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The Relationship Between Distress Intolerance, Emotional Dysregulation, and Social Networking Site Addiction

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Abstract

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by

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MS, Walden University, 2019

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The use of social networking sites (SNSs) continues to increase. SNS addiction refers to the maladaptive behaviors associated with addiction and the use of SNSs. The purpose of this study was to examine the association between emotional dysregulation and SNS addiction as well as investigate the association between distress intolerance and SNS addiction through emotional dysregulation. The social cognitive theory served as the theoretical framework. A total of 210 individuals completed an anonymous online survey through Qualtrics, which consisted of the Internet Addiction Test (IAT), Distress Tolerance Scale (DTS), and the Difficulties in Emotional Regulation Scale (DERS). Linear regression was used to determine the predictive relationship between emotional dysregulation and SNS addiction. Results showed that emotional dysregulation did significantly predict SNS addiction, $F(1, 208) = 79.867$ and $p < .05$. The DERS subscales, impulse and clarity, significantly predicted SNS addiction ($p < .001$). Linear regression, multiple linear regression, and the Sobel Test were used to determine whether distress intolerance mediates the relationship between emotional dysregulation and SNS addiction. The Sobel Test showed that distress tolerance was not a significant mediating variable between emotional dysregulation and SNS addiction ($SE = 0.077$, $p = 0.354$). An implication for positive social change is that a study investigating emotional dysregulation, distress tolerance, and its relationship to SNS addiction may help mental health professionals identify specific maladaptive behaviors associated with SNS addiction that they can address directly and provide healthier coping strategies for emotional regulation.

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Dedication

I would like to dedicate this work to God as well as my family. I would not have been able to get this far in my education without God who has provided for me throughout this process, and the unwavering support and patience from my family has helped me to push forward. Thank you so much, and I love you all.

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Thank you to my committee, Dr. Matthew Fearrington and Dr. Delinda Mercer, for helping me throughout this process. Your help and guidance have been essential in helping me to get this far. I would also like to acknowledge my family for your love and encouragement. Thank you all.

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Chapter 1: Introduction to the Study

The internet allows people to communicate globally through virtual communities known as social networking sites (SNSs; Kuss & Griffiths, 2017). At first glance, it seems that SNSs offer great opportunities for people to connect; however, using SNSs can sometimes have negative consequences (Caplan, 2002; Erol & Cirak, 2019). The purpose of this study was to examine the association between emotional dysregulation and SNS addiction and the association of distress intolerance and SNS addiction through emotional dysregulation. In this chapter, I discuss this study's purpose, background, significance, theoretical framework, and nature. I also provide operational definitions, assumptions, scope and delimitations, and limitations of this study.

Background

In 2020, the number of SNS users was 3.23 billion worldwide, and the number of users continues to grow (von Abrams, 2020). The development of devices such as tablets and smartphones makes the use of SNSs more accessible (Kuss & Griffiths, 2017). It appears that the use of SNSs will continue to be a common form of networking (Kuss & Griffiths, 2017). As the number of users grows, and SNS use becomes more common, SNS addiction is likely to be an issue that will continue to grow.

Research has shown that individuals can sometimes develop an addiction to SNSs (Andreassen & Pallesen, 2015; Bulut Serin, 2011). SNS addiction can result in problems in multiple settings such as work, school, and the individual's personal life (Andreassen & Pallesen, 2015; Stockdale & Coyne, 2020). Individuals who develop SNS addiction

may suffer from conditions that affect their psychological well-being, such as depression and anxiety (Stockdale & Coyne, 2020).

The literature I discovered related to the topic of this study focuses on problematic internet use (PIU), which refers to general activities people participate in online that affect their daily functioning (Andreassen & Pallensen, 2015). In studies that involve emotional dysregulation and distress intolerance, researchers have examined the association of emotional dysregulation and distress intolerance with behavioral addictions and substance abuse issues (Hormes et al., 2014; Howell et al., 2010; Liu & Ma, 2019; Özdel & Ekinci, 2014). The gap in the literature is that the studies do not address SNS addiction and its association with emotional dysregulation and distress intolerance.

Identifying and comparing the factors of distress intolerance that might contribute to SNS addiction through emotional dysregulation and the role of the factors of distress intolerance with emotional dysregulation may help develop strategies to treat individuals who suffer from SNS addiction (J. S. Simons & Gaher, 2005). With easier access to SNSs and the increasing number of SNS users, identifying and comparing the mediating role that distress intolerance has in emotional dysregulation may help develop strategies in treating individuals suffering from SNS addiction. Insight into how an individual tolerates distress may help develop ways to address the specific issues and maladaptive behaviors related to SNS addiction, distress intolerance, and emotional dysregulation. Rather than treating SNS addiction, it may be possible to address the particular problems and maladaptive behaviors associated with SNS addiction to help individuals develop healthier strategies for regulating their emotions.

Problem Statement

SNS addiction differs from other addictions in that the internet is easily accessible to almost anyone regardless of age (Andreassen & Pallensen, 2015; Kuss & Griffiths, 2017). SNSs are legal to use, and SNSs are becoming a part of everyday life (Andreassen & Pallensen, 2015; Kuss & Griffiths, 2017). Other addictions do not meet all these criteria (Andreassen & Pallensen, 2015; Kuss & Griffiths, 2017).

Emotional dysregulation and distress intolerance may be factors that influence SNS addiction (Akbari, 2017; Andreassen & Pallesen, 2015; Stockdale & Coyne, 2020). Emotional dysregulation refers to an individual's awareness, understanding, and acceptance of their emotions and inability to manage those emotions healthily (Casale et al., 2016). Distress intolerance refers to an individual's inability to withstand hardship concerning their affective, cognitive, and physical state (Akbari, 2017). Tolerability and aversiveness, appraisal and acceptability, tendency to absorb and disrupt activities, and regulation of emotions are the factors of distress intolerance that exist when evaluating distress intolerance (J. S. Simons & Gaher, 2005). Studies have shown that individuals who suffer from addictive behaviors also have issues with distress intolerance (Zvolensky et al., 2011).

Emotional dysregulation and distress intolerance are topics that researchers use in studies about substance abuse (Casale et al., 2016; Zvolensky et al., 2011). Akbari (2017) studied the mediating role of metacognition and distress intolerance with emotional dysregulation and PIU. Akbari discovered that distress intolerance has a direct impact through emotional dysregulation on PIU. A limitation of this study was that PIU is not

specific to the activities an individual performs on the internet (Akbari, 2017). Akbari clarified that the types of psychopathology might vary among different internet users, such as those who go online to play video games or those who gamble online. This study was intended to expand upon Akbari's research by examining the specific activity of SNS use. This study also compared the particular facets of distress intolerance that contribute to SNS addiction through emotional dysregulation. Examining the role of emotional dysregulation and distress intolerance on SNS addiction may help address this gap in the literature (Akbari, 2017).

Purpose of the Study

This study aimed to investigate the association between emotional dysregulation and SNS addiction and examine the impact distress intolerance has on SNS addiction through emotional dysregulation. The target population was adult SNS users, 18 and older, with at least one SNS account. In this study, the dependent variable (DV) was SNS addiction. The independent variable (IV) was emotional dysregulation. This study expanded upon Akbari's (2017) study by examining the relationship between emotional dysregulation, distress intolerance, and SNS addiction rather than the PIU.

Research Questions and Hypotheses

The survey I used to measure emotional dysregulation is the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The Distress Tolerance Scale (DTS) measured distress intolerance for this study (J. S. Simons & Gaher, 2005). I also used the Internet Addiction Test (IAT) to measure SNS addiction (Young, 1998).

RQ1: What is the predictive relationship between emotional dysregulation and SNS addiction among adult SNS users?

$H_0$1: Emotional dysregulation does not predict SNS addiction among adult SNS users.

$H_1$1: Emotional dysregulation predicts SNS addiction among adult SNS users.

RQ2: What is the predictive relationship between distress intolerance and SNS addiction through emotional dysregulation among adult SNS users?

$H_0$2: Distress intolerance does not predict SNS addiction through emotional dysregulation among adult SNS users.

$H_1$2: Distress intolerance predicts SNS addiction through emotional dysregulation among adult SNS users.

Theoretical Framework

The theoretical framework for this study was social cognitive theory (SCT; Moqbel & Kock, 2018). Bandura (1989) developed social learning theory, which became known as SCT, emphasizing how cognitive factors influence behavior. Bandura (1993) stated that behaviors result from cognitive processes that influence how a person interprets an external event. Social factors, such as cultural values and beliefs, influence individual standards and beliefs (Bandura, 1989, 1993). The individual's standards and beliefs will begin to influence their abilities and how an event will turn out because of their actions, known as self-efficacy and perceived outcome expectancy (Bandura, 1989, 1993). Researchers often use SCT to investigate substance and behavioral addictions, which will help examine SNS addiction (Eslami et al., 2018; Heydari et al. 2014; Wu et

al., 2013; Yang, 2020; Yu et al., 2015). I discuss SCT and its uses in more detail in Chapter 2.

Nature of the Study

I used a quantitative research design with cross-sectional surveys to gather the necessary data for the study. This design helped me examine the relationships between variables and answer descriptive questions (Creswell & Creswell, 2018). Surveys in a study are often cost-effective, and researchers can distribute surveys to a large number of people (Creswell & Creswell, 2018; Evans & Mathur, 2018). Researchers can also gather data quickly using a cross-sectional survey design (Evans & Mathur, 2018; Wright, 2005).

The DV was SNS addiction, and the IV was emotional dysregulation. Nonacceptance of emotional responses, difficulty engaging in goal-directed behavior, difficulties with impulse control, lack of emotional awareness, lack of emotional clarity, and limited access to regulatory strategies are the domains of emotional dysregulation (Gratz & Roemer, 2004). The mediating variables are the four domains of distress intolerance: tolerance, appraisal, absorption, and regulation, as mediating variables. The number of variables in this study makes multiple linear regression the best option. Using multiple linear regression allowed me to use Baron and Kenny's (1986) proposed method for testing mediation. I discuss details of this method in Chapter 3.

Definitions

Behavioral addiction: Refers to dependence upon certain behaviors that result in responses such as preoccupation, cravings, and withdrawal, leading to negative

consequences across multiple settings (American Psychiatric Association [APA], 2013; Asensio et al., 2020). Gambling, sex, and video games are examples of behavioral addictions (APA, 2013; Asenio et al., 2020). I also addressed this as addictive behaviors or non-substance abuse.

Distress intolerance: A person's perceived inability to withstand negative emotions or uncomfortable states (J. S. Simons & Gaher, 2005; Zvolensky et al., 2011). The four domains of distress tolerance are tolerance, appraisal, absorption, and regulation (Akbari, 2017; J. S. Simons & Gaher, 2005)

Emotional dysregulation: An individual's inability to be aware, understand and accept their emotions (Gratz & Roemer, 2004). The six domains of emotional dysregulation are nonacceptance of emotional responses, difficulty engaging in goal-directed behavior, difficulties with impulse control, lack of emotional awareness, lack of emotional clarity, and limited access to regulatory strategies (Gratz & Roemer, 2004).

Social networking site (SNS): A virtual community users access via the internet to connect and interact with others (Kuss & Griffiths, 2017). Examples of common SNSs are Facebook, Twitter, and Instagram (Andreassen & Pallensen, 2015).

SNS addiction: Refers to the behaviors, symptoms, and consequences of compulsive and prolonged use of SNSs (Andreassen & Pallensen, 2015; Kuss & Griffith, 2017; Yu et al., 2015). Withdrawal from SNS use for an individual with SNS addiction may result in anxiety as well as distress and depression (Andreassen & Pallensen, 2015; Kuss & Griffith, 2017; Yu et al., 2015). SNS addiction can negatively affect social

relationships, work and academic performance, and daily functioning (Asensio et al., 2020; Kuss & Griffiths, 2017; Stockdale & Coyne, 2020; Yu et al., 2015).

Assumptions

One assumption of this study was that the participants answered the surveys honestly and accurately. Another assumption was that the distribution of the surveys reached a broad number of participants to allow generalizability. I distributed the surveys in English, and I assumed that the participants were fluent in English. A fourth assumption was that the IV and DV are linear, which allows for multiple regression. I also assumed that an association existed between the IV and DV to conduct mediation analysis.

Scope and Delimitations

Researchers have demonstrated that emotional dysregulation and distress intolerance are associated with behavioral addictions, substance abuse, and SNS use and addiction (Howell et al., 2010; Osatuyi & Turel, 2018). Some research demonstrates that emotional dysregulation and distress intolerance are associated with SNS use; however, it does not address whether distress intolerance mediates SNS addiction through emotional dysregulation. Akbari's (2017) study revealed that distress intolerance mediates SNS addiction through emotional dysregulation for PIU; however, Akbari stated that one limitation is that the study did not address the specific behavior of SNS use and SNS addiction. These are the reasons why I focused on these aspects.

This study included adult users 18 years old and above with at least one active SNS account. I did not include children or adolescents in the study because parental

influence was likely to affect their behaviors. I decided that participants must have at least one active SNS account to avoid recall bias, which affects an individual's recollection of past events (Akbari, 2017).

Limitations

The use of self-report surveys in this study offered some challenges. As previously mentioned, recall bias is also a risk for self-report measures. One example is that participants may not provide accurate responses. Incorrect responses on self-report measures can occur unintentionally by the participant because of a lack of self-awareness. A participant's current emotional state can also affect self-report measures. These limitations can be counteracted by gathering a large sample size, which was accomplished. Participants may provide an inaccurate response because they may wish to present themselves favorably because of social desirability. To encourage participants to answer honestly, I distributed the surveys in a way that allowed participants to answer questions anonymously.

Significance

The use of SNSs has become more. The COVID-19 pandemic has made SNS use essential for businesses and schools because of quarantine and social distancing regulations. For example, businesses and schools use SNSs for meetings and lessons, which causes individuals who may not use SNSs to create SNS accounts to participate in these functions. Prolonged and habitual use of SNSs can result in SNS addiction and other negative consequences to a person's well-being (Andreassen & Pallensen, 2015; Hormes et al., 2014). Studying SNS addiction may help researchers and clinicians

understand its effects and develop interventions to help individuals suffering from SNS addiction.

Summary

The increase of SNS users and SNS use may likely increase the number of individuals who develop SNS addiction. I used the DERS, DTS, and IAT to gather data for this quantitative study and interpreted the data using multiple linear regression. This study expanded upon the current literature by examining the association between emotional dysregulation and SNS addiction and examining the mediating effects of distress intolerance and SNS addiction through emotional dysregulation. Chapter 2 includes discussion of the current literature regarding emotional dysregulation, distress intolerance, and SNS addiction.

Chapter 2: Literature Review

The use of SNSs is a common form of communication and interaction, but one negative effect exists in the form of potential SNS addiction (Andreassen & Pallensen, 2015; Bulut Serin, 2011; Caplan, 2002; Kuss & Griffiths, 2017; Stockdale & Coyne, 2020). SNS addiction can result in problems at work, at school, and in an individual's personal life (Andreassen & Pallesen, 2015; Stockdale & Coyne, 2020). Depression and anxiety may also exist in individuals who develop an SNS addiction (Stockdale & Coyne, 2020).

The incidence of SNS addiction will likely continue to grow because tablets and smartphones make it easier for individuals to access SNSs (Kuss & Griffths, 2017). The increasing prevalence of SNS addiction and its accompanying dysfunctional behaviors have piqued researchers' interest, who have likened SNS addiction to substance and behavioral addictions (Hormes et al., 2014). A couple of factors that impact substance and behavioral addictions are emotional dysregulation and distress intolerance (Akbari, 2017; Andreassen & Pallesen, 2015; Stockdale & Coyne, 2020). Researchers are also beginning to examine whether these factors apply to SNS addiction (Akbari, 2017; Casale et al., 2016).

Factors that influence emotional dysregulation are awareness, understanding, acceptance of emotions, and the inability to manage those emotions (Casale et al., 2016). Distress intolerance refers to an individual's perception of their inability to withstand hardship (Akbari, 2017; Zvolensky et al., 2011). An individual's affective, cognitive, and physical state influence their perception of their ability to withstand hardship (Akbari,

2017; Zvolensky et al., 2010). Tolerability and aversiveness, appraisal and acceptability, tendency to absorb and disrupt activities, and regulation of emotions are factors that assessors investigate when studying distress intolerance (J. S. Simons & Gaher, 2005).

Akbari (2017) investigated the relationship between PIU and the mediating role of metacognition and distress intolerance with emotional dysregulation. Akbari found that distress intolerance has a direct impact through emotional dysregulation on PIU. Akbari stated that a limitation of the study was that it did not address specific activities that people engage in while using the internet and that varying types of psychopathologies may exist because of the many activities people perform online. For example, individuals who engage in online gambling may exhibit different psychopathologies than those who engage in online video games. This study was intended to expand upon Akbari's research by investigating the specific activity of SNS use.

In this chapter, I discuss the existing literature relevant to distress intolerance, emotional dysregulation, and SNS addiction. I also explain the search strategy that I used to find the relevant studies. The theoretical foundation, SCT, is also described in this chapter.

Literature Search Strategy

To find the literature relevant to this study, I conducted electronic searches using PsycINFO, SocINDEX, PsycARTICLES, and ProQuest Central databases. The search terms were *social networking site addiction, social networking site use, social networking site behaviors, emotional dysregulation or emotional regulation, distress intolerance or distress tolerance,* and *problematic internet use*. Publication dates of the articles ranged

from 1989 to 2020. The older sources I used were to obtain the background of SCT and understand concepts, such as distress intolerance and emotional dysregulation.

Theoretical Foundation

SCT is the theoretical foundation for the study. Bandura (1989) developed SCT, which was previously known as social learning theory. The theory was later changed to SCT to emphasize the cognitive processes and factors influencing behavior (Bandura, 1989, 1993, 2001). Bandura (1993) stated that the environment influences human behaviors and motivations but that cognitive factors mediate it. In other words, the cognitive process influences a person's interpretation of an external event resulting in a behavior (Bandura, 1993).

Social factors shape an individual's cognitive processes (Bandura, 1989, 1993). Social factors help individuals develop standards for themselves, which helps form the individual's belief in their abilities, also known as *self-efficacy* (Bandura, 1993). Self-efficacy also influences an individual's beliefs about the consequences of their actions, which Bandura (1989, 1993) called *perceived outcome expectancy*. Perceived outcome expectancies and self-efficacy are factors that help an individual determine whether to engage in a behavior (Bandura, 1989, 1993; Yu et al., 2015). Bandura (1989) called this interaction between personal, environmental, and behavioral factors *triadic reciprocity* (Osatuyi & Turel, 2018).

Heydari et al. (2014) used SCT to examine the effectiveness of interventional strategies that applied SCT. Heydari et al. recruited participants from a hospital clinic in Mashhad, Iran, who suffered from substance addictions with no chronic psychiatric

illnesses. In Heydari et al.'s study, one group received conventional treatment, and the other group received modified treatment. The interventional strategy involved improving an individual's self-efficacy and enhancing social support. Heydari et al. compared their findings from the group who received the modified treatment with those of the control group and found that levels of self-efficacy were higher than those in the control group. Those who underwent the modified treatment were also more successful in quitting.

Heydari et al. (2014) demonstrated that interventions incorporating SCT could help people quit, but their study did not address whether such interventions can help people maintain abstinence from their addictions. Eslami et al. (2018) conducted a study with participants from various short-term residential treatment programs in Iran to determine if SCT could be used to predict abstinence 6 months after treatment for substance use. Eslami et al. discovered that individuals with higher self-efficacy levels regarding motivation consistently predicted treatment outcomes. Perceived social support was also a predictor of successful treatment outcomes, emphasizing the importance of addiction's social component (Eslami et al., 2018). The social support discovery also emphasizes the importance of developing new social comparative standards that can allow an individual to improve their self-efficacy (Bandura, 1993, 2001; Eslami et al., 2018). Eslami et al. found that perceived outcomes can also be a predictor of treatment outcomes. Those with positive perceived treatment outcomes were more successful at remaining abstinent than those not. Eslami et al. also discovered that previous attempts with treatment tended to have negative perceived treatment outcomes, which also influenced patients' ability to remain abstinent. Eslami et al.'s study is an excellent

demonstration of triadic reciprocity (see also Bandura, 1993). Multiple social components, such as receiving social support, affect an individual's self-efficacy (Bandura, 1993; 2001; Eslami et al., 2018). Eslami et al. were also able to show that self-efficacy influenced perceived outcome expectancy when they showed that previous failed attempts at abstinence resulted in low self-efficacy and a negative outcome expectancy (Bandura, 1993).

A study by Yu et al. (2015) demonstrated how SCT could be used to investigate SNS addiction. In their study on SNS addiction and cognitive and psychosocial health risks among Chinese university students, Yu et al. hypothesized and confirmed that students with negative outcome expectancies and lower self-efficacy levels concerning internet use have higher addictive tendencies for SNS addiction. Yu et al. concluded that low self-efficacy levels regarding reducing SNS use were a higher risk for SNS addiction. Individuals who expected negative outcomes due to reducing SNS use were also at high risk for SNS addiction (Yu et al., 2015).

Wu et al. (2013) conducted a study investigating SNS addiction among Chinese smartphone users and found that individuals who had low self-efficacy regarding internet literacy were at higher risk for SNS addiction. Wu et al. believed that a lack of internet literacy might lead individuals to misunderstand the consequences. Wu et al. also discovered that individuals who believed that SNSs have positive consequences tended to spend more time using SNSs. In other words, positive outcome expectancies regarding SNS use results in a higher risk for SNS addiction (Wu et al., 2013). Both Yu et al.

(2015) and Wu et al. concluded that targeting self-efficacy and perceived outcomes can help develop successful interventions in treating SNS addiction.

SCT is a theory that researchers have used to investigate various forms of addiction and addiction treatment. Yu et al. (2015) and Wu et al. (2013) demonstrated how SCT could be useful in studying SNS addiction. I used SCT similarly to examine SNS addiction, emotional dysregulation, and distress intolerance in this study.

SNSs

SNSs are virtual communities that people access through the internet (Kuss & Griffiths, 2017). This study must clarify the difference between SNSs and social media (SM) because older studies often use the terms interchangeably; however, more recent studies do not (Andreassen & Pallensen, 2015; Kuss & Griffiths, 2017). According to Kuss and Griffiths (2017), SM refers to the cooperation of multiple users to produce and create content to share online, such as the content community known as YouTube. Examples of other SM include weblogs, virtual game worlds, and collaborative projects (e.g., Wikipedia; Andreassen & Pallensen, 2015; Kuss & Griffiths, 2017).

Unlike SM, the purpose of SNSs is to connect with other users (Kuss & Griffiths, 2017). The main distinction is that the purpose of SM is to share content and not for forming connections with others, whereas the purpose of SNSs is to connect and allow interaction with people (Kuss & Griffiths, 2017). Facebook, Twitter, and Instagram are examples of SNSs (Andreassen & Pallensen, 2015). Some SNSs allow interaction with members of shared interests, and others are considered egocentric (Andreassen & Pallensen, 2015; Kuss & Griffiths, 2017). Instagram and Facebook are examples of

egocentric SNSs because these sites allow users to create an individual profile to post pictures, videos, and comments to represent themselves (Andreassen & Pallenson, 2015). Although users of SM share similar content, the purpose of the content on SM is to inform or entertain without interacting with others; however, the sharing of the content on SNSs is to demonstrate interest to others for interaction with others (Kuss & Griffiths, 2017). Other examples of SNSs include applications that allow users to send messages via the internet using services and applications, such as WhatsApp, and online dating platforms and applications, such as Tinder (Andreassen & Pallensen, 2015).

SNS Addiction

Addiction is a condition that researchers have explored from many different perspectives (Asensio et al., 2020). The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; APA, 2013) prefers to use the terms *substance use disorder* and *non-substance use disorder* to describe addiction as the compulsive and habitual use of substances or behaviors, such as alcohol and gambling, that results in negative consequences to daily functioning, finances, and relationships. Addiction is a progressive process that is classified into intoxication or withdrawal (APA, 2013). Intoxication refers to the pleasurable experience of an individual who engages in using a substance or behavior (Asenio et al., 2020; Mehus et al., 2018). Symptoms of withdrawal can appear as irritability, withdrawal, or depression, leading to preoccupation and cravings to alleviate this negative state (Asenio et al., 2020; Kuss & Griffiths, 2017; Mehus et al., 2018). Preoccupation refers to the fixation an individual may develop to achieve intoxication (APA, 2013). Sometimes specific events or stimuli, known as triggers, can

also elicit a craving response (Asenio et al., 2020; Mehus et al., 2018). The craving response typically occurs when the event or stimuli becomes paired with the use or engagement (Asenio et al., 2020). Substance and behavioral addictions often adversely affect an individual's social relationships, academic or work performance, and daily functioning (Asenio et al., 2020; Kuss & Griffiths, 2017; Stockdale & Coyne, 2020; Yu et al., 2015).

SNS addiction can affect an individual's social relationships, academic or work performance, and daily functioning, like substance and non-substance use disorders classified in the DSM-V (Kuss & Griffiths, 2017; Stockdale & Coyne, 2020; Yu et al., 2015). The increasing prevalence of SNS addiction and its accompanying dysfunctional behaviors has piqued the interest of researchers because of the similarity to substance and behavioral addictions (Hormes et al., 2014). Hormes et al. (2014) stated that the defining characteristics of addiction are excessive use, withdrawal from the substance or behavior, and negative repercussions, which also appear with excessive SNS use. Withdrawal from SNSs can result in anxiety for those who have developed SNS addiction, and distress and depression may also become apparent (Andreassen & Pallensen, 2015; Kuss & Griffith, 2017; Yu et al., 2015). Preoccupation with SNSs can result in social withdrawal, a common symptom of SNS addiction (Andreassen & Pallensen, 2015; Asenio et al., 2020; Kuss & Griffiths, 2017). An example of preoccupation with SNSs and social withdrawal is that individuals suffering from SNS addiction often devote much of their time to using SNSs or finding ways to use SNSs, which negatively impacts offline relationships

(Andreassen & Pallensen, 2015; Osatuyi & Turel, 2018). Individuals suffering from SNS addiction report sleep difficulties as well (Andreassen & Pallensen, 2015).

Another common characteristic that exists among addictions is that the substances and activities that individuals become addicted to are either controlled or regulated; however, the use of SNSs is legal and accessible to almost anyone regardless of age, and it is an accepted part of everyday life (Andreassen & Pallensen, 2015; Kuss & Griffiths, 2017). People who suffer from SNS addiction describe an immediate gratification of positivity; however, the individual often becomes detached from their true feelings (Andreassen & Pallensen, 2015; Wegmann et al., 2015). The feeling of gratification is similar to what individuals who suffer from addiction experience when using substances (Asenio et al., 2020; Kuss & Griffiths, 2017; Mehus et al., 2018). Individuals often use SNSs to cope with stress or overwhelming emotions, but they begin using it for various reasons (Andreassen & Pallensen, 2015; Stockdale & Coyne, 2020).

Individuals utilize SNS for various reasons. Stockdale and Coyne (2020) conducted a study involving participants from late adolescence to emerging adulthood to examine their motivations for SNS use. Stockdale and Coyne examined the motivations for the continuous use of SNSs among the target population across 3 years. Connection, information seeking, and boredom were the three reasons for SNS use that Stockdale and Coyne used for their study. Stockdale and Coyne monitored changes in motivations for SNS use among the participants as well as behavioral and mental health outcomes, such as financial stress, anxiety, and depressive symptoms. Stockdale and Coyne discovered that boredom was prominent in adolescents but that this motivational factor decreased

over time. The use of SNSs was not common among adolescents but increased during the 3 years (Stockdale & Coyne, 2020). The use of SNS for connection with others remained stable throughout the study (Stockdale & Coyne, 2020). Stockdale and Coyne also discovered a relationship between individuals who initially used SNSs to alleviate boredom and the development of financial stress and anxiety over the 3 years. A relationship was also observed by Stockdale and Coyne with anxiety and delinquency in those participants who initially used SNSs for social connection. While this study successfully demonstrated the motivations that can lead to abuse of SNSs, it did not address the factors that might lead to SNS addiction (Stockdate & Coyne, 2020).

Although Stockdale and Coyne's (2020) study did not address the factors that might lead to SNS addiction, Wegmann et al. (2015) conducted a study that did investigate the factors that might facilitate SNS addiction. One factor that seemed to facilitate SNS addiction was to use SNSs to reduce negative feelings (Wegmann et al., 2015). Wegmann et al. observed that when an individual expects to use the internet to reduce negative feelings, the likelihood of developing SNS addiction increases. Stockdale and Coyne and Wegmann et al. wrote that using SNSs to reduce stress and other negative feelings is likely to become rehearsed. Eventually, a pattern develops in which an individual will use SNSs to avoid offline problems even though the behavior may not be as rewarding (Wegmann et al., 2015). As a result, many of the consequences that Stockdale and Coyne (2020) mention, such as financial stress and anxiety, can become apparent in individuals who engage in this behavior.

Understanding what SNS addiction is and the motivations for its use may help explain how these factors are involved with distress intolerance and SCT. For example, individuals may be attracted to the social aspect of SNSs and rely on virtual communities to alleviate distress. Developing an understanding of SNSs and the motivations for their use may help provide a clearer picture of how individuals develop SNS addiction (Stockdale & Coyne, 2020).

Emotional Dysregulation

Individuals suffering from addiction often have difficulty with emotional regulation (Osatuyi & Turel, 2018). Gratz and Roemer (2004) conceptualized emotional regulation as a process that refers to an individual's awareness and understanding of their emotions and acceptance (Gratz & Roemer, 2004). A healthy individual can control their impulsive behaviors and behave within their desired goals when facing negative emotions (Gratz & Roemer, 2004). A healthy individual can also regulate their emotional response to meet their desired goals and situational demands (Gratz & Roemer, 2004). Individuals not capable of these processes suffer from emotional dysregulation (Gratz & Roemer, 2004).

Emotional dysregulation consists of six domains: nonacceptance of emotional responses, difficulty engaging in goal-directed behavior, difficulties with impulse control, lack of emotional awareness, lack of emotional clarity, and limited access to regulatory strategies (Gratz & Roemer, 2004). Emotional dysregulation plays a vital role in addictive behavior research (Casale et al., 2016). For example, poor impulse control is a common characteristic of individuals who suffer from addiction (Akbari, 2017; Casale et

al., 2016; Howell et al., 2010). Gratz and Roemer (2004) also developed the Difficulties in Emotional Regulation Scale (DERS), which measures emotional dysregulation across the six domains.

In 2019, Liu and Ma used attachment theory and Gratz and Roemer's (2004) definition of emotional dysregulation and the DERS to examine whether emotional dysregulation mediated the relationship between SNS addiction and insecure attachment styles. They stated that emotional dysregulation has contributed to maladaptive behaviors associated with PIU, eating disorders, anxiety, and depression (Liu & Ma, 2019). Consistent with how Gratz and Roemer (2004) conceptualized emotional regulation, Liu and Ma (2019) believed that the inability to control unpleasant emotional states typically results in an individual's tendency to escape from their distress through addictive behaviors. In their study, Liu and Ma (2019) discovered that attachment anxiety could predict emotional dysregulation, and in turn, SNS addiction.

Liu and Ma (2019) were able to establish a connection between SNS addiction and emotional dysregulation in their study, The study by Hormes et al. (2014) further illustrates the involvement of emotional dysregulation and SNS addiction when they examined SNS addiction with a modified DSM-IV-TR diagnostic criteria for substance dependence. Hormes et al. (2014) stated that individuals were more susceptible to substance and non-substance abuse if they had poor emotional regulation skills. Hormes et al. (2014) focused their study on the use of the SNS Facebook. The purpose of their study was to examine symptoms related to SNS addiction based on the modified criteria to investigate core maladaptive patterns.

The participants in the study conducted by Hormes et al. (2014) consisted of undergraduate students at a Northeastern university in the United States. Hormes et al. (2014) utilized the DERS, and they discovered that individuals who had difficulty with emotional regulation tended to result in unhealthy SNS use. Experiential avoidance, lack of acceptance of emotional responses, lack of access to emotional regulation strategies, poor impulse control, and an inability to engage in goal-directed behavior were the specific areas of emotional dysregulation that participants with unhealthy SNS use had difficulty in (Hormes et al., 2014). Hormes et al. (2014) suggested that further study into SNS addiction and emotional dysregulation may help develop intervention strategies to target emotional regulation skills. Understanding its role in SNS addiction may help describe how emotional dysregulation factors influence SNS use and addiction to its use (Akbari, 2017; Casale et al., 2016; Stockdale & Coyne, 2020).

Distress Intolerance

Distress intolerance refers to a person's perception of their inability to withstand negative emotional or uncomfortable states (J. S. Simons & Gaher, 2005; Zvolensky et al., 2011). Distress intolerance also involves the behavioral act of being unable to withstand an uncomfortable or distressing state (Zvolensky et al., 2010). Individuals with poor distress tolerance are more likely to engage in maladaptive behaviors when experiencing uncomfortable or distressing states (J. S. Simons & Gaher, 2005; Zvolensky et al., 2010). An individual with low distress tolerance is also likely to engage in a maladaptive behavior if they perceive that they cannot withstand an uncomfortable state because they believe an event might cause distress (Zvolsensky et al., 2010).

It is important to note that emotional regulation and distress tolerance are not the same (J. S. Simons & Gaher, 2005; Zvolensky et al., 2010). Distress tolerance refers to the anticipation and expectation of an individual's ability to withstand a negative state, but emotional regulation refers to the act of resisting the negative state (Akbari, 2017; Zvolensky et al., 2010). Akbari (2017) writes that distress intolerance refers explicitly to the individual's belief in their inability to tolerate the negative state, their assessment that an event or situation is unacceptable, unhealthy regulation of emotions, and how much the negative state will interfere with the ability to function. One example of the difference between emotional regulation and distress intolerance is how an individual with low levels of distress tolerance may believe that a situation is unacceptable, so the individual will likely engage in an activity to reduce the distress or avoid the issue (J. S. Simons & Gaher, 2005; Zvolensky et al., 2010). An individual with emotional dysregulation may be more likely to engage in unhealthy behaviors, such as those suffering from addictions (Akbari, 2017; Simons & Gaher, 2005; Zvolensky et al., 2010).

J. S. Simons and Gaher (2005) stated that the factors of distress intolerance are tolerability and aversiveness, appraisal and acceptability, tendency to absorb and disrupt activities, and regulation of emotions. J. S. Simons and Gaher developed the DTS to measure the factors of distress intolerance and stated that an individual who reports that they cannot handle feeling upset is likely to report low levels of distress tolerance. Individuals who perceive themselves to have poor coping skills or experience shame for being distressed are likely to have a lower appraisal score. Low distress tolerance can also indicate that individuals are likely to regulate their emotions by reacting impulsively

to alleviate their distress (J. S. Simons & Gaher, 2005). Absorption refers to an individual's tendency to be consumed by the distressing emotions disrupting their functioning (J. S. Simons & Gaher, 2005).

Howell et al. (2010) examined the role of distress tolerance, anxiety sensitivity, and discomfort intolerance in coping and conformity motives for alcohol use and problems. Howell et al. recruited young adult participants within the state of Vermont. They found that anxiety sensitivity was related to conformity motives and that discomfort intolerance and anxiety sensitivity could predict alcohol use problems (Howell et al., 2010). Howell et al. also discovered a unique relationship between distress intolerance and coping motives involving alcohol, meaning that individuals with lower distress tolerance scores were more likely to use alcohol to cope with distress.

Özdel and Ekinci (2014) seemed to confirm Howell et al.'s (2010) discovery of lower distress tolerance being linked to substance dependence and coping. Özdel and Ekinci found that individuals suffering from substance dependence had lower distress tolerance, especially those suffering from depression or anxiety. Özdel and Ekinci (2014) recruited participants from residential treatment facilities in Istanbul diagnosed with substance dependence. The purpose of their study was to examine the relationship between distress tolerance levels and substance dependence features and to compare those findings with those suffering from substance dependence and a healthy control group (Özdel & Ekinci, 2014). Özdel and Ekinci (2014) also discovered that those suffering from single substance dependency and multiple substance dependencies had low distress tolerance levels, but the levels did not differ.

The study by Özdel and Ekinci (2014) concluded that a connection exists between distress intolerance and addiction. Howell et al. (2010) demonstrated a connection between low distress tolerance levels and the use of substances to cope with distress. Akbari (2017) also discovered that individuals with low distress tolerance were also more reactive to stress, and these individuals may use the internet to relieve their distress. A limitation to Akbari's (2017) study was that it did not specifically address other internet behaviors, such as SNS use, which is why distress tolerance is a variable I intend to investigate in this study.

Summary and Conclusions

The use of SNSs has become more common, and the number of SNS users continues to rise (Kuss & Griffiths, 2017). As a result, SNS addiction has become a more prominent issue, which has intrigued researchers' interest (Hormes et al., 2014). Those who suffer from SNS addiction face negative financial, social, and personal consequences (Hormes et al., 2014). Researchers have demonstrated that emotional dysregulation and distress intolerances are factors in substance and non-substance related addictions (Akbari, 2017; Kuss & Griffiths, 2017; Osatuyi & Turel, 2018; Stockdale & Coyne, 2020). Researchers have also demonstrated a link with emotional dysregulation and distress intolerance with PIU and SNS use; however, the relationship between SNS addiction, distress intolerance, and emotional dysregulation have not been involved in the same study (Akbari, 2017; Andreassen & Pallensen, 2015; Casale et al., 2016; Liu & Ma, 2019). I used the SCT to explain the results of the study. Chapter 3 discusses the sample

pool and recruitment process, study design, data collection, and statistical analysis to analyze the data.

Chapter 3: Research Methodology

The purpose of this study was to examine the facets of emotional dysregulation that may contribute to SNS addiction and the impact that the facets of distress intolerance have on SNS addiction through emotional dysregulation. In this chapter, I discuss the research design and the methodology for this study. I also discuss the possible threats to validity as well as ethical procedures.

Research Design and Rationale

This study examined the variables using a quantitative research design. When considering the research design for this study, I determined that the best method was to use cross-sectional surveys (Creswell & Creswell, 2018). This design helped answer descriptive questions and answer questions regarding the relationship between variables (Creswell & Creswell, 2018). The cross-sectional survey design seems to be ideal for examining the relationships between SNS addiction, distress intolerance, and emotional dysregulation.

I used emotional dysregulation as the independent variable (IV) in this study. The six domains of emotional dysregulation are nonacceptance of emotional responses, difficulty engaging in goal-directed behavior, difficulties with impulse control, lack of emotional awareness, lack of emotional clarity, and limited access to regulatory strategies (Gratz & Roemer, 2004). The dependent variable (DV) was SNS addiction. I also investigated whether distress intolerance mediates SNS addiction through emotional dysregulation, so the study's mediating variable was distress intolerance (Akbari, 2017). The four domains of distress intolerance (i.e., tolerance, appraisal, absorption, and

regulation) are the mediating variables in the study (Akbari, 2017; J. S. Simons & Gaher, 2005).

Time constraints are essential considerations in a study, and the data collection process tends to be quick with a cross-sectional survey design (Evans & Mathur, 2018; Wright, 2005). Resources are another vital consideration, making surveys ideal because they also tend to be more cost-effective (Evans & Mathur, 2018; Wright, 2005). Surveys can also reach large amounts of people, mainly if the survey distribution occurs online, which was my intent (Creswell & Creswell, 2018; Evans & Mathur, 2018).

Methodology

Target Population, Sample Size, and Recruitment

The target population for this study included adults with at least one active SNS account. I calculated the sample size using G*Power version 3.1.9.7. G*Power calculates the minimum sample size at a given degree of confidence (Faul et al., 2009). The G*Power software also uses the number of predictors, effect size, power level, and alpha level to determine the sample size (Faul et al., 2009).

The level of connection among variables is the effect size. A .2 effect size indicates a small level of connection, a .15 effect size is a medium connection, and a .35 effect size is a large connection (Creswell & Creswell, 2018; Fritz & McKinnon, 2007). An effect size of .15 is typical in the social sciences (Creswell & Creswell, 2018; Fritz & McKinnon, 2007), so that is the effect size I used. Researchers conducting studies in psychology often use a power level of .8 (Creswell & Creswell, 2018; Fritz & McKinnon, 2007), which is also what I used to determine sample size. The alpha level I used was .05.

The use of these values yielded a minimum sample size of 68 participants. I used Qualtrics (https://www.qualtrics.com) to assist with recruitment, participation, and distribution of the instruments.

Data Collection and Instrumentation

Demographics

The survey consisted of questions to collect demographic information. I asked participants to provide their age, gender, and the number of SNS accounts. I gave the participants the option to select whether they were within the age ranges of 18 to 20, 21 to 30, 31 to 40, or 41 years of age or over. Regarding the number of active SNS accounts, I asked participants to select whether they had 1, 2, 3, or 4 or more.

The DTS

I used the DTS to measure distress intolerance. J. S. Simons and Gaher published the DTS in 2005 after ensuring its reliability and validity. The DTS consists of 15 questions rated on a five-point Likert scale, with 1 indicating they *strongly agree*, 2 *mildly agree*, 3 *agree and disagree equally*, 4 *mildly disagree*, and 5 *strongly disagree* (J. S. Simons & Gaher, 2005). The DTS also consists of four subscales: tolerance, appraisal, absorption, and regulation (R. M. Simons et al., 2018).

J. S. Simons and Gaher (2005), who created the DTS to examine an individual's appraisal of distress, believed that distress intolerance might play an important role in substance use and that substance use is an emotion-focused coping strategy that allows quick relief of negative emotions as a result of uncomfortable situations. At the time, self-report measures did not exist to specifically address distress intolerance; instead, the self-

report measures that did exist would address experiential avoidance issues (J. S. Simons & Gaher, 2005).

Since the development of the DTS, researchers have utilized it in a variety of addiction studies. Howell et al. (2010) used the DTS to investigate its relationship to alcohol use problems in young adults. R. M. Simons et al. (2018) used the DTS to examine the relationship between distress tolerance and cognitive schemas and its influence on alcohol problems. The DTS has also been used to examine various behaviors on the internet. Akbari (2017) used the DTS to investigate distress intolerance, emotional dysregulation, and PIU.

Reliability. J. S. Simons and Gaher (2005) discovered that a four-factor model supports confirmatory factor analysis (CFA). The model was composed of the four subscales: tolerance ($\alpha = 0.72$), appraisal ($\alpha = 0.82$), absorption ($\alpha = 0.78$), and regulation ($\alpha = 0.70$; Akbari, 2010). J. S. Simons and Gaher evaluated the test–retest reliability of the DTS over a 6-month interval and found that the results were stable with an intraclass correlation of .61. You and Leung (2012) found the Cronbach's alpha for the Chinese version to be .91 for the total score, .76 for tolerance, .75 for appraisal, and .75 for regulation. You and Leung demonstrated moderate stability with the Chinese version of the DTS with correlation values of .48 for the total score, .40 for tolerance, .45 for absorption, .44 for appraisal, and .31 for regulation. Sandín et al. (2017) showed Cronbach's alpha values were similar to J. S. Simons and Gaher in the Spanish version of the DTS with .83 for tolerance, .89 for absorption, .84 for appraisal, and .83 for regulation. Sandín et al. assessed test–retest reliability after 7 months and showed

correlation values of .70 for DTS total score, .60 for tolerance, .69 for absorption, .67 for appraisal, and .48 for regulation.

Validity. J. S. Simons and Gaher (2005) used the DTS and other measures (i.e., the General Temperament Survey, Affective Lability Scale, and Negative Mood Regulation Expectancies) to demonstrate convergent, discriminant, and criterion validity. J. S. Simons and Gaher also gathered information regarding mood acceptance and typicality, lifetime alcohol and marijuana use frequency, and alcohol and marijuana use motives. The researchers found negative correlations with affective distress (r = -.59), and positive correlations with positive affectivity (r = .26). The study demonstrated positive correlations with mood regulation expectancies (r = .54) and mood acceptance (r = .47). J. S. Simons and Gaher demonstrated criterion validity by examining the relations between substance use coping, which revealed a negative correlation of -.23 for alcohol and -.20 for marijuana.

Along with the Chinese DTS, You and Leung (2012) demonstrated convergent and discriminant validity by using the Depression Anxiety Stress Scale (DASS), Emotion Reactivity Scale (ERS), and Maladaptive Impulse Behavior Scale (MIBS). The DTS showed strong correlations with the DASS subscales with a range of .43 to .52, and the ERS had a strong correlation of .53 (You & Leung, 2012). The MIBS had a weak correlation with the DTS (r = .34; You & Leung, 2012). Sandín et al. (2017) found that the Spanish version of the DTS had Symptom Assessment-45 Questionnaire (SA-45) negative correlations with symptoms of psychopathology (hostility, interpersonal sensitivity, somatization, anxiety, obsessive-compulsive, and depression). Sandín et al.

also found that the Eysenck Personality Questionnaire Revised-Abbreviated (EPQR-A) had a significant positive correlation with extraversion and the DTS subscales.

The DERS

I used the DERS to measure emotional dysregulation. The DERS was published by Gratz and Roemer in 2004. Gratz and Roemer (2004) developed the DERS because researchers used multiple measures to analyze the constructs that make up emotional regulation. The DERS provides a way to comprehensively measure emotional regulation dimensions: awareness and understanding of emotions, acceptance of emotions, engaging in goal-directed behavior, impulse control, emotional awareness, access to emotional regulation strategies, and emotional clarity (Gratz & Roemer, 2004). The DERS consists of 36 items on a five-point Likert scale as follows: 1 (*almost never*), 2 (*sometimes*), 3 (*about half the time*), 4 (*most of the time*), and 5 (*almost always*; Gratz & Roemer, 2004).

Researchers have used the DERS in a variety of studies. Fox et al. (2007) used the DERS to examine emotional regulation and impulse control among individuals undergoing cocaine abstinence. Gratz and Tull (2010) investigated the relationship between emotional dysregulation and self-harming behaviors among individuals diagnosed with substance abuse disorders by using the DERS. The study by Hormes et al. (2010) used the DERS to examine the association of emotional dysregulation and SNS addiction, making the DERS an ideal test for this study.

Reliability. Cronbach's α for internal consistency for the DERS was .93, and the item correlations ranged from .16 to .69 (Akbari, 2017; Gratz & Roemer, 2004). The Cronbach's alpha values for the DERS subscales were greater than .80 (Gratz & Roemer,

2004). Nordgren et al. (2020) examined the Swedish version of the DERS and found that the McDonald's Omega values, which they state can be thought of as weighted coefficient alpha values, ranged from .796 to .963. Reivan-Ortiz et al. (2020) examined the Spanish version of the DERS, and they found that Cronbach's alpha values ranged from .60 to .93 for each subscale. Reivan-Ortiz et al. also found that the total reliability had a Cronbach's alpha of .90.

Validity. Gratz and Roemer (2004) tested the DERS overall score and subscales against the Generalized Expectancy for Negative Mood Regulation (NMR) Scale for construct validity. They found the subscales to range from -.34 to -.69, and the correlation for the DERS overall score was -.69 (Gratz & Roemer, 2004). Nordgren et al. (2020) used the Structured Eating Disorder Interview (SEDI) and the Eating Disorder Examination Questionnaire (EDE-Q) to determine the construct validity of the DERS using CFA. They found that the bifactor model was the best fit with a comparative fit index (CFI) of .912, and root means a square error of approximation (RMSEA) of .055 (Nordgren et al., 2020).

The IAT

I used the IAT to measure SNS addiction. The purpose of the IAT is to determine the severity of an individual's internet addiction (Widyanto & McMurran, 2004; Young, 1998). I plan to ask participants to respond to the IAT items with SNS use in mind rather than general internet use.

Young published the IAT in 1998. The IAT is a self-report measure with 20-items (Akbari, 2017; Widyanto & McMurran, 2004). The participants base their response on a

five-point Likert scale in which 1 is *rarely*, 2 is *sometimes*, 3 is *often*, 4 is *very often*, and 5 is *always* (Widyanto & McMurran, 2004). The IAT produces scores that range from 0 to 100, and these scores indicate various levels of severity (Akbari, 2017). For example, 40 to 69 indicate a high rate of internet addiction, and 70 to 100 indicate a severe rate of internet addiction (Akbari, 2017).

Reliability. Widyanto and McMurran (2004) examined the psychometric properties of the IAT. Widyanto and McMurran identified six factors to use in factor analysis: salience ($\alpha = .82$), excessive use ($\alpha = .77$), neglecting work ($\alpha = .75$), anticipation ($\alpha = .61$), lack of control ($\alpha = .76$), and neglecting social life ($\alpha = .54$). Widyanto and McMurran found that each of the six factors correlated and had correlation values of .62 to .226. Jelenchick et al. (2012) examined the psychometric properties of the IAT among college students in the United States and found that Cronbach's alpha values for the factors were between .91 and .83. Tafur-Mendoza et al. (2020) conducted a study in which they examined the psychometric properties of the Spanish version of the IAT. Tafur-Mendoza et al. concluded that the Spanish IAT had satisfactory internal consistency with alpha values above .70.

Validity. Jelenchick et al. (2012) used exploratory factor analysis, and they identified dependent use and excessive use as factors they would use in their study. Jenlenchick et al. discovered that the two factors they identified accounted for 91% of the total variance, which led them to conclude that the IAT is a valid instrument. Jelencheck et al. also compared their results with previous studies, such as Widyanto and McMurran (2004), and discovered that their results showed strong similarities. Their findings and the

similarities in previous studies led Jelencheck et al. to determine that the IAT is reliable and valid. Tafur-Mendoza et al. (2020) established convergent validity by correlating the IAT scores with those Social Skills Scale and the average amount of time the participants spent on the internet. Tafur-Mendoza et al. discovered statistically significant correlations between total internet addiction score, average daily internet use, and time/control. Tafur-Mendoza et al. also found significant negative correlations between the IAT and the Social Skills Scale.

Research Questions and Hypotheses

I structured the research questions to expand upon the study by Akbari (2017). Akbari's study demonstrated the mediating role of distress tolerance and PIU through emotional dysregulation. I examined the association of emotional dysregulation (as measured by the DERS) and SNS addiction (as measured by the IAT) and also determined if distress intolerance (as measured by the DTS) is a mediating factor.

RQ1: What is the predictive relationship between emotional dysregulation and SNS addiction among adult SNS users?

$H_0$1: Emotional dysregulation does not predict SNS addiction among adult SNS users.

$H_1$1: Emotional dysregulation predicts SNS addiction among adult SNS users.

RQ2: What is the predictive relationship between distress intolerance and SNS addiction through emotional dysregulation among adult SNS users?

$H_0$2: Distress intolerance does not predict SNS addiction through emotional dysregulation among adult SNS users.

$H_1$2: Distress intolerance predicts SNS addiction through emotional dysregulation among adult SNS users.

Data Analysis Plan

I used multiple linear regression to investigate the association between these variables. Emotional dysregulation contains six domains: nonacceptance of emotional responses, difficulty engaging in goal-directed behavior, difficulties with impulse control, lack of emotional awareness, lack of emotional clarity, and limited access to regulatory strategies (Gratz & Roemer, 2004). The domains of emotional dysregulation are the independent variables (IV) in the study. The dependent variable (DV) is SNS addiction. The four domains of distress intolerance (i.e., tolerance, appraisal, absorption, and regulation) are the mediating variables in the study (Akbari, 2017; Simons & Gaher, 2005).

In 1986, Baron and Kenny proposed a method of testing for mediation using multiple regression. I used this method for this study. The method proposed by Baron and Kenny (1986) consists of four steps. The first step consists of conducting regression analysis between the IV and the DV. I needed to conduct a regression analysis of emotional dysregulation, the IV, and SNS addiction, the DV for this study. According to Baron and Kenny, the following two steps consist of regression analysis between the IV and the mediator and another regression analysis between the mediator and DV (MacKinnon et al., 2002). In other words, I had to conduct a regression analysis between emotional dysregulation (the IV) and distress intolerance (mediator). After conducting the regression analysis between the IV and mediator, I did another regression analysis

between the IV and SNS addiction (DV). The final step is a multiple regression with the IV and mediating variable predicting the DV (Baron & Kenny, 1986, MacKinnon et al., 2002). I utilized the Statistical Package for Social Science (SPSS; Version 27), for this study. SPSS is a statistical software capable of performing various functions such as linear regression, multiple regression, factorial analysis of variance, and multivariate analysis of variance (Wagner, 2016).

Threats to Validity

This study relied upon self-report measures. One issue with self-report measures is recall bias. Recall bias refers to the accuracy of an individual's memory of past events (Akbari, 2017). Recall bias can sometimes result in incorrect responses. It is also possible for participants to provide inaccurate responses because of their current emotional state or lack of self-awareness. Participants may also provide inaccurate responses because they wish to avoid presenting themselves in a manner that may be unfavorable, also known as the Hawthorne effect.

The COVID-19 pandemic is also a factor that was a consideration. For example, social distancing and quarantine may provide more opportunities for individuals to engage in SNS use. Schools and businesses often rely on the internet and SNSs to perform daily routines, which may increase daily SNS use. The effects of the COVID-19 quarantine and social distancing are issues to be mindful of when examining the data.

Ethical Procedures

The data collection did not begin until Walden University's Institutional Review Board (IRB) approved the study (07-22-21-0675620). I provided the participants with

contact information for a crisis hotline before the survey to ensure that the participants could seek help if they required it. The data was collected anonymously through Qualtrics' survey services. Qualtrics' servers undergo regular scans to ensure no vulnerabilities exist in their systems, and firewall systems protect their servers (Qualtrics, 2020). Qualtrics transmits data using Transport Layer Security (TLS) encryption, and the surveys are password protected (Qualtrics, 2020). Qualtrics possess certificates that ensure compliance with United States government security and the Health Insurance Portability and Accountability Act (HIPAA) (Qualtrics, 2020). I will maintain all raw data on a secure, password-protected device for no more than five years following the dissertation's completion (Walden University, 2021).

Summary and Conclusion

This study examined the association between emotional dysregulation and SNS addiction and determined if distress intolerance is a mediator. I used the DERS, DTS, and IAT to measure emotional dysregulation, distress intolerance, and SNS addiction. Data analysis consisted of Baron and Kenny's (1986) method for mediation analysis using SPSS (Version 27) and the Sobel Test. Data collection began upon IRB's approval of the study.

Chapter 4: Results

The purpose of the study was to examine the relationship between SNS addiction, emotional dysregulation, and distress intolerance. The literature in Chapter 2 indicates a relationship between emotional dysregulation, distress intolerance, and various addictive behaviors (Akbari, 2017; Andreassen & Pallensen, 2015; Fox et al., 2007; Gratz & Tull, 2010). Research has also shown that PIU, emotional dysregulation, and distress intolerance share a relationship; however, it was not known whether emotional dysregulation and distress intolerance share a relationship with the specific activity of SNS use. In this chapter, I describe the data collection process and discuss the analysis and results of the data.

Data Collection and Analysis

I used the IAT, DERS, and DST to gather the necessary data for this study. Qualtrics distributed an invitation to participate in the study. The data collection process occurred over one week, and a total of 212 individuals responded to the invitation to take part in the survey, which exceeded the minimum sample size of 68. Two of the respondents did not complete the survey, and the incomplete surveys were not included in the data analysis. Respondents included 47 males, 162 females, and one non-binary/third gender individual. Out of those respondents, 52.4% were 41 years of age or over, 28.3% were between the ages of 31 and 40, 16.5% were between the ages of 21 and 30, and 1.9% were between the ages of 18 and 20. I did not encounter any discrepancies in my data collection plan.

The demographic information that I collected included age, gender, and the number of active SNS accounts. I assembled and organized the collected data into an SPSS file. Table 1 reports the frequency and percentage of the sample population by gender and respondents' age range and indicates the number of active SNS accounts.

Table 1

Demographics of Population

Baseline characteristic	*n*	%
Gender		
Female	162	76.4
Male	47	22.2
Non-binary/third gender	1	0.5
Missing	2	0.9
Age		
18-20	4	1.9
21-30	35	16.5
31-40	60	28.3
41 or over	111	52.4
Missing	2	0.9
Active SNS accounts		
1	44	20.8
2	56	26.4
3	50	23.6
4 or more	60	28.3
Missing	2	0.9

Note. $N = 212$.

Results

I designed the first research question to determine the predictive relationship between emotional dysregulation and SNS addiction among adult SNS users. My hypothesis states that emotional dysregulation predicts SNS addiction among adult SNS users, whereas the null hypothesis states that emotional dysregulation does not predict

SNS addiction among adult SNS users. To answer RQ1, I conducted a paired samples *t* test to test my hypotheses.

The paired samples *t* test reveals that $t = -15.007$ with 209 degrees of freedom. The mean is equal to -0.76199 with $p < .001$, which means that emotional dysregulation predicts SNS addiction; therefore, the null hypothesis of RQ1 can be rejected. The rejection of the null hypothesis means that I could perform linear regression to determine the predictive relationship between emotional dysregulation and SNS addiction. The results of the paired samples t test I used to test the hypotheses of RQ1 are shown in Table 2.

Table 2

Paired Samples t *Test for SNS Addiction and Emotional Dysregulation*

Variable	*M*	*SD*	*SEM*	*t*	*df*	Sig. (2-tailed)
SNS addiction DERS	-0.76199	0.73580	0.05078	-15.007	209	0.000

Note. SNS = social networking site; DERS = Difficulties in Emotional Regulation Scale.

I used linear regression to examine the relationship between emotional dysregulation and SNS addiction. The results show an R-value of .727 and indicate that 27.7% of the total variation in SNS addiction can be explained by emotional dysregulation. The model is also significantly useful in explaining SNS addiction with $F(1, 208) = 79.867$, $p < .05$.

I also used linear regression to analyze the subscales of the DERS with SNS addiction. The subscales of the DERS are non-acceptance, goals, impulse, awareness, strategies, and clarity. With this model, $F(6, 203) = 19.64$ and $p < .001$. Impulse and

clarity were the only subscales with significant results ($p < .001$) using this model. This is confirmation that emotional dysregulation, impulse, and clarity significantly predict SNS addiction. Table 3 summarizes the regression analysis results of SNS addiction, emotional dysregulation, and the DERS subscales.

Table 3

Regression Analysis of SNS Addiction, DERS, and DERS Subscales

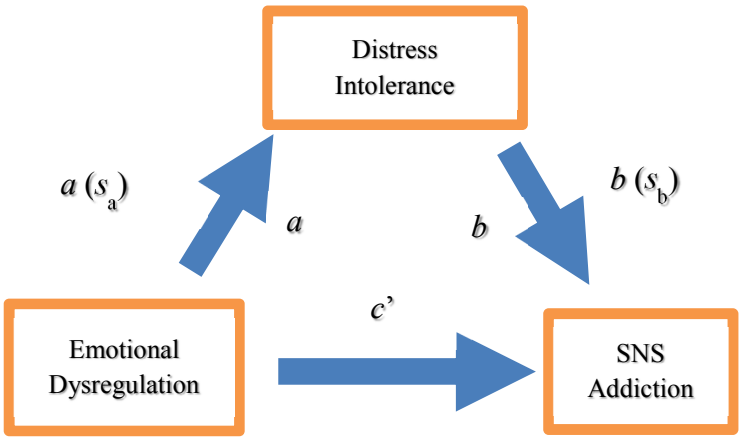
Variable	*B*	*SE*	*t*	*p*	95% CI
SNS addiction	-0.139	0.229	-0.607	0.544	[-0.591, 0.312]
DERS	0.762	0.085	8.937	0.000	[0.594, 0.930]
Non-acceptance	0.074	0.081	0.919	0.359	[-0.085, 0.233]
Goals	-0.035	0.096	-0.367	0.714	[-0.224, 0.154]
Impulse	0.464	0.101	4.593	0.000	[0.265, 0.663]
Awareness	-0.056	0.059	-0.951	0.343	[-0.173, 0.06]
Strategies	-0.058	0.125	-0.464	0.643	[-0.305, 0.189]
Clarity	0.422	0.111	3.809	0.000	[0.204, 0.641]

Note. $N = 210$; CI = confidence interval; DERS = Difficulties in Emotional Regulation Scale.

Answering RQ2, determining the predictive relationship between distress intolerance and SNS addiction through emotional dysregulation requires mediation analysis (see Figure 1).

Figure 1

Mediation Analysis Process for Emotional Dysregulation, Distress Intolerance, and SNS Addiction



Note. SNS = social networking site; *a* = linear regression pathway between emotional dysregulation and distress intolerance; *b* = multiple linear regression pathway between emotional dysregulation, distress intolerance, and SNS addiction; *c*' = direct effect of model; $a(s_a)$ = unstandardized value of *B* and standard error for pathway *a*; $b(s_b)$ = unstandardized value of *B* and standard error for pathway *b*.

The first step was to demonstrate that a predictive relationship exists between emotional dysregulation and SNS addiction. This step determines if it is possible to conduct a regression analysis to determine whether mediation analysis can be done. The predictive relationship between emotional dysregulation and SNS addiction was shown when I answered RQ1.

The second step was to conduct a linear regression between DERS and DTS. The purpose of this step is to demonstrate that a relationship exists between emotional dysregulation and distress intolerance. Linear regression between DERS and DTS

revealed an R-value of .668, and that 44.4% can be explained with this model, and that emotional dysregulation is a significant predictor of distress intolerance ($p < .001$). Results also showed that $F(1, 208) = 167.651$, $p < .001$. The linear regression results are shown in Table 4 with $\beta = .668$.

Table 4

Regression Analysis of Emotional Dysregulation and Distress Intolerance

Variable	*B*	*SE*	*t*	*p*	95% CI
DTS	0.392	0.192	2.041	0.043	[0.013, 0.770]
DERS	0.926	0.071	12.948	0.000	[0.785, 1.066]

Note. $N = 210$; CI = confidence interval; DTS = Distress Tolerance Scale; DERS = Difficulties in Emotional Regulation Scale.

The third step was a multiple regression analysis between emotional dysregulation, distress intolerance, and SNS addiction. The purpose of this step was to demonstrate the effect of the mediating variable. The multiple linear regression between the variables reveals that 28.0% of the variance can be explained with this model. The model also showed that $F(2, 207) = 40.348$, $p < .001$. Table 5 reports the multiple linear regression results and demonstrates that emotional dysregulation is the only significant predictor of SNS addiction.

Table 5

Multiple Linear Regression Between Emotional Dysregulation, Distress Intolerance, and SNS Addiction

Variable	*B*	*SE*	*t*	*p*	95% CI
SNS Addiction	-0.169	0.231	-0.732	0.465	[-0.626, 0.287]
DERS	0.691	0.115	6.023	0.000	[0.465, 0.917]
DTS	0.077	0.083	0.936	0.350	[-0.086, 0.241]

Note. $N = 210$; CI = confidence interval; DERS = Difficulties in Emotional Regulation Scale; DTS = Distress Tolerance Scale.

I utilized Sobel's Test for the last step. This step required using the unstandardized coefficients from the previous steps, *B* and the standard error, for pathways *a* and *b*. The formula for Sobel's Test is $Z = \frac{ab}{\sqrt{(b^2 s_a^2 + a^2 s_b^2)}}$. The use of Sobel's Test reveals a *Z* value of 0.925. I utilized a calculation tool developed by Preacher and Leonardelli (2021), which yielded the same results. The tool also found that $SE = 0.077$, and $p = 0.354$. These results show that distress intolerance is not a significant predictor mediating between emotional dysregulation and SNS addiction.

Summary

The results of the data analysis show that emotional dysregulation is a significant predictor of SNS addiction. Further analysis revealed that the DERS subscales, impulse and clarity, were significant predictors of SNS addiction. Multiple regression analysis revealed that the only significant predictor of SNS addiction was emotional dysregulation. Sobel's Test was used to determine that distress intolerance is not a significant predictor of SNS addiction when mediating between emotional dysregulation and SNS addiction.

Chapter 5: Discussion, Conclusions, and Recommendations

This quantitative study aimed to examine the relationship between emotional dysregulation, distress intolerance, and SNS addiction. An estimated 3.23 billion people used SNSs in 2020, and the number continues to increase (von Abrams, 2020). SNSs have become more accessible with devices such as smartphones and tablets. The enforcement of quarantine because of COVID-19 made the use of SNSs essential for the functioning of businesses and schools (Kuss & Griffiths, 2017). I intended to examine how an individual's handling and perception of stress influences their SNS use.

I conducted a linear regression analysis to determine the predictive relationship between emotional dysregulation and SNS addiction. I discovered that emotional dysregulation is a significant predictor of SNS addiction. I also discovered that impulse and clarity were significant predictors of SNS addiction when I examined the subscales of the DERS with SNS addiction. Using multiple linear regression and Sobel's Test, I concluded that distress intolerance is not a significant mediator between emotional dysregulation and SNS addiction. This chapter discusses the findings of the study, recommendations for future study, limitations, and implications for social change.

Interpretation of the Findings

Research about behaviors related to SNS use is still limited. Much of the research about behaviors on the internet refers to the general use of the internet, and studies that do investigate behaviors and SNS use do not examine its relationship with the perception of stress and the handling of stress (Akbari, 2017; Andreassen & Pallensen, 2015; Wegmann et al., 2015; Wu et al., 2013). Akbari (2017) had studied the relationship

between emotional dysregulation and distress intolerance with PIU. I intended to expand upon Akbari's research by examining the relationship between emotional dysregulation, distress intolerance, and SNS addiction.

SNS Addiction and Emotional Dysregulation

I used the IAT to measure SNS addiction and the DERS to measure emotional dysregulation. The results of the analysis showed that emotional dysregulation is a significant predictor of SNS addiction. Emotional dysregulation refers to the awareness, understanding, and acceptance of their emotions (Gratz & Roemer, 2004). Hormes et al. (2014) recruited undergraduate students at a Northeastern University and discovered that the participants with higher scores on the IAT received higher scores on the DERS.

Further analysis of the predictive relationship between emotional dysregulation and SNS addiction revealed that the DERS subscales, impulse, and clarity, significantly predict SNS addiction. The impulse subscale refers to individuals' difficulty maintaining control of their behaviors when they experience negative emotions (Gratz & Roemer, 2004). The clarity subscale refers to an individual's awareness and understanding of their emotions (Gratz & Roemer, 2004).

Impulsivity is a common trait among individuals who suffer from addiction (Asenio et al., 2020; Kuss & Griffiths, 2017; Stockdale & Coyne, 2020). Individuals suffering from addiction often have difficulty understanding their emotional state and will also act to satisfy a desire without regard for the consequences of their actions (Asenio et al., 2020; Kuss & Griffiths, 2017; Stockdale & Coyne, 2020; Wu et al., 2013; Yu et al., 2015). Research has shown that a lack of emotional clarity and impulsive

behaviors are related to addictive behaviors (Liang et al., 2021; Ottonello et al., 2019). The data from this study also demonstrate that a relationship exists between a lack of emotional clarity and impulsive behaviors regarding SNS addiction.

Bandura (1989) stated that individuals who cannot do accurate self-appraisals make mistakes in determining their self-efficacy. As a result, an individual may outperform or underperform when achieving their desired goal (Bandura, 1989; Wu et al., 2013). Bandura (1989, 2001) also stated that lower levels of self-efficacy because of inaccurate self-appraisals can lead to either indecisiveness or impulsivity. The results of this study seem to align with this theory.

Distress Intolerance as a Mediator

I used the DTS to measure distress intolerance, and I intended to determine whether distress intolerance mediated the relationship between emotional dysregulation and SNS addiction. The results I obtained indicated that emotional dysregulation continued to predict significantly ($p < .001$) SNS addiction despite controlling for distress intolerance, indicating no mediation effects. The results from the Sobel Test were that $SE = 0.077$ with $p = 0.354$, and the results must be significant ($p < .05$) to conclude that DTS is a mediating variable. These results revealed that emotional dysregulation is a significant predictor of distress intolerance but that distress intolerance does not have a significant mediating role between emotional dysregulation and SNS addiction because the Sobel Test revealed $p > .05$.

Akbari's (2017) study showed that distress intolerance mediates the relationship between emotional dysregulation and PIU. Akbari wrote that PIU is a broad term and that

the wide range of activities that individuals can participate in can result in varying psychopathologies. One reason why distress tolerance does not mediate between emotional dysregulation and SNS addiction for this study may be that it is a mediator for another specific activity of internet use rather than SNS addiction. Akbari recruited participants from the University of Tehran, and I recruited individuals within the United States for this study. The majority of the participants were 41 years of age or older.

Howell et al. (2010) recruited young adults within Vermont to study the role of distress tolerance, anxiety sensitivity, the ability to cope with the pressures of conforming, and alcohol use. Although Howell et al. discovered that lower distress tolerance scores typically result in a higher likelihood of alcohol use in young adults because of higher anxiety related to conforming with peers. Rette et al. (2021) conducted a study to investigate the relationship between trauma, demographic variables, and distress intolerance. Rette et al. found that older individuals tended to have lower scores of distress intolerance, indicating that an inverse relationship may exist between distress intolerance and age. As a result, the participants' demographic information and geographic location may have been factors in why this study's results differ from Akbari's (2017).

Limitations of the Study

One limitation to this study was self-selection bias. The invitations to participate in the study were via email, meaning that only those who had access to email could elect to participate. Sample bias is another limitation because out of the 210 respondents, 79.4% were female, and 52.4% of the respondents were also 41 years of age or older. As

a result of the sample bias, the study results cannot be broadly generalized. It also seems that age is a factor that influences other variables (Howell et al., 2010; Rette et al., 2021). Another limitation is that the Sobel Test relies on the normal distribution and significance testing (Fritz & Mackinnon, 2007). The Sobel Test can test the presence of mediation but does not provide information regarding the magnitude of the indirect effect (Fritz & Mackinnon, 2007). An additional limitation is that the participants were not screened prior to administering the questionnaires to determine the severity of their SNS addiction. Confirming whether an individual suffers from addiction may provide more insight into whether emotional dysregulation and distress intolerance are variables that influence individuals who suffer from confirmed cases of SNS addiction. Lastly, the IAT is a measure that assesses an individual's addiction to the internet, but not the specific activity of SNS use. Although the questionnaire was designed for participants to answer the items in terms of SNS use, it is possible that it did not fully capture the behaviors associated with SNS addiction.

Recommendations

The requirements for participation in this study were adults at least 18 years of age with at least one active SNS account. One recommendation is to investigate emotional dysregulation, distress intolerance, and SNS addiction across a more diverse age range. Using a different recruitment process, such as via mail, to avoid self-selection bias is another recommendation. The study might have also yielded different results if individuals with confirmed cases of SNS addiction participated. It may also be beneficial to investigate whether SNS addiction affects emotional dysregulation and distress

intolerance. The use of different measures designed to measure the behaviors associated with SNS addiction may be helpful for future studies as well.

In this study, I did not investigate the effects of SNS use on children. During the COVID-19 pandemic, SNS use became more common among children as well because it became essential for schools to function. Exposure to SNSs at a young age and the effect of SNS use at younger ages are still unknown.

Implications

SNS addiction can be detrimental to an individual's daily functioning as well as social relationships and academic or work performance (Asenio et al., 2020; Kuss & Griffiths, 2017; Stockdale & Coyne, 2020; Yu et al., 2015). This study shows that emotional dysregulation can predict SNS addiction and that this is especially true regarding impulsivity and clarity. According to Bandura (1989), overestimation of self-appraisal can increase self-efficacy and the motivation to succeed. It seems that by helping individuals understand their emotions and teaching skills to manage impulsive behaviors, an individual may have more success in dealing with SNS addiction. Although additional information is needed, this result provides a foundation that may help researchers discover interventions to improve an individual's management of impulsive behaviors and emotional understanding regarding SNS use.

Conclusion

The use of SNSs has become an everyday activity. The number of SNS users continues to increase, and technology allows easy access to SNSs (Kuss & Griffiths, 2017). SNSs represent a form of human interaction in which little research exists. The

findings of this study provide insight into identifying behaviors that may facilitate SNS addiction. The findings also illuminate areas that researchers can further investigate to understand SNSs and human behavior better to help individuals learn to use technology responsibly.

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