biopsychosocial factors that emerge with a behavioral addiction. Research has indicated that behavioral addictions are nonchemical addictions that are just as dangerous as chemical substance abuse. The imminent threat to emerging adult students is SNA and its lesser types in technological behavior addiction have a shared criterion with substance abuse addiction. Behavior addiction and substance abuse engagers experience symptoms of salience, mood modification, tolerance, withdrawal, conflict, and relapse, which aligned with the study's hypothesis that SNA has the potential to develop in the emerging adult population and deleteriously impact students cognitively and socially, warranting further longitudinal and meta-analysis surrounding the biopsychosocial factors in undergraduate emerging adults.

According to the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), the APA has not identified internet addiction in either of the types including IA, PIU, PSMU, or SNA as a mental disorder for inclusion (APA, 2013; NIH, 2013). However, studies maintain that the correlations in behavior addiction criterion distinctively parallel substance abuse addictions, and both addictions challenge cognitive congruence, are hazardous, impact social and interpersonal relationships, and promote immediate needs neglect in everyday human functions (Al-Sharqi et al., 2015; APA, 2013; Andreassen, 2015; Andreassen & Pallesen, 2014; Griffiths, 2005; Horigian et al., 2021; NIH, 2013; Young, 1998).

The growing correlations between the concepts of SNA and academic performance, anxiety, attachment styles, depression, and psychopathy may provide a basis for focused intervention regarding APA certifying technological behavior addiction as a mental disorder in the future. It is known from the developing literature in academia that andragogy designs facilitate student attachment to technological devices based on curriculum designs. Instructional designers understand that students are attached to their technological devices out of necessity and the need to stay communicatively informed in their personal and academic engagements with little escape to detach psychologically. Scholars relate that although social networking relationships are essential in learning and may become problematic when used pragmatically, the internet also has positive aspects. Building strong social networks is an antecedent to having positive mental health, healthy self-esteem, a sense of flourishing, and overall life satisfaction (Datu, 2018; Diener et al., 2010; Lyubomirsky, 2005; Prinzing, 2020). This research provides data support in the ongoing analysis of technological behavior addiction as it relates to IA, PIU, PSMU, and SNA to add to the emergent literature.

Lastly, it should be noted that no covariates were enlisted in the study. However, when assessing the sociodemographic relationship to the variables, age had a positive and statistically significant relationship with MSFL ($r = .224$, $p < .01$), and future studies should examine whether age is a mediating variable. Although the sample size was determinably small, the quality of the results obtained make the BSMAS, RSES, FS, and the MSLQ reliable and valid psychometrics for nonexperimental design with controls.

References

Agler, R., & De Boeck, P. (2017). On the interpretation and use of mediation: Multiple perspectives on mediation analysis. *Frontiers in Psychology*, *8*, Article 1984. https://doi.org/10.3389/fpsyg.2017.01984

Ahmad, N., Hussain, S., & Munir, N. (2018). Social networking and depression among university students. *Pakistan Journal of Medical Research*, *57*(2), 77–82.

Allen, I. E., Seaman, J., Poulin, R., & Straut, T. T. (2016). *Online report card: Tracking online education in the United States.* https://eric.ed.gov/?id=ED572777

Al-Sharqi, L., Hashim, K., & Kutbi, I. (2015). Perceptions of social media impact on students' social behavior: A comparison between arts and science students. *International Journal of Education and Social Science*, *2*(4), 122–131.

Alt, D. (2015). College students' academic motivation, media engagement, and fear of missing out. *Computers in Human Behavior*, *49*, 111–119. https://doi.org/10.1016/j.chb.2015.02.057

Alt, D. (2018). Students' wellbeing, fear of missing out, and social media engagement for leisure in higher education learning environments. *Current Psychology: Research and Reviews; 37*(1), 128–138. https://doi.org/10.1007/s12144-016-9496-1

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association. (2016). *APA college dictionary of psychology*.

American Society for Horticultural Science. (2011). Student confidence correlated with academic performance, class study finds. *Science Daily*. https://www.sciencedaily.com/releases/2011/04/110404105901.html

Anderson, E. L., Steen, E., & Stavropoulos, V. (2017). Internet use and problematic internet use: A systematic review of longitudinal research trends in adolescence and emergent adulthood. *International Journal of Adolescence and Youth*, *22*(4), 430–454. https://doi.org/10.1080/02673843.2016.1227716

Anderson, K. J. (2001). Internet use among college students: An exploratory study. *Journal of American College Health*, *50*(1), 21–26. https://doi.org/10.1080/07448480109595707

Andreassen, C. S. (2015). Online social network site addiction: A comprehensive review. *Current Addiction Reports*, *2*(2), 175–184. https://doi.org/10.1007/s40429-015-0056-9

Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). The relationship between addictive uses of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors*, *30*(2), 252–262. https://doi.org/10.1037/adb0000160

Andreassen, C. S., Griffiths, M. D., Gjertsen, S. R., Krossbakken, E., Kvam, S., & Pallesen, S. (2013). The relationships between behavioral addictions and the five-factor model of personality. *Journal of Behavioral Addictions, 2*(2), 90–99, https://doi.org/10.1556/JBA.2.2013.003

Andreassen, C. S., & Pallesen, S. (2014). Social network site addiction: An overview. *Current Pharmaceutical Design*, *20*(25), 4053–4061.

Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive uses of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors*, *64,* 287–293. https://doi.org/10.1016/j.addbeh.2016.03.006

Andreassen, C. S., Torsheim, T., Brunborg, S., & Pallesen, S. (2012). Development of a Facebook addiction scale. *Psychological Reports*, *110*(2), 501–517. https://doi.org/10.2466/02.09.18.PRO.110.2.501-517

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469–480. https://doi.org/10.1037/0003-066x.55.5.46

Arnett, J. J. (2016). College students as emerging adults: The developmental implications of the college context. *Emerging Adulthood, 4*(3), 219–222. https://doi.org/10.1177/2167696815587422

Artino, A. R. (2005). *Review of the Motivated Strategies for Learning Questionnaire*. https://files.eric.ed.gov/fulltext/ED499083.pdf

Auxier, B. (2020). *Social media continues to be important political outlets for Black Americans*. Pew Research Center. https://www.pewresearch.org/fact-tank/2020/12/11/social-media-continue-to-be-important-political-outlets-for-black-americans/

Auxier, B & Anderson, M. (2021). Social media use in 2021. *Pew Research Center.* https://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/

Azizi, S. M., Soroush, A., & Khatony, A. (2019). The relationship between social networking addiction and academic performance in Iranian students of medical sciences: A cross-sectional study. *BMC Psychology*. *7(*1), https://doi.org/10.1186/s40359-019-0305-0

Bai, Y. M., Lin, C. C., & Chen, J. Y. (2001). Internet addiction disorder among clients of a virtual clinic. *Psychiatric Online*: *American Psychiatric Association.* https://doi.org/10.1176/appi.ps.52.10.1397

Baker, D. A., & Algorta, G. P. (2016). The relationship between online social networking and depression: A systematic review of quantitative studies. *Cyberpsychology and Social Networking, 19(*11), 638–648. https://doi.org/10.1089/cyber.2016.0206

Ballen, C. J., Wieman, C., Salehi, S., Searle, J. B., & Zamudio, K. R. (2017). Enhancing diversity in undergraduate science: Self-Efficacy drives performance gains with active learning. *CBE Life-Sciences Education.* https://doi.org/10:1187/cbe.16-12-0344

Bandura, A. (1971). Social Learning Theory. *General Learning Corporation*. http://www.jku.at/org/content/e54521/e54528/e54529/e178059/Bandura_SocialLearningTheory_ger.pdf

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs: Prentice-Hall.

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, *44*(9), 1175–1184.

Bandura, A. (2002). Social Cognitive Theory in Cultural Context. *Applied Psychology: An International Review.51(2), 269-290.* https://doi.org/10.1111/1464-0597.00092

Bandura, A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. *Journal of Abnormal and Social Psychology, 63,* 575-82.

Banjanin, N., Banjanin, N., Dimitrjevi, I., & Pantic, I. (2015). Relationship between internet use and depression: Focus on physiological mood oscillations, social networking, and online addictive behaviors. *Computers in Human Behaviors*, *43,* 308-312.

Banyai, F., Zsila, A., Kiraly, O., Maraz, A., Elekes, Z., Griffiths, M. D., Andreassen, C. S., & Demetrovics, Z. (2017). Problematic social media use: Results from a large-scale nationally representative adolescent sample. *Journal of Behavioral Addictions*, *6,* 62.

Baron, R., & Kenny, D. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology,* 51, (6), 1173–1182.

Bartle, S. M. (2021). Andragogy. *Salem Press Encyclopedia.*

Bazarova, N. N., Choi, Y. H., Whitlock, J., Cosley, D., & Sosik, V. (2017). Psychological distress and emotional expression on Facebook. *Cyberpsychology, Behavior and Social Networking*, *20(*3), 157–163. https://doi.org/10.1089/cyber.2016.0335

Beard, K. W., & Wolf, E. M. (2001). Modification in the Proposed Diagnostic Criteria for Internet Addiction. *CyberPsychology & Behavior,4(*3), 377-383. https://doi.org/10.1089/109493101300210286

Bianchi, A., & Phillips, J. G. (2005). Psychological predictors of problem mobile phone use. *Cyberpsychology and Behavior, 8(*1), 39-51. https://doi.org/10.1089/cpd.2005.8-39

Billieux, J. (2012). Problematic use of the mobile phone: A literature review and pathways model. *Current Psychiatry Reviews, 8 (*4),299-307. https://doi.org/10.2174/157340012803520522

Billieux, J., & Van der Linden, M. (2012). Problematic use of the internet and self-regulation: A review of the initial studies. *The Open Addiction Journal*, *5*(1), 24-29. https://doi.org/10.2174/1874941001205010024

Billieux, P. J., Maurage, O., Lopez-Fernandez, D. J., & Kuss & Griffiths, M. D. (2015). Can disordered mobile phone use be considered a behavioral addiction? An update on current evidence and a comprehensive model for future research. *Current Addiction Reports*, *2* (2), 156-162. https://doi.org/10.1007/s40429-015-0054-y

Blachnio, A., Przepiorka, A., Boruch, W., & Bałakier, E. (2016). Self-presentation styles, privacy, and loneliness as predictors of Facebook use in young people. Personality and Individual Differences, *94,* 26–31. https://doi.org/10.1016/j.paid.2015.12.051

Blachnio, A., Przepiorka, A., & Pantic, I. (2016). Association between Facebook addiction, self-esteem, and life satisfaction: A cross-sectional study. Computers in Human Behavior, *55,* 701–705. https://doi.org/10.1016/j.chb.2015.10.026

Blascovich, J., & Tomaka, J. (1993). Measures of Self· Esteem. In J. P. Robinson, P. R. Shaver L. S. Wrightsman (Eds.), *Measures of Personality and Social Psychological Attitudes* (3rd, ed.), 115- 160. Ann Arbor: Institute for Social Research.

Blum, K., Febo, M., Smith, D. E., Roy, A. K., III, Demetrovics, Z., Cronje, F. J., Femino, J., Agan, G., Fratantonio, J. L., Pandey, S. C., Badgaiyan, R. D., & Gold, M. S. (2015). Neurogenetic and Epigenetic Correlates of Adolescent Predisposition to and Risk for Addictive Behaviors as a Function of Prefrontal Cortex Dysregulation. *Journal of Child and Adolescent Psychopharmacology*, *25(*4), 286–292. https://doi.org/10.1089/cap.2014.0146

Boone, W. J. (2016). Rasch analysis for instrument development: why, when, and how? *CBE—Life Sciences Education*, *15*(4), rm4.

Bong, M. (2001). Between- and within-domain relations of academic motivation among middle and high school students: Self-efficacy, task-value, and achievement goals. *Journal of Educational Psychology, 93,* 23-24.

Brailovskaia, J., & Margraf, J. (2018). What does media use reveal about personality and mental health? An exploratory investigation among German students. *PLOS ONE, 13,*1. https://doi.org/10.1371/journal.pone.0191810

Brand, M., Laier, C., Pawlikowski, M., Ulrich, S., Scholer, T., & Altstoller, G. (2011). Watching pornographic pictures on the internet: Role of sexual arousal ratings and psychological–psychiatric symptoms for using internet sex sites excessively. *Cyberpsychology, Behavior, and Social Networking, 14(*6), 371-377. https://doi.org/10.1089/cyber.2010.0222

Bringle, R. G., Phillips, M. A., & Hudson, M. (2004). *Self and self-concept.* In R. G. Bringle, M. A. Phillips, & M. Hudson. The measure of service-learning*:* Research scales to assess student experiences (p. 97–142). *American Psychological Association*. https://doi.org/10.1037/10677-006

Brunskill, D. (2013). Social media, social avatars, and the psyche: Is Facebook good for us? *Australasian Psychiatry*. *21(*6), 527–532. https://doi.org/10.1177/1039856213509289

Brunskill, D. (2014). The dangers of social media for the psyche. *Journal of Current Issues in Media and Telecommunications, 6*(4), 391–415.

Buchanan, L., Bui, Q., & Patel. H. (2020). Black Lives Matter may be the largest movement in
U. S. history. The New York Times. https://www.nytimes.com/interactive/2020/07/03/us/george-floyd-protests-crowd-size

Busalim, A. H., Masrom, M., & Binti Wan Zakaria, W. N. (2019). The impact of Facebook addiction and self-esteem on students' academic performance: A multi-

group analysis. *Computers & Education*, *142*. https://doi.org/10.1016/j.compedu.2019.103651

Byrne, D. (2017). How do I analyze and interpret quantitative data? *Project Planner*. https://doi.org/10.4135/9781526408570

Campbell, D., & Stanley, J. (1963). Experimental and quasi-experimental designs for research. Chicago: Rand McNally

Campbell, M. M. (2001). Motivational strategies, learning strategies and the academic performance of African American students in a college business environment: A correlational study. *Dissertation Abstracts International,* 62(2-A), 432.

Chabrol, H., Laconi, S., Delfour, M., & Moreau, A. (2017). Contributions of psychopathological and interpersonal variables to problematic Facebook use in adolescents and young adults. *International Journal of High-Risk Behavior Addiction. 6(*1): e32773. https://doi.org/10.5812/ijhrba.32773

Chandler, J., Paolacci, G., & Hauser, D. J. (2020). Data quality issues on MTurk. In L. Litman & J. Robinson (Eds.) *Conducting Online Research on Amazon Mechanical Turk and Beyond* (95-120). Sage Academic Publishing.

Chandler, J., Rosenzweig, C., Moss, A. J., Robinson, J., & Litman, L. (2019). Online panels in social science research: Expanding sampling methods beyond Mechanical Turk. *Behavior Research Methods, 51,* **(5),** 2022–2038. https://doi.org/10.3758/s13428-019-01273-7

Chandler, J., & Shapiro, D. (2016). Conducting clinical research using crowdsourced convenience samples. *Annual Review of Clinical Psychology, 12* (*12)*, 53–81. https://doi.org/10.1146/annurev-clinpsy-021815-093623

Chen, X. (2009). Students Who Study Science, Technology, Engineering, and Mathematics (STEM) in Postsecondary Education. Stats in Brief. NCES 2009-161. In *National Center for Education Statistics*. National Center for Education Statistics.

Chen, Y. L., Chen, S. H., & Gau, S. F. S. (2015). ADHD and autistic traits, family function, parenting style, and social adjustment for Internet addiction among children and adolescents in Taiwan: A longitudinal study. *Research in Developmental Disabilities, 39,* 20–31. https://doi.org/10.1016/j.ridd.2014.12.025

Cho, M. H., & Summers, J. (2012). Factor validity of the Motivated Strategies for Learning Questionnaire (MSLQ) in asynchronous online learning environments. *Journal of Interactive Learning Research,* 23(1), 5–28.

Cho, S. M., Sung, M. J., Shin, K. M., Lim, K. Y., & Shin, Y. M. (2013). Does psychopathology in childhood predict Internet addiction in male adolescents? *Child Psychiatry & Human Development, 44,* 549–555. https://doi.org/10.1007/s10578-012-0348-4

Choo, H., Sim, T., Liau, A. K. F., Gentile, D. A., & Khoo, A. (2015). Parental influences on pathological symptoms of video- gaming among children and adolescents: A prospective study. *Journal of Child and Family Studies*, 24, 1429–1441. https://doi.org/10.1007/s10826-014-9949-9

Cooper, A. (1998). Sexuality and the internet: Surfing into the new millennium. *Cyberpsychology & Behavior*, *1(*2), 187–193. https://doi.org/10.1089/cpb.1998.1.187

Cooper, A., Delmonico, D. L., & Burg, R. (2000). Cybersex users, abusers, and compulsives: New findings and implications, *Sexual Addiction & Compulsivity*, *7*(1–2), 5–29. https://doi.org/10.1080/10720160008400205

Credé, M., & Phillips, L. A. (2011). A meta-analytic review of the motivated strategies for learning questionnaire. Learning and Individual Differences, *21*(4), 337–346. https://doi.org/10.1016/j.lindif.2011.03.002

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approach* (3rd ed.). Sage Publications.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research,* (4th ed.). Pearson Education.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: qualitative, quantitative, and mixed methods approach* (5th ed.). SAGE Publications, Inc.

Curtin, R., Pressler, S., & Singer, E. (2000). The effects of response rate changes on the index of consumer sentiment. *Public Opinion Quarterly* 64: 413-428.

Datu, J., Labarda, C., & Salanga, M. G. (2020). Flourishing is associated with achievement goal orientations and academic delay of gratification in a collectivist context, https://doi.org/10.1007/s10902-019-00122-w

Datu, J. A. D. (2018). Flourishing is associated with higher academic achievement and engagement in Filipino undergraduate and high school students. *Journal of*

Happiness Studies. Dordrecht, *19*(1), 27–39. https://doi.org/10.1007/s10902-016-9805-2

Deaton, S. (2015). Social learning theory in the age of social media: Implications for educational practitioners. *Journal of Educational Technology*. *12*(1), 1–6. https://eric.ed.gov/?id=EJ1098574

Desai, T. (2014). Khan Academy of Health and Medicine. https://www.youtube.com/watch?v=xcLKlPTG97k&t=379s

DeWolfe, T. E. (2020). The Principles of Psychology by William James. Salem Press Biographical Encyclopedia.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95(*3), 542-575. https://doi.org/10.1037/0033-2909.95.3.542

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*(1), 34–43. https://doi.org/10.1037/0003-066X.55.1.34

Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology*, *69,* 851–864.

Diener, E., Heintzelman, S. J., Kushlev, K., Tay, L., Wirtz, D., Lutes, L. D., & Oishi, S. (2017). Findings all psychologists should know from the new science on subjective well-being. *Canadian Psychology/Psychologies Canadienne*, *58*(2), 87–104. https://doi.org/10.1037/cap0000063

Diener, E., Oishi, S., & Lucas, R. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology,54,* 403-425. https://doi.org/10.1146/ANNUREV.PSYCH.54.101601.145056

Diener, E., & Ryan, K. (2009). Subjective Well-Being: A General Overview. *South African Journal of Psychology,39*(4), 391-406. https://doi.org/10.1177/008124630903900402

Diener, E., & Seligman, M. E. P. (2002). Very Happy People. *Psychological Science* (0956-7976), *13*(1), 81. https://doi.org/10.1111/1467-9280.00415

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010a). Flourishing scale. *PsycTESTS*. https://doi.org/10.1037/t03126-000

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010b). New Well-being Measures: Short Scales to Assess Flourishing and Positive and Negative Feelings. *Social Indicators Research*, 97(2), 143–156. https://doi.org/10.1007/s11205-009-9493-y

Dong, G., Lu, Q., Zhou, H., & Zhao, X. (2011). Precursor or Sequela: Pathological Disorders in people with an internet addiction disorder. *PLOS ONE*, *6(*2), https://doi.org/10.1371/journal.pone.0014703

Donnellan, M. B., Robins, R. W., Boyle, G. J., Saklofske, D., & Matthews, G. (2015). Chapter 6: Measures of Personality and Social Psychological Constructs, 131-157. *Academic Press*, San Diego

Donnelly, E., & Kuss, D. J. (2016). Depression among users of social networking sites (SNSs): The role of SNS addiction and increased usage. *Journal of Addiction and Preventive Medicine*, *1* (2), p. 107. https://www.elynsgroup.com/

Douglas, A., Mills, J. E., Niang, M., Stepchenkova, S., Byun, S., Ruffini, C., Lee, S. K., Loutfi, J., Lee, J. K., Atallah, M., & Blanton, M. (2008). Internet addiction: Meta-synthesis of qualitative research for the decade 1996–2006. *Computers in Human Behavior*, *24,* 3027–3044. https://doi.org/10.1016/j.chb.2008.05.009

Dowling, N., & Quirk, K. L. (2009). Screening for internet dependence: Do the proposed diagnostic criteria differentiate normal from dependent internet use? *Cyberpsychology & Behavior*, *12,* 21-70. https://doi.org/10.1089/cpb.2008.0162

Duke, B., Harper, G., & Johnston, M. (2013). *Connectivism as a Digital Age Learning Theory*. *The International HETL Review, Special Issue*, *10,* 4-14.

Duncan, T., Pintrich, P., Smith, D., & McKeachie, W. J. (2015). Motivated Strategies for Learning Questionnaire (MSLQ) Manual, Research Gate, https://doi.org/10.13140/RG.2.1.2547.6968

Duncan, T. G., & McKeachie, W. J. (2005). The making of the motivated strategies for learning questionnaire. *Education Psychology*, *40*,117–28. https://doi.org/10.1207/s15326985ep4002_6

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*,53(1), 109. https://doi.org/10.1146/annurev.psych.53.100901.135153

Eisenberg, D., Golberstein, E., & Hunt, J. B. (2009). Mental Health and Academic Success in College, *The B.E. Journal of Economic Analysis & Policy*. 9 (1), https://www-personal.umich.edu/~daneis/symposium/2010/ARTICLES/eisenberg_golberstein_hunt_2009.pdf

Elphinstone, B., White, R., & Bates, G. (2020). 'Letting go' and flourishing in study: An investigation of the indirect relationship between nonattachment and grades via psychological wellbeing. *Learning and Individual Differences*. https://doi.org/10.1016/j.lindif.2020.101847

Forest, A. L., & Wood, J. V. (2012). When social networking is not working individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science*. https://doi.org/full/10.1177/0956797611429709

Frankfort-Nachmias, C., & Leon-Guerrero, A. (2018). Testing hypotheses (Chapter 8). Social statistics for a diverse society (8th ed.; pp. 267–295). Thousand Oaks, CA: SAGE Publications, Inc.

Gamez-Guadix, M. (2014). Depressive symptoms and problematic internet use among adolescents: Analysis of the longitudinal relationships from the cognitive-behavioral model. *CyberPsychology, Behavior, and Social Networking*. *17*, 714–719. https://doi.org/10.1089/cyber.2014.0226

Garcia, T., & Pintrich, P. R. (1996). Assessing students' motivation and learning strategies in the classroom context: The Motivated Strategies for Learning Questionnaire. In M. Birenbaum, & F. Dochy (Eds.), Alternatives in assessment

of achievements, learning processes and prior knowledge (pp. 319–339). Dordrecht, the Netherlands: Springer

Garlow, S. J., Rosenberg, J., Moore, D., Haas, A. P., Koestner, B., Hendin, H., & Nemeroff, C. B. (2009). Depression, desperation, and suicidal ideation in college students: Results from the American foundation for suicide prevention college screening project at Emory University. *Depression and Anxiety*, *25*(6.) 482–488. https://doi.org/10.1002/da.20321

Gentile, D. A., Choo, H., Liau, A., Sim, T., Li, D., Fung, D., & Khoo, A. (2011). Pathological video game use among youths: A two-year longitudinal study. *Pediatrics*, *127*, e319–e329. https://doi.org/10.1542/peds.2010-1353

Ginsberg, M. B., & Wlodkowski, R. (2017). *Enhancing adult motivation to learn: A comprehensive guide for teaching all adults*. John Wiley & Sons.

Ginsberg, Y., Quintero, J., Anand, E., Casillas, M., & Upadhyaya, H. P. (2014). Underdiagnosis of attention-deficit/hyperactivity disorder in adult patients: A review of the literature. *The Primary Care Companion for CNS Disorders*,*16.* https://doi.org/10.4088/PCC.13r01600

Glaser, P., Liu, J. H., Hakim, M. A., Vilar, R., & Zhang, R. (2018). Is social media use for networking positive or negative? Offline social capital and internet addiction as mediators for the relationship between social media use and mental Health. *New Zealand Journal of Psychology*,*47* (3), 12-18.

Goddard, R., Goddard, Y., Sook, K. E., & Miller, R. (2015). A theoretical and empirical analysis of the roles of instructional leadership, teacher collaboration, and

collective efficacy beliefs in support of student learning. *American Journal of Education, 121,* (4), 501-530.

Goyder, J., Warringer, K., & Miller, S. (2002). Evaluating socio-economic status (SES) bias in survey nonresponse. *Journal of Official Statistics* 18(1), 1-11.

Greenberg, P. E., Fournier, A. A., Sisitsky, T., Pike, C. T., & Kessler, R. C. (2015). The economic burden of adults with major depressive disorder in the United States (2005 and 2010). *Journal of Clinical Psychiatry*,76, 155e162. https://doi.org/10.4088/JCP.14m09298

Griffiths, M. (1995). Technological addictions**.** *Clinical Psychology Forum*, *76,* 14-19. https://www.researchgate.net/publication/284665745

Griffiths, M. (1996). Behavioral addiction: An issue for everybody? Employee counselling today. *The Journal of Workplace Learning. 8(*3), 19-25. https://doi.org/10.1108/13665629610116872

Griffiths, M. (1998). Internet addiction: Does it really exist? In J. Gackenbach (Ed.), *Psychology and the Internet: Intrapersonal, interpersonal, and transpersonal implications.* (2nd ed., pp. 61–75). Academic Press.

Griffiths, M. (2000). Internet addiction time to be taken seriously. *Addiction Research*, *8*(5), 413. https://doi.org/10.3109/16066350009005587

Griffiths, M. (2003). Internet gambling: Issues, concerns, and recommendations. *Cyberpsychology & Behavior*, *6(*6), 557-568. https://doi.org/10.1089/109493103322725333

Griffiths, M. (2005). A ‘components’ model of addiction within a biopsychosocial framework. *Journal of Substance Use*, *10*(4), 191–197. https://doi.org/10.1080/14659890500114359

Griffiths, M. D., Kuss, D. J., & Demetrovics, Z. (2014). Social networking addiction: An overview of preliminary findings. In K. P. Rosenberg, & L. C. Feder (Eds.), *Behavioral addictions: Criteria, evidence, and treatment* (pp. 119–141). Academic Press.

Griffiths, M. D., Miller, H., Gillespie, T., & Sparrow, P. (1999). Internet usage and 'internet addiction' in students and its implications for learning. *Journal of Computer Assisted Learning, 15*(1), 85-90. https://doi.org/10.1046/j.1365-2729.1999.t01-2-151078.x

Haagsma, M. C., King, D. L., Pieterse, M. E., & Peters, O. (2013). Assessing problematic video gaming using the theory of planned behavior -A longitudinal study of Dutch young people. *International Journal of Mental Health Addiction*, *11,* 172–185. https://doi.org/10.1007/s11469-012-9407-0

Hancock, D. (2004). Cooperative learning and peer orientation effects on motivation and achievement. *The Journal of Educational Research*, *97*(30), 159-166.

Harris, M. A., & Orth, U. (2019). The Link Between Self-Esteem and Social Relationships: A Meta-Analysis of Longitudinal Studies. *Journal of Personality and Social Psychology,* Advance online publication. https://doi.org/10.1037/pspp0000265

Hasin, D. S., O'Brien, C. P., Auriacombe, A., Borges, G., Bucholz, K., Budney, A., Compton, W. M., Crowley, T., Ling, W., Petry, N. M., Schuckit, M., Grant, B. F. (2013). DSM-5 criteria for substance use disorders: Recommendations and rationale. *American Journal of Psychiatry*, 170(8), 834-851. https://doi.org/10.1176/appi.ajp.2013.12060782

Haskell, N. (2016). *Classroom strategies to improve student self-efficacy and learning outcomes.* https;//www.pearsoned.com/education-blog/improve-self-efficacy-learning outcome

Hauser, D. J., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. Behavior Research Methods, *48*(1), 400-407.

Hawi, N. S., & Samaha, M. (2017). The Relations Among Social Media Addiction, Self-Esteem, and Life Satisfaction in University Students. *Social Science Computer Review*, *35*(5), 576–586. https://doi.org/10.1177/0894439316660340

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76,* 408-420.

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis* (2nd ed.). Guilford.

Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: does method really matter? *Psychology Science, 24,* 1918–1927. https://doi.org/10.1177/0956797613480187

Helliwell, J. F., Layard, R., & Sachs, J. (2012). *World happiness report,* https://doi.org/10.14288/1.0053622

Hoaglin, D. C., & Iglewicz, B. (1987). Fine-Tuning Some Resistant Rules for Outlier Labeling. *Journal of the American Statistical Association*, *82(*400), 1147–1149. https://doi.org/10.2307/2289392

Hoffman, M., Richmond, J., Morrow, J., & Salomone, K. (2002). Investigating "Sense of Belonging" in First Year College Students. *Journal of College Student Retention: Research, Theory & Practice*, *4(*3), 227–256. https://doi.org/10.2190/DRYC-CXQ9-JQ8V-HT4V

Hong, F. Y., Huang, D. H., Lin, H. Y., & Chiu, S. L. (2014). Analysis of the psychological traits, Facebook usage, and Facebook addiction model of Taiwanese university students. *Telematics and Informatics*, *31*(4), 597–606. https://doi.org/10.1016/j.tele.2014.01.001

Horigian, V. E, Schmidt, D. R., & Feaster, D. J (2021). Loneliness, mental health, and substance abuse use among US young adults during COVID-19, *Journal of Psychoactive Drugs*, 53(1), 1-9. https://doi.org/10:1080/02791072.2020.1836435

Hou, X. L., Wang, H. Z., Guo, C., Gaskin, J., Rost, D. H., & Wang, J. L. (2017). Psychological resilience can help combat the effect of stress on problematic social networking site usage. *Personal Individual Differences*,*109*, 61–6. https://doi.org/10.1016/j.paid.2016.12.048

Hou, Y., Xiong, D., Jiang, T., Song, L., & Wang, Q. (2019). Social media addiction: Its impact, mediation, and intervention. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace.* https://cyberpsychology.eu/article/view/11562

Howell, A. J., & Buro, K. (2015). Measuring and predicting student well-being: Further evidence in support of the flourishing scale and the scale of positive and negative experiences. *Social Indicators Research; 121*(3), 903–915. https://doi.org/10.1007/s11205-014-0663-1

Hussain, Z., & Griffiths, M. D. (2018). Problematic Social Networking Site Use and Comorbid Psychiatric Disorders: A Systematic Review of Recent Large-Scale Studies. *Frontiers in Psychiatry, 9.* https://doi.org/10.3389/fpsyt.2018.00686

Ioannidis, K., Treder, M. S., Chamberlain, S., Kiraly, F., Redden, S. A., Stein, D. J., Lochner, C., Grant, J. E. (2018). Problematic internet use as an age-related multifaceted problem: Evidence from a two-site survey. *Addictive Behaviors*, https://doi.org/10.1016/j.addbeh.2018.02.017

Jackson, C. A., & Luchner, A. F. (2017). 'Self-presentation mediates the relationship between self-criticism and emotional response to Instagram feedback,' *Personality and Individual Differences, 133*, pp.1-6. https://doi.org/10.1016/j.paid.2017.04.052

Jackson, C. R. (2018). Validating and Adapting the Motivated Strategies for Learning Questionnaire (MSLQ) for STEM Courses at an HBCU. Aera Open, 4(4).

Jacobs, D. F. (1986). A general theory of addictions: *A new theoretical model*. Journal of Gambling Studies. *2*, 15–31. https://doi.org/10.1007/BF01019931

Jasso -Medrano, J. L., & López -Rosales, F. (2018). Measuring the relationship between social media use and addictive behavior and depression and suicide ideation among university students. *Computers in Human Behavior*, *87*, 183–191. https://doi.org/10.1016/j.chb.2018.05.003

Jenkins-Guarnieri, M. A., Wright, S. L., & Hudiburgh, L. M. (2012). The relationship among attachment style, personality traits, interpersonal competency, and Facebook use. *Journal of Applied Development Psychology*, 33, 294-301. https://doi.org/10.1037/a0030946

Kenny, D. A., & Judd, C. M. (2014). Power anomalies in testing mediation. *Psychological. Science, 25,* 334–339. https://doi.org/10.1177/0956797613502676

King, A. L. S., Valenca, A. M., Silva, A. C. O., Baczynski, T., Caralho, M. R., & Nardi, A. E. (2013). Nomophobia: Dependency on virtual environments or social phobia? *Computers in Human Behavior*, *29*(1), 140-144. https://doi.org/10.1016/j.chb.2012.07.025

Király, O., Griffiths, M. D., & Demetrovics, Z. (2015). Internet gaming disorder and the DSM-5: Conceptualization, debates, and controversies. *Current Addiction. Reports*, *2,* 254–262.

Kiraly, O., Griffiths, M. D., Urban, R., Elekes, Z., Domokos, T., & Demetrovics, Z. (2015). Comparing problematic Internet use and problematic online gaming in a nationwide sample of adolescents. *Journal of Behavioral Addictions*, *4,* 23–24.

Kircaburum, K., & Griffiths, M. D. (2018). The dark side of internet: Preliminary evidence for the associations of dark personality traits with specific online activities and problematic internet use. *Journal of behavioral addictions*, *7(*4), 993–1003. https://doi.org/10.1556/2006.7.2018.109

Kircaburum, K., Griffiths, M. D., Şahin, F., Bahtiyar, M., Atmaca, T., & Sule, B. T. (2018). The mediating role of self/everyday creativity and depression on the relationship between creative personality traits and problematic social media use among emerging adults. *International Journal of Mental Health and Addiction*, *18,* 77-88. https://doi.org/10.1007/s11469-018-9938-0

Knowles, M. S. (1973). The adult learner: A neglected species. Gulf Publishing Company.

Knowles, M. S. (1978). Andragogy: Adult Learning Theory in Perspective. *Community College Review*, *5*(3), 9–20. https://doi.org/10.1177/009155217800500302

Ko, C. H., Yen, J. Y., Yen, C. F., Chen, C. S., & Chen, C. C. (2012). The association between internet addiction and psychiatric disorder: A review of the literature. *European Psychiatry*, https://doi.org/10.1016/j.eurpsy.2010.04.011

Ko, C. H., Yen, J. Y., Yen, C. F., Lin, H. C., & Yang, M. J. (2007). Factors predictive for incidence and remission of Internet addiction in young adolescents: A prospective study. *CyberPsychology & Behavior*, *10*, 545–551. https://doi.org/10.1089/cpb.2007.9992

Kong, F., Ding, K., & Zhao, J. (2015). The relationship among gratitude, self-esteem, social support, and life satisfaction among undergraduate students. *Journal of Happiness Studies*, Dordrecht, https://doi.org/10.1007/s10902-014-9519-2

Kooij, S. J. J., Bejerot, S., Blackwell, A., Caci, H., Casas-Brugué, M., Carpentier, P. J., & Asherson, P. (2010). European consensus statement on diagnosis and treatment of adult ADHD: The European Network Adult ADHD. *BMC Psychiatry, 10,* 67. http://doi.org/10.1186/1471-244X-10-67

Kretchmar, J. (2018). Social learning theory -- Research starters education. *Social Learning Theory -Research Starters Education, Salem Press Encyclopedia.*

Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., & Lin, N. (2013). Facebook use predicts declines in subjective well-being in young adults. *PloS one*, *8*(8), https://doi.org/10.1371/journal.pone.0069841PMID:23967061

Kumar, M., & Mondal, A. (2018). A study on internet addiction and its relation to psychopathology and self-esteem among college students. *Industrial Psychiatry Journal*, (1), 61. https://doi.org/10.4103/ipj.ipj_61_17

Kuss, D. J., & Billieux, J. (2017). Technological addictions: Conceptualization, measurement, etiology, and treatment. *Addictive Behaviors*, *231*. https://doi.org/10.1016/j.addbeh.2016.04.005

Kuss, D. J., & Griffiths, M. D. (2011). Online social networking and addiction—A review of the psychological literature. *International Journal of Environmental Research and Public Health.* https://www.mdpi.com/1660-4601/8/9/3528

Kuss, D. J., & Griffiths, M. D. (2017). Social networking sites and addiction: Ten lessons learned. *International Journal of Environment Research and Public Health.* https://doi.org/10.3390/ijerph8093528

Kuss, J. D., Griffiths, D., Karila, L., & Billieux, J. (2014). Internet addiction: A systematic review of epidemiological research for the last decade. *Current Pharmaceutical Design, 20*, (25), 4026-4052.

Laier, C., Pawlikowski, M., Pekal, J., Schulte, F. P., & Brand, M. (2013). Cybersex addiction: Experienced sexual arousal when watching pornography and not real-life sexual contacts makes the difference. *Journal of Behavioral Addictions, 2(*2), 100-107. https://doi.org/10.1556/JBA.2.2013.002

Lachowicz, M. J., Preacher, K. J., & Kelley, K. (2018). A novel measure of effect size for mediation analysis. *Psychological Methods, 23*(2), 244-261. https://doi.org/10.1037/met0000165

Leary, M. R. (1990). Responses to social exclusion: social anxiety, jealousy, loneliness, depression, and low self-esteem. *Journal of Social and Clinical Psychology*, *9,* 221-229.

Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem. A Sociometer theory. In P.Z. Mark (Eds). *Advances in experimental social psychology (32),00,00.1-62).* Academic Press.

Leary, M. R., & Downs, D. (1995). *Interpersonal functions of the self-esteem motive: The self-esteem system as a sociometer.* In M. Kernis (Ed.). Efficacy: Agency, and Self-esteem. Plenum.

Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*(3), 518–530.

Lee, H., Herbert, R. D., & McAuley, J. H. (2019). Mediation Analysis. *JAMA, 321*(7), 697–698. https://doi.org/10.1001/jama.2018.21973

Li, Y., Sallam, M. H., & Ye, Y. (2019). The impact of WeChat uses intensity and addiction on academic performance. Social Behavior and Personality: An international journal, *47(*1), e7331

Li, Y., Yao, C., Zeng, S., Wang, X., Lu, T., Li, C., Lan, j., & You, X. (2019). How social networking site addiction drives university students' academic achievement: The mediating role of learning engagement. *Journal of Pacific Rim Psychology, 13(2),1-7.*

Lin, C., Brostrom, A., Nilsen, P., Griffiths, M. D., & Pakpour, A. H. (2017). Psychometric validation of the Persian Bergen social media addiction scale using classic test theory and rasch models. *Journal of Behavioral Addictions*, 6(4), 620-629. https://doi.org/10.1556/2006.6.2017.071

Lin, J. H. (2015). The role of attachment style in Facebook use and social capital: evidence from university students and a national sample. *Cyberpsychology, Behavior, and Social Networking,* 18(3), 173-180. https://doi.org/10.1089/cyber.2014.0341

Lin, J. H. (2016). Need for relatedness: A self-determinism approach to examining attachment styles, Facebook use, and psychological well-being. Asian Journal of Communication, 26(2), 153-173. https://doi.org/10.1080/01292986.2015.1126749

Lin, N. (1986). *Conceptualizing Social Support.* N. Lin, A. Dean, & W. M. Ensel (Eds). Social support, life events, and depression. Orlando, Florida: academic Press

Locke, E. A., Motowidlo, S. J., & Bobko, P. (1986). Using self-efficacy theory to resolve the conflict between goal-setting theory and expectancy theory in organizational behavior and industrial-organizational psychology. *Journal of Social and Clinical Psychology,* 4(3), 328-338.

Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969-1980. *Psychological Bulletin*, 90, 125-152

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803–855. https://doi.org/10.1037/0033-2909.131.6.803

Malik, S., & Khan, M. (2015). Impact of Facebook addiction on narcissistic behavior and self-esteem among students. *Journal of Pakistan Medical Association*, 65, 260–263.

Mamun, M., & Griffiths, M. (2019). The association between facebook addiction and depression: A pilot survey study among Bangladeshi students. *Psychiatry Research.* https://doi.org/10.1016/j.psychres.2018.12.039

Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). The associations between problematic Facebook use, psychological distress and well-being among

adolescents and young adults: A systematic review and meta-analysis. *Journal of Affective Disorders*, *226*, 274–281. https://doi.org/10.1016/j.jad.2017.10.007

Marks, I. (1990). Behavioral (non-chemical) addictions. *British Journal of Addiction.* https://doi.org/10.1111/j.1360-0443.1990.tb01618.x

McCain, J. L., Borg, Z. G., Rothenberg, A. H., Churillo, K. M., Weiler, P., & Campbell, W. K. (2016). Personality and selfies: Narcissism and the Dark Triad. *Computers in Human Behavior*, *64*, 126–133. https://doi.org/10.1016/j.chb.2016.06.050

McClelland, D. C. (1985). How motives, skills, and values determine what people do. *American Psychologist*, *40*, 812–825. https://10.1037/0003-066X.40.7.812

McClelland, D. C. (1987). Biological aspects of human motivation. In: Halisch F., Kuhl J. (eds) Motivation, intention, and volition. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-70967-8_2

McKinney, B. C., Kelly, L., & Duran, R. L. (2012). Narcissism or openness? College students' use of Facebook and Twitter. *Community Res Rep*. *29*(2): 108±18.

Milgram, S. (1967). The small-world problem. *1*(1), 61-67. *Psychology Today.* https://snap.stanford.edu/class/cs224w-readings/milgram67smallworld.pdf

Monacis, L., Palo, V., Griffiths, M. D., & Sinatra, M. (2017). Exploring individual differences in online addictions: The role of identity and attachment. *International Journal of Mental Health and Addiction*, *15*(4), 853–868. https://doi.org/10.1007/s11469-017-9768-5

Moon, J. H., Lee, E., Lee, J.-A., Choi, T. R., & Sung, Y. (2016). The role of narcissism in self-promotion on Instagram. *Personality and Individual Differences*, *101*, 22–25.

Moreau, A., Laconi, S., Delfour, M., & Chabrol, H. (2015). Psychopathological profiles of adolescent and young adult problematic Facebook users. Computer. Human. Behavior. *44,* 64–69.

Mruk, C. J. (2006). Self-esteem research, theory, and practice: Toward a positive psychology of self-esteem. Springer Publishing Company.

Muench, F., Kuerbis, A., & Shao, S. (2015). The independent relationship between trouble controlling Facebook use, time spent on the site, and distress. Journal of Behavior Addictions, *4*(3), 163-169. https://doi.org/10.1556/2006.4.2015.013

Mushtaq, A. J. (2018). The effects of social media on the undergraduate student's academic performances. *Library Philosophy and Practice*. https://doi.org/10.1016/j.paid.2016.05.042

Naeim, M., Rezaeis, A., & Zandian, H. (2020). The relationship between internet addiction and social adjustment, and test anxiety of the students at Ardabil University of Medical Sciences. *Shiraz E-Medical Journal*. https://doi.org/10.5812/semj.99209

NAME. (2021). National Association for Multicultural Education: *NAME insists that fatal outcomes of police brutality must end*. https://www.nameorg.org/docs/NAME_PAC-Fatal_Outcomes_of_Police_Brutality_Must_End_5-29-2020-to_post.pdf

National Academy of Science. (2011). Members of the Committee on Underrepresented Groups and the Expansion of the Science and Engineering Workforce Pipeline. Expanding underrepresented minority participation: America's science and

technology talent at the crossroads. Retrieved from https://grants.nih.gov/training/minority_participation.pdf

National Geographic. (2020). Black Lives Matter. https://nationalgeographicpartners.com/2020/06/national-geographic-partners-black-lives-matter/

National On-campus Report. (1996). Group forming to help students caught in the net. *24*:2.

National Science Board. (2015). Revisiting the STEM workforce, a companion to science and engineering indicators 2014. Arlington, VA: National Science Foundation.

Nielsen, T. & Kreiner, S. (2021). Educational Assessment & Evaluation Research Evaluation/Research Article: Statistical anxiety and attitudes towards statistics: Criterion-related construct validity of the HFS-R questionnaire revisited using Rasch models. *Cogent Education.* https://doi.org/10.1080/2331186X.2021.1947941

Nwosu, D. K. C., Ikwuka, d. O. I., Onyinyechi, M. U., & Unachukwu, P. G. C. (2020). Does the association of social media use with problematic internet behaviors predict undergraduate students' academic procrastination? *Canadian Journal of Learning Technology*, *46*(1)-22. https://files.eric.ed.gov/fulltext/EJ1267623.pdf

Online Learning Consortium. (2017). New Study: Over six million students are now enrolled in distance education. https://onlinelearningconsortium.org/news_item/new-study-six-million-students-now-enrolled-distance-education

O'Rourke, H. P., & MacKinnon, D. P. (2015). When the test of mediation is more powerful than the test of the total effect. *Behavior Research Methods*, *47*:424. https://doi.org/10.3758/s13428-014-0481-z

Orth, U., & Robins, R. W. (2014). The development of self-esteem. *Current Directions in Psychological Science*, *23*, 381-387. https://doi.org/10.1177/0963721414547414

Orth, U., & Robins, R. W. (2019). Development of self-esteem across the lifespan. Handbook of personality development. p. 328-344., The Guilford Press

Padilla-Walker, L. M., & Nelson, L. J. (2017). "Flourishing in emerging adulthood: An understudied approach to the third decade of life". *Faculty Publications.* 4715. https://scholarsarchive.byu.edu/facpub/4715

Pan American Health Organization. (2021). *COVID-19 continues to surge through the Americas, PAHO Director reports.* https://www.paho.org/ennews/7-4-2021-covid-19-continues-surge-through-americas-paho-director-reports

Panek, E. T., Nardis, Y., & Konrath, S. (2013). Mirror or Megaphone? How relationships between narcissism and social networking site use differ on Facebook and Twitter. *Computer Human Behavior*, *29*(5): 2004±2012.

Perrin, A., & Anderson, M. (2019). Share of U.S. adults using social media, including facebook, is mostly unchanged since 2018. *Pew Research Center.*

Pew Research Center (2021). Social media fact sheet. https://www.pewresearch.org/internet/fact-sheet/social-media/

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, *82(*1), 33–40. https://doi.org/10.1037/0022-0663.82.1.33

Pintrich, P. R., Smith, D., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the motivated strategies for learning questionnaire (MSLQ). *Education Psychology Measures*, *53*(3):801–13.

Pintrich, P. R., Smith, D. A., Garcia, T., McKeachie, W. J., Weber, K., Martin, M. M., & Cayanus, J. L. (2005). Motivated Strategies for Learning Questionnaire. *Communication Quarterly*, *53*(1), 71–86.

Pintrich, P. R., Smith, D. A. F., García, T., & McKeachie, W. J. (1991). A manual for the use of the motivated strategies questionnaire (MSLQ). University of Michigan, *National Center for Research to Improve Postsecondary Teaching and Learning.*

Pintrich, P. R., Smith, D. A. F., Garcia, T., McKeachie, W. J., & Hancock, D. (2004). Motivated Strategies for Learning Questionnaire. *Cooperative Learning and Peer Orientation Effects on Motivation and Achievement*, 97(3), 159–166.

Positive Psychology Center. (2020). Perma theory of wellbeing and perma workshops. https://ppc.sas.upenn.edu/research/positive-psychology-research

Preacher, K. J. & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. Psychology Methods, 16, (2), 93-115.

Primack, B., Shensa, A., Escobar, C. G., Barrett, E. L., Sidani, J. E., Colditz, J. B., & James, A. E. (2017). Use of multiple social media platforms and symptoms of

depression and anxiety: A nationally representative study among U.S. young adults. *Computers in Human Behavior*. https://doi.org/10.1016/j.chb.2016.11.013

Rachal, J. R. (2002). Andragogy's detectives: A critique of the present and a proposal for the future. *Adult Education Quarterly*, 52(3), 210–227. https://doi.org/10.1177/0741713602052003004

Rama, L., & Sarada, S. (2017). Role of self-esteem and self-efficacy on competence - A conceptual framework, *22* (2), 33-39 *IOSR Journal of Humanities and Social Science.* https://doi.org/10.9790/0837-2202053339

Ritchie, L. (2016). *Fostering self-efficacy in higher education students*. Palgrave Macmillan. https://doi.org/10.1007/978-1-137-46378-4

Ritchie, T. D., Sedikides, C., Wildschut, T., Arndt, J., & Gidron, Y. (2011). Self-concept clarity mediates the relation between stress and subjective wellbeing, self, and Identity, *10,*4, 493-508, https://doi.org/10.1080/15298868.2010.493066

Rosenberg, M. (1965). Rosenberg Self-Esteem Scale [Database record]. Retrieved from PsycTESTS. https://doi.org/10.1037/t01038-000

Rosenberg, M. (1979). *Conceiving the self*. Basic Books

Rouis, S., Limayem, M., & Salehi-Sangari, E. (2011). Impact of Facebook usage on students' academic achievement: Role of self-regulation and trust. *Electronic Journal of Research in Educational Psychology*, *9*(3), 961–994.

Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: current practices and new recommendations. *Social and*

Personality Psychological. Compass 5, 359–371. https://doi.org/10.1111/j.1751-9004.2011. 00355.x

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141-166. https://doi.org/10.1146/annurev.psych.52.1.141

Salmela-Aro, K., Upadyaya, K., Hakkarainen, K., Lonka, K., & Alho, K. (2016). The dark side of internet use: Two longitudinal studies of excessive internet use, depressive symptoms, school burnout and engagement among Finnish early and late adolescents. *Journal of Youth and Adolescence.* https://doi.org/10.1007/s10964-016-0494-2

Sarang, S., Karnam, A., & Shitole, R. (2019). To investigate the relationship between psychological factors and stress in two different developmental stages in adults: A cross sectional study. 51(3), 102-106. *Indian Journal of Occupational Therapy* (Wolters Kluwer India Pvt Ltd). https://doi.org/10.4103/ijoth.ijoth_8_19

Schoemann, A. M., Boulton, A. J., & Short, S. D. (2017). Determining Power and Sample Size for Simple and Complex Mediation Models. *Social Psychological and Personality Science, 8*(4), 379–386. https://doi.org/10.1177/1948550617715068

Schotanus-Dijkstra, M., Pieferse, M. E., Drossaert, C. H. C., Westerhof, G. F., & deGraaf, R. (2016). What factors are associated with flourishing? Results from a large representative national sample,*17*(4), 1351-1370. https://doi.org/10.1007/s10902-015-9647-3

Seligman, M. E. P. (2011). *Flourish.* Atria, New York.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*(1), 5–14. https://doi.org/10.1037/0003-066X.55.1.5

Seligman, M. E. P., & Csikszentmihalyi, M. (2014). Positive Psychology: An Introduction. In: Flow and the Foundations of Positive Psychology. Springer, Dordrecht

Selvaraj, P. R., & Bhat, C. S. (2018). Predicting the mental health of college students with psychological capital. *Journal of Mental Health.* https://doi.org/10.1080/09638237.2018.1469738

Seyranian, V., Madva, A., Duong, N., Abramzon, N., Tibbetts, Y., & Harackiewicz, J. M. (2018). The longitudinal effects of STEM identity and gender on flourishing and achievement in college physics. *International Journal of STEM Education,5(1), 40.*

Shaffer, H., Hall, M., & Vander Bilt, J. (2000). "Computer addiction": A critical consideration. https://www.researchgate.net/profile/Howard-Shaffer/publication/12492110_Computer_addiction_A_critical_consideration/links/00b7d526f0295719a8000000/Computer-addiction-A-critical-consideration.pdf

Shapira, N., Golds, T., Keck, P. E., Khosia, U., & McElroy, S. (2000). Psychiatric features of individuals with problematic internet use Journal of Affective Disorders. https://doi.org/10.1016/S0165-0327(99)00107-X

Shaw, M., & Black, D. W. (2008). Internet addiction: Definitions, assessments, epidemiology, and clinical management. *CNS Drugs*, *22*(5), 353-365. https://www.ncbi.nlm.gov/pubmed/18399706

Shensa, A., Escobar-Viera, C. G., Sidani, J. E., Bowman, N. D., Marshal, M. P., & Primack, B. A. (2017). Problematic social media use and depressive symptoms among U.S. young adults: A nationally representative study. *Social Science & Medicine, 182*, 150–157. https://doi.org/10.1016/j.socscimed.2017.03.061

Shensa, A., Sidani, J. E., Dew, M. A., Escobar-Viera, C. G., & Primack, B. A. (2018). Social media use and depression and anxiety symptoms: A cluster analysis. *American Journal of Health Behavior, 42* (2), 116–128. https://doi.org/10.5993/AJHB.42.2.11

Shensa, A., Sidani, J. E., Lin, L., Bowman, N. D., & Primack, B. A. (2016). Social media use and perceived emotional support among U. S. young adults. *Journal of Community Health, 41*(3), 541-549. https://doi.org/10.1007/s10900-015-0128-8

Siemens, G. (2003). Learning ecology, communities, and networks: Extending the classroom. *eLearn Space*.

Siemens, G. (2004a). "*Connectivism:* A learning theory for the digital age," https://elearnspace.org/Articles/connectivism.htm

Siemens, G. (2005b). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology & Distance Learning,* January.

Simon, M. K. (2011). Dissertation and scholarly research: Recipes for success (2011 Ed.). Seattle, WA, *Dissertation Success*, LLC.

Singh, S., Farley, S., & Donahue, J. J. (2018). Grandiosity on display: Social media behaviors and dimensions of narcissism. *Personality and Individual Differences*. https://doi.org/10.1016/j.paid.2018.06.039

Smith, A., & Anderson, M. (2018). Social media use in 2018: Many Americans use Facebook & YouTube, but young adults are especially heavy users of Snapchat and Instagram. *Pew Research Center Internet and Technology*. https://pewinternet.org/2018/03/01/social-media-use-in-2018/

Soemantri, D., McColl, G., & Dodds, A. (2018). Measuring medical students' reflection on their learning: Modification and validation of the motivated strategies for learning questionnaire (MSLQ). *BMC Medical Education*, *18*(1), 274. https://doi.org/10.1186/s12909-018-1384-y

Stajkovic, A. D., Bandura, A., Locke, E. A., Lee, D., & Sergent, K. (2018). Test of three conceptual models of influence of the big five personality traits and self-efficacy on academic performance: A meta-analytic path analysis. *Personality and Individual Differences*, *120*, 238–245.

Starcevic, V., & Billieux, J. (2017). Does the construct of internet addiction reflect a single entity or a spectrum of disorders? Clinical Neuropsychiatry, *14(*1), 5-10.

Stevenson, J. F. (2020). Quasi-Experimental Designs. In P. Atkinson, S. Delamont, A. Cernat, J.W. Sakshaug, & R.A. Williams (Eds.), *SAGE Research Methods Foundations.* https://doi.org/10.4135/9781526421036914289

Sural, I., Griffiths, M. D., Kircaburum, K., & Emirtekin, E. (2019). Trait emotional intelligence and problematic social media use among emerging adults: The

mediating role of psychosocial factors and social media use motives. *International Journal of Mental Health and Addiction.*

Tang, C. S., Koh, Y., & Gan, Y. (2017). Addiction to Internet Use, Online Gaming, and Online Social Networking Among Young Adults in China, Singapore, and the United States. Asia Pacific Journal of Public Health, *29*(8) 673–682. https://doi.org/10.1177/1010539517739558

Tansey, T. N., Smedema, S., Umucu, E., Iwanaga, K., Wu, J., Cardoso, E., & Strauser, D. (2018). Assessing college life adjustment of students with disabilities: Application of the PERMA framework. *Rehabilitation Counseling Bulletin. 61(3), 131-142.*

Taylor, D. B. (2021). George Floyd Protests: A timeline. The New York Times. https: www//www.nytimes.com/article/George-floyd-protests-timeline.html

Thomas, L., Orme, E., & Kerrigan, F. (2020). Student Loneliness: The Role of social media through life transitions. *Computers & Education.* https://doi.org/10.1016/j.compedu.2019.103754

Thorsteinsson, E. B., & Davey, L. (2014). Adolescents' compulsive Internet use and depression: A longitudinal study. Open Journal of Depression, *3,* 13–17. https://doi.org/10.4236/ojd.2014.31005

Tong, K. K., & Wang, Y. Y. (2017). Validation of the flourishing scale and scale of positive and negative experience in a Chinese community sample. *PLoS ONE* 12(8): e0181616. https://doi.org/10.1371/journal.pone.018161

Tsitsika, A., Critselis, E., Janikian, M., Kormas, G., & Kafetzis, D. A. (2011). Association between internet gambling and problematic internet use among

adolescents. Journal of Gambling Studies. *27*(3):389-400. https://doi.org/10.1007/s10899-010-9223-z

Turkle, S. (2011). *Alone Together*. Why we expect more from each other. Perseus Book Group

Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. J. (2008). Egos inflating over time: A cross-temporal meta-analysis of the narcissistic personality inventory. Journal of Personality, 76, 875-901. https://doi.org/10.1111/j.1467-6494.2008.00507.x

Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Konrath, C. (2008). Further evidence of an increase in narcissism among college students. *Journal of Personality*, *76*(4), 919-928. https://doi.org/10.1111/j.1467-6494.2008.00509

Twenge, J. M., Sherman, R. A., & Lyubomirsky, S. (2016). More happiness for young people and less for mature adults: Time period differences in subjective well-being in the United States, 1972–2014. *Social Psychological and Personality Science.* https://doi.org/10.1177/1948550615602933

Ugur, N. G., & Basak, B. (2018). Intrinsic and extrinsic motivation of social media use college students' perspectives. *The Online Journal of Quality in Higher Education*, *5*(3), 66-78. https://tojqih.net

U.S. Department of Education. (2016). *Institute of Education Sciences, National Center for Education Statistics.* https://nces.ed.gov/help/

Utecht, J., & Keller, D. (2019). Becoming relevant again: Applying connectivism learning theory to today's classrooms. *Critical Questions in Education*, *10*(2), 107–119.

van den Eijnden, R. J., Spijkerman, R., Vermulst, A. A., van Rooij, T. J., & Engels, R. C. (2010). Compulsive Internet use among adolescents: Bidirectional parent-child relationships. Journal of Abnormal Child Psychology, *38*, 77–89. https://doi.org/10.1007/s10802-009-9347-8

VanderWeele, T. J. (2017). On the promotion of human flourishing. Proceedings of the National academy of Sciences of the United States of America, *114*(31), 8148-8156. https://doi.org/10.1073/pnas.1702996114

Vannucci, A., Flannery, K. M., & Ohannessian, C. M. (2017). Social media use and anxiety in emerging adults. *Journal of Affective Disorders*, *207*, 163–166. https://doi.org/10.1016/j.jad.2016.08.040

Wagner, J., Lüdtke, O., Trautwein, U., & Lüdtke, O. (2016). Self-esteem is mostly stable across young adulthood: Evidence from Latent STARTS Models. *Journal of Personality, 84*(4), 523–535. https://doi.org/10.1111/jopy.12178

Wagner, W. E. (2017). Using IBM SPSS *Statistics for Research Methods and Social Science Statistics.* Sage Publications, Inc.

Wang, C. W., Ho, R., Chan, C., & Tse, S. (2015). Exploring personality characteristics of Chinese adolescents with internet-related addictive behaviors: Trait differences for gaming addiction and social networking addiction. *Addictive Behaviors*, *42*, 32–35.

Wang, J. L., Gaskin, J., Wang, H. Z., & Liu, D. (2016). Life satisfaction moderates the associations between motives and excessive social networking site usage. *Addiction Research & Theory,* https://doi.org/10.3109/16066359.2016.1160283

Wang, Z. (2018). Evaluating the effect of positive ideological intervention on psychological flexibility of college students. *NeuroQuantology*, *16*(6), 295–300. https://doi.org/10.14704/nq.2018.16.6.1561

We Are Social. (2020). Digital 2020: April global statshot report. https://wearesocial.com/blog/2020/04/digital-around-the-world-in-april-2020

Weinstein, A., Dorani, D., Elhadif, R., Bukovza, Y., Yarmulnik, A., & Dannon, P. (2015). Internet addiction is associated with social anxiety in young adults. Annals of Clinical Psychiatry, *27*, 4–9.

Weinstein, A., Feder, L., Rosenberg, K. P., & Dannon, P. (2014). Internet addiction disorder: Overview and controversies. In K. P. Rosenberg & L. C. Feder (Eds.), Behavioral addictions: Criteria, evidence, and treatment (pp. 99–117). Academic Press. https://doi.org/10.1016/B978-0-12-407724-9.00005-

Wéry, A., & Billieux, J. (2017). Problematic cybersex: Conceptualization, assessment, and treatment. *Addictive Behaviors*, *64*, 238–246. https://doi.org/10.1016/j.addbeh.2015.11.007

Wikipedia. (2021). *United States racial unrest.* https://www.en.wikipedia.org/wiki/2020-21_United_States_racial_unrest

Willoughby, T. (2008). A short-term longitudinal study of Internet and computer game use by adolescent boys and girls: Prevalence, frequency of use, and psychosocial

predictors. Developmental Psychology, *44*, 195–204. https://doi.org/10.1037/0012-1649.44.1.195

Wolbert, L., de Ruyter, D., & Schinkel, A. (2021). The flourishing child. *Journey of Philosophy of Education,* 1-12. https://doi.org/10.1111/1467-9752.1256

Wong, A., Vallacher, R. R., & Nowak, A. (2016). Intrinsic dynamics of state self-esteem: The role of self-concept clarity. *Personality and Individual Differences*. *100*, 167-172. https://doi.org/10.1016/j.paid.2016.05.024

World Health Organization. (2016). Depression Fact Sheet. https://www.who.int/news-room/fact-sheets/detail/depression

World Health Organization. (2018). Public health implications of excessive use of the Internet and other communication and gaming platforms, https://www.who.int/news-room/detail/public-health...the-internet-and-other-communication-and-gaming-platforms

Wu, J. Y. (2016). University students' motivated attention and use of regulation strategies on social media. *Computers & Education, 89*, 79-90. https://doi.org/10.1016/j.compedu.2015.08.016

Yeap, J., Ramayah, T., Halem, H., Hasliza, A., Ahmad, N., & Kurnia, S. (2016). Exploring the Impact of Internet Addiction on Academic Engagement: A Preliminary Study on Undergraduates. *Indian Journal of Management Science*; Nasik, *6*(1), 1-9. https://scholarshub.net

Yen, J. Y., Yen, C. F., Chen, C. S., Wang, P. W., Chang, Y. H., & Ko, C. H. (2012). Social anxiety in online and real-life interaction and their associated factors.

Cyberpsychology Behavior Social Networking, (1)7-12. https://doi.org/10.1089/cyber.2011.0015

Yildiz, M., & Karadas, C. (2017). Multiple Mediation of Self-Esteem and Perceived Social Support in the Relationship Between Loneliness and Life Satisfaction. *Journal of Education and Practice,8* (3), 130-139.

Young, K. (1999). Internet addiction: symptoms, evaluation, and treatment. In L. VandeCreek & T. Jackson (Eds.), Innovations in clinical practice: A sourcebook, 17 (pp. 19–31). Sarasota: Professional Resource Press.

Young, K. S. (1998**).** Internet addiction: The emergence of a new clinical disorder. *Cyberpsychology & Behavior*, *1* (3), 237-244.

Young, K. S. (2004). Internet Addiction: A New Clinical Phenomenon and Its Consequences. *American Behavioral Scientist, 48*(4), 402–415. https://doi.org/10.1177/0002764204270278

Young, K. S. (1996). Psychology of computer use: XL. Addictive use of the Internet: A case that breaks the stereotype. *Psychological Reports*, *79* (3), 899-902

Young, N. L., Kuss, D. J., Griffiths, M. D., & Howard, C. (2017). Passive Facebook use, Facebook addiction, and associations with escapism: An experimental vignette study. *Computers in Human Behavior*, *71*, 21-311. https://doi.org/10.1016/j.chb.2017.01.039

Yu, L., & Shek, D. T. (2013). Internet addiction in Hong Kong adolescents: A three-year longitudinal study. *Journal of Pediatric & Adolescent Gynecology*, *26*(3 Suppl), S10–S17. https://doi.org/10.1016/j.jpag.2013.03.010

Yu, X., Zhou, Z., Fan, G., Yu, Y., & Peng, J. (2016). Collective and Individual Self-Esteem Mediate the Effect of Self-Construal's on Subjective Well-Being of Undergraduate Students in China. *Applied Research Quality Life*, *11*, 209–219. https://doi.org/10.1007/s11482-014-9362-y

Yucen, B., & Uzer, A. (2018). The relationship between internet addiction, social anxiety, impulsivity, self-esteem, and depression in a sample of Turkish undergraduate medical students. *Psychiatry Research*, *267*, 313-318.

Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, *37*, 197-206.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulatory learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. Journal of Educational Psychology, *82*, 284–290.

Appendix A: Permission for Bergen Social Media Addiction Scale

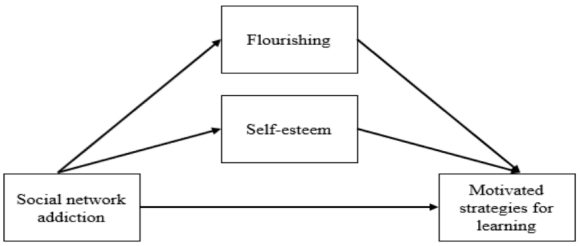
Permission Request to use Scale in Survey Research

DISSERTATION RESEARCH

Mediating Effects of Self-Esteem and Sense of Flourishing on the Role Between Social Network Addiction and Motivated Strategies for Learning

Dr. Cecilie Schou Andreassen:

I am a doctoral student completing a doctoral program in Psychology with a specialization in Teaching at Walden University. I am writing to ask permission to use the Bergen Social Media Addiction Scale (BSMAS: Andreassen, 2016) in my research study. I plan to use the entire scale without modifying or adapting to the survey. The purpose of the research is to determine the impact of amalgamated social networking site's psychosocial impact on young adult's age (18-24) with emphasis on ascertaining student self-esteem and sense of flourishing in academic performance in American colleges or universities. The study will investigate the mediating roles of self-esteem and a sense of flourishing on student motivational strategies of learning. Two other scales (Dieners: FS; Flourishing Scale, 1994 & Rosenberg: Self-Esteem Scale, 1965) will be simultaneously measured in a (5) model mediation analysis. I have included a meditation model graph for your examination.



The study is being supervised by a committee of distinguished professional scholars including Chairman Dr. Charles. T. Diebold a methodologist and Second Committee Member (SCM) Dr. June Wilson, a content expert in Social Media Psychology at Walden University. The prospectus was approved on 11/21/2019. I am currently writing the literature review to launch a national survey in 2 to 4 months upon IRB authorization and scale consent. Dr. Andreassen as an expert in the field I welcome your counsel on this endeavor and look forward to establishing a rapport with you concerning the study. If you have any questions about this scientific undertaking, feel free to contact the committee at the following addresses: Chairman tom.diebold@mail.waldenu.edu, Second Committee Member: june.wilson@mail.waldenu.edu, and Ph.D. candidate deborah.taylormcghee@waldenu.edu. Thank you for your assistance in this human behavior science endeavor.

Deborah Taylor McGhee, Ph.D. Candidate College of Social and Behavioral Science

Appendix B: Approval for Bergen Social Media Addiction Scale

Approval to use BSMAS in Survey Research

Cecilie Schou Andreassen <Cecilie.Andreassen@uib.no>

Wed 3/4/2020 6:41 PM

Dear Deborah.

The Bergen Social Media Addiction Scale can be found in appendix B of the enclosed paper. The scoring procedure of the items is provided in the appendix and a composite score is made by adding the score of each single item. You have our permission to use the scale in your research. If you are not going to use the English version but are going to translate the scale into other languages (for which adapted versions may already exist) please use a translation-back-translation procedure and send us the final scale for our records. The latter is a mandatory requirement if you are to use the scale. Good luck with your research.

All the best,

Cecilie Schou Andreassen

Professor, PhD

Clinical Psychologist Specialist

Department of Clinical Psychology

University of Bergen

Appendix C: Bergen Social Media Addiction Scale PsycTESTS Overview

PsycTESTS®

Bergen Social Media Addiction Scale

PsycTESTS Citation:
Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). Bergen Social Media Addiction Scale [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t74607-000

Instrument Type:
Rating Scale

Test Format:
Each item is answered on a 5-point Likert scale ranging from very rarely (1) to very often (5); thus, yielding a composite score from 6 to 30, concerning experiences during the past year (e.g., "How often during the last year have you tried to cut down on the use of social media without success?").

Source:
Andreassen, Cecilie Schou, Billieux, Joël, Griffiths, Mark D., Kuss, Daria J., Demetrovics, Zsolt, Mazzoni, Elvis, & Pallesen, Ståle. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. Psychology of Addictive Behaviors, Vol 30(2), 252-262. doi: https://dx.doi.org/10.1037/adb0000160

Appendix D: Rosenberg Self-Esteem Scale Overview

PsycTESTS®

Rosenberg Self-Esteem Scale
Version Attached: Full Test

PsycTESTS Citation:
Rosenberg, M. (1965). Rosenberg Self-Esteem Scale [Database record]. Retrieved from PsycTESTS. doi: http://dx.doi.org/10.1037/t01038-000

Instrument Type:
Rating Scale

Test Format:
4-point response format ranging from strongly agree to strongly disagree.

Source:
Bringle, Robert G., Phillips, Mindy A., & Hudson, Michael. (2004). Self and self-concept The measure of service learning: Research scales to assess student experiences, (pp. 97-142). Washington, DC: American Psychological Association. doi: 10.1037/10677-006

Appendix E: Flourishing Scale Overview

PsycTESTS®

Flourishing Scale

PsycTESTS Citation:
Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D.-w., Oishi, S., & Biswas-Diener, R. (2010). Flourishing Scale [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t03126-000

Instrument Type:
Rating Scale

Test Format:
The Flourishing Scale consists of 8 items rated on a 7-point Likert-type scale where 1 = strongly disagree and 7 = strongly agree.

Source:
Supplied by author.

Appendix F: CITI Program Certificate

CITI PROGRAM

Completion Date 16-Aug-2020
Expiration Date N/A
Record ID 37885562

This is to certify that:

Deborah Taylor McGhee

Has completed the following CITI Program course:

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Student's (Curriculum Group)
Doctoral Student Researchers (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Walden University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w0647543c-f757-4269-82f9-607a9a589f67-37885562

Appendix G: Participant Debriefing Statement

As the researcher of this study, I would like to thank you for your time and participation in this scientific endeavor. The purpose of this study was to examine how the effects of high or low self-esteem and a student's sense of flourishing active and successful engagement in life functions would moderate the harmful effects of social networking use on students' psyches impact motivated learning strategies. Across the globe undergraduate students are experiencing cognitive difficulties, in the ability to stay focused and meet academic performance standards. In one case students faced dismissal for lack of performance. All these difficulties were associated with social networking addiction. In a similar questionnaire to what you completed, students' self-disclosures revealed links to psychopathy including personality and identity disorders, narcissism, attention deficient hypersensitivity disorder (ADHD) and obsessive compulsion disorder (OCD) plus comorbidities in anxiety, depression, and suicidal tendencies from self-representation criticism.

This study sought to understand the impacts of SNA on student's motivation to mediate the threat to their health and wellbeing using the two mediator's self-esteem and a sense of flourishing. Studies suggest students with a healthy outlook regarding self-esteem, self-confidence and overall life satisfaction diminish the cultivation of social networking addiction. As a method to stop cognitive distraction this study implores students to stay mindful in their networking endeavors to promote flourishing. Use the internet pragmatically with a purpose in mind to lessen the frequency of use. This minor adjustment reduces the potential of social networking addiction in addition weakens the

potential to developing anxiety, depression, and other disorder. My best to you and your future academic pursuits. May you remain enlightened and intentional in your tactic to become academically fulfilled and self-actualized.