Risk And Protective Factors Associated With Excessive Social Media Use, Addiction, And Reduction In A Hispanic/latinx College Student Sample

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RISK AND PROTECTIVE FACTORS ASSOCIATED WITH EXCESSIVE SOCIAL MEDIA
USE, ADDICTION, AND REDUCTION IN A HISPANIC/LATINX
COLLEGE STUDENT SAMPLE

MARCOS ESTEBAN LERMA
Master’s Program in Clinical Psychology

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Dean of the Graduate School
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by

Marcos Esteban Lerma

2021
Dedication

Dedicated to my fiancé, parents, and sister.

Thank you for always loving, supporting, motivating, and believing in me.

I also dedicate this thesis to God; without you, none of my accomplishments could have been possible. Thank you for blessing me with wisdom and grace.
RISK AND PROTECTIVE FACTORS ASSOCIATED WITH EXCESSIVE SOCIAL MEDIA USE, ADDICTION, AND REDUCTION IN A HISPANIC/LATINX COLLEGE STUDENT SAMPLE

by

MARCOS ESTEBAN LERMA, B.S.

THESIS

Presented to the Faculty of the Graduate School of
The University of Texas at El Paso
in Partial Fulfillment
of the Requirements
for the Degree of

MASTER OF ARTS

Department of Psychology
THE UNIVERSITY OF TEXAS AT EL PASO
May 2021
Acknowledgements

I would like to give a special thanks to my mentor, Dr. Theodore V. Cooper. I have learned so much from you and have grown exponentially in every aspect of my life thanks to your guidance. I will always value your mentorship, but above all, I will always treasure our friendship. I would like to thank Dr. Jennifer Eno Louden, Dr. Wendy S. Francis, and Dr. Gabriel A. Fritzie. I know your time is invaluable, thank you for being a part of my thesis committee. I want to also thank Carlos Portillo, CJ Woloshchuk, Mariany Gainza Perez, Kevin Sandoval, Sandra Sierra, Jennifer De Alba, and the rest of the Patch Lab members for their help and support.

Finally, I want to say thank you to my Fiancé, Seles Avila, my parents Isidro and Mayela Lerma, and my little sister, Maresa Lerma. I love the four of you, and without you all, I would not have been able to come this far. Thank you for your endless and continuous support.
Abstract

The literature on social media as a behavioral addiction has grown considerably over the past decade. Excessive social media use and social media addiction have been associated with multiple adverse health consequences. Nevertheless, there is a paucity of research assessing potential risk and protective factors for social media use, social media addiction, failure to control one’s social media use, and motivation to reduce social media use in a Hispanic/Latinx sample. This study aimed to fill this gap in the literature by assessing potential risk and protective factors within the National Institute of Minority Health and Health Disparities Research Framework. Hispanic/Latinx college students (n = 273; 76.9% female) completed an online survey that assessed weekly social media use, social media addiction, social media self-control failure, motivation to reduce social media use acculturation, perceived microaggression, familism, fear of missing out (FoMO), impulsivity, social media craving (SMC), social prioritization, social comparison, and general social media tendencies. Univariate analyses determined independent variables to be assessed in four linear regression models. Results indicated that weekly social media use was negatively associated with biological sex, attentional impulsivity and social comparison, and positively associated with SMC, primarily using social media at work, and current use of social media use relative to use pre-COVID-19 pandemic. Social media addiction was positively associated with frequency of posting on social media in Spanish, FoMO, SMC, current use of social media relative to use pre-COVID-19 pandemic, and restriction of social media use at home. Social media self-control failure was negatively associated with acculturative language and positively associated with frequency of social media posting in English, attentional impulsiveness, SMC, and restriction of social media use at home. Motivation to reduce social media use was positively associated with country of residence.
Future directions for research include the use of prospective studies that extend current findings by including other socioecological domains or levels of influence and/or other Latinx non-college student, emerging adult groups. Clinical implications include targeting key factors such as SMC and FoMO through the use of mindfulness and cognitive behavioral-based interventions to promote healthier social media use patterns.
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Chapter 1: Introduction

Addiction is most commonly associated with substance use disorders, which are characterized by the consumption of drugs of abuse, compulsive use and drug-seeking behaviors, chemical adaptations in the brain due to prolonged exposure to the substance, tolerance, withdrawal, intrapersonal conflict, and relapse (APA.org, 2017; NIDA, 2018). However, researchers have argued that apart from traditional addiction (e.g., drug use), individuals are also prone to addiction in terms of behaviors that produce psychological or physical pleasure (Griffiths, 1996; Alavi et al., 2012). Similar to traditional addictions, behavioral addictions have been posited with the same overall criteria: salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse (Griffiths 1996; Griffiths, 2005). Research on behavioral addictions has covered a wide range of topics, including sex addiction (Griffiths, 2012; Kotera & Rhodes, 2019), pornography use (Allen et al., 2017; de Alarcón et al., 2019), gambling (Griffiths, 2003; Rash et al., 2016; Weinstock et al., 2017), video game use (Kuss et al., 2017; Bean et al. 2017) exercise (Berczik et al., 2012; Landolfi, 2013), over-eating (Davis & Carter, 2009) and social media (Andreassen, 2015; Griffiths, 2013). While social media may seem harmless it has been associated with a plethora of negative health outcomes including but not limited to higher eating disorders symptoms and concerns (Santarossa & Woodruff, 2017), increased body dissatisfaction (female-only sample; Sherlock & Wagstaff, 2019), perceived social isolation (Primack et al., 2017), poor emotional stability (Hawi & Samaha, 2019), and increased risk of self-harm (Barthorpe et al., 2020).

Social Media Use, Addiction and Health Consequences

Over the past two decades, the use of social media platforms has grown exponentially. There are an estimated 4.8 billion social media users globally (We are social, 2020). In 2005,
only 5% of adults used at least one social media platform, compared to 72% of adults in 2019 (Pew Research Center, 2019). Furthermore, Perrin (2015) reports that roughly 90% of all young adults (ages 18 to 29) are using social media; with popular social media platforms including Facebook, Instagram, Snapchat, Twitter, and Tik Tok. Facebook – the most popular social media platform globally – boasts an overwhelming number of users with 3.14 billion monthly active users and 1.79 billion active daily users (Facebook, 2020). Because of Facebook’s global reach, it is undeniable that they now rival the global influence of big tech companies such as Amazon and Apple. Naturally, the prominent rise of social media platforms and their possible addictive qualities have garnered widespread empirical attention.

Social media addiction is defined as being so excessively concerned and highly driven by the use of social media that it affects social and daily activities as well as psychological well-being (Andeassen & Pallesen, 2014; Andreassen, 2015). Although social media addiction is not recognized as a disorder by the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association (APA), 2013), there are similarities in the literature between social media use and other addictions (see Andreassen, 2015; Andreassen et al., 2014; Burnell & Kuther, 2016; Cao et al., 2018; Hormes, 2014). Nevertheless, it is important to note a critical distinction between excessive social media users and those who can be classified as being addicted to social media (Andreassen, 2015). An individual can spend an excessive amount of time on social media platforms yet still not be classified as addicted to social media, as is seen in other behavioral addictions (e.g., online gaming; Griffiths, 2010). Thus, further emphasizing the need for one to meet the six criteria of salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse to be considered addicted to social media, as proposed by Griffiths (1996).
A healthy number of studies has exclusively assessed Facebook and its correlates (e.g., Błachnio & Przepiorka, 2016; Labrague, 2014; Kross et al., 2013) – primarily because it is the pioneer of social media platforms, the most successful by far, and boasts the highest number of users. However, given the ever-evolving nature of social media, many studies have started to assess different social media platforms and social media as a whole (see Andreassen et al., 2017; Barthorpe et al., 2020; Sherlock & Wagstaff, 2019). Notably, research on social media has emphasized understanding its relation to mental health constructs.

Multiple cross-sectional studies have suggested that depressive symptoms are positively associated with increased social media use (Barthorpe et al., 2020; Lin et al., 2016; Sherlock & Wagstaff, 2019; Steers et al., 2014; Wright et al., 2013) and social media addiction (Donnelly & Kuss, 2016; Shensa et al., 2017; Wright et al., 2013). Furthermore, two meta-analyses – the first assessing ages ranging from high school to middle-aged adults and the second focusing on adolescent samples – have found small but significant effect sizes and correlations between increased social media use and depressive symptoms ($r = 0.11, p < .01; Yoon et al., 2019; r = .11, p < .01; Ivie et al., 2020, respectively). Conversely, few studies have observed no association between depression and social media use or social media addiction (Baker et al., 2016; Lerma et al., 2020), and one eight-year longitudinal study suggested that increased social media use was not associated with depressive symptoms (Coyne et al., 2020). Although there have been mixed findings noted between social media use and depression, continued exploration of this relationship is warranted.

The relationship between social media and stress is much less clear. Prior research has suggested that there is no link between social media and stress (Denq et al., 2018; Labrague, 2014) and that using Facebook may even serve as a buffer if used before being exposed to an
acute social stressor (Rus & Tiemensma, 2018). However, others have observed that the relationship between increased social media use and stress is mediated by fear of missing out (Beyens et al., 2016) or moderated by perceived offline support (Brailovskaya et al., 2019). Furthermore, social media use (Franco & Carrier, 2020) and addiction (Lerma et al., 2020) has been associated with increased stress scores in Latinx and predominantly Hispanic samples, respectively.

Similarly, studies on anxiety and social media have also demonstrated mixed results. Studies have suggested that increased social media use is associated with increased anxiety (Vannucci et al., 2017). Conversely, in a Latino only and predominantly Hispanic sample, anxiety was not associated with social media use (Franco & Carrier, 2020) or social media addiction (Lerma et al., 2020), respectively. Additionally, a longitudinal study observed no association between social media use and anxiety (Coyne et al., 2020). Research on specific social media platforms has suggested that increased Facebook use was associated with increased anxiety (Labrague, 2014; Shaw et al., 2015). However, Instagram use was not directly related to anxiety; instead, it was indicated that the relationship between Instagram use and anxiety was mediated entirely by social comparison and self-esteem (Jiang & Ngien, 2020).

Furthermore, a substantial amount of research has suggested that lower self-esteem is associated with increased social media use (Barthorpe et al., 2020; Bergagna & Tartaglia, 2018) and social media addiction (Andreassen et al., 2017; Hawi & Samaha, 2017; Santarossa & Woodruff, 2017). When assessing specific social media platforms, increased Instagram use (female only study; Sherlock & Wagstaff, 2019), Facebook use (Kalpidou et al., 2011), and Facebook addiction (Błachnio & Przepiórka, 2016) were associated with lower self-esteem;
while the number of likes an individual received on a picture posted on Facebook positively predicted their level self-esteem (Burrow & Rainone, 2017).

Research has also taken a more global approach – by considering an individual’s well-being (life-satisfaction and overall affect) as a whole – when assessing social media and mental health. Increased Facebook use and addiction have been associated with lower levels of well-being (Kross et al., 2013; Marino et al., 2018, respectively), and Stronge and colleagues (2019) observed that increased social media use is related to psychological distress. Seeing as there is a substantial amount of evidence that posits that mental health issues arise when individuals use social media at a high rate and/or when one can be considered addicted to social media, further research is needed to assess social media holistically to further understand other possible variables that may be potential risk or protective factors associated with social media use.

Similar to mental health, the relationship between substance use and social media has been of much focus. Although most of the research regarding social media and substance use has only examined alcohol, there is a healthy amount of literature assessing various other illicit substances. In adolescent samples, increased social media use has been positively associated with alcohol use (Brunborg et al., 2017; Sampasa-Kanyinga & Chaput, 2016). Furthermore, a meta-analysis on adolescents revealed small to medium correlations between social media use and substance use ($r = .43, p < .01$; Vannucci et al., 2020). College samples have shown similar relationships between social media and substance use. Social media addiction has been positively associated with hazardous drinking (Hormes et al., 2014), and increased social media use was positively associated with higher alcohol consumption, problematic alcohol use (Gutierrez & Cooper, 2016; Kaur et al., 2020; Ohannessian et al., 2017), marijuana use, vaping (flavor and nicotine; Kaur et al., 2020) and synthetic marijuana use (Gutierrez & Cooper, 2016).
Self-Control Failure of Social Media Use

While poor or dysfunctional self-control has been positively associated with Facebook addiction (Blachnio & Przepiork, 2016) and a mediator in the relationship between social media addiction and depression (Holmgren & Coyne, 2017), the individual’s social media self-control failure has received little to no attention in the literature. Social media self-control failure is proposed to be a subclinical state in which individuals fail to control their social media use even when it conflicts or delays the achievement of important goals or tasks (Du et al., 2018). Of the limited research that has been conducted, findings have suggested that being easily distracted by notifications, checking social media repeatedly, or strongly experiencing the ubiquity of social media predicted failing to control social media use (Du et al., 2019). Thus, it seems that further research is needed to assess potential risk and protective factors for social media self-control failure as this may be a critical target in the formation of prevention and intervention strategies to reduce excessive social media use and subsequent addiction.

Motivation to Reduce Social Media Use

When assessing social media use reduction, most correlational studies have solely focused on the intention to discontinue social media use (see Cao & Sun, 2018; Luqman et al., 2017; Luqman et al., 2018; Turel, 2016). Similarly, experimental studies have primarily assessed the effects of quitting social media, and findings have demonstrated mixed results. Three separate but similar week-long social media abstinence studies conducted have shown positive effects for the experimental groups in improving well-being (Tromholt, 2016), reducing perceived stress (Turel et al., 2018), and enhancing mental well-being and social connectedness while decreasing perceived fear of missing out (Brown & Kuss, 2020) relative to a control group of individuals who continued to use social media as usual. Conversely, in a week-long study
conducted by Vally and D’Souza (2019), complete abstinence from social media was observed to increase feelings of loneliness and negative affect while decreasing feelings of life satisfaction when compared to a control group of individuals who continued social media as usual. Yet, in a longer 4-week social media abstinence study researchers observed no main effect of social media abstinence on well-being (Hall et al., 2019). This inconsistency with regard to studies of social media abstinence suggest social media reduction as a more feasible goal given how its ubiquitous nature within personal, academic, and occupational daily functioning.

Three studies have assessed social media reduction interventions. First, one study assessed limiting social media use in relation to mental health. Participants were instructed to limit their Facebook, Instagram, and Snapchat use to 10 minutes per day per platform for three weeks; results indicated that the experimental group showed a statistically significant reduction in loneliness and depression relative to the control group that used social media as usual (Hunt et al., 2018). Second, Rogers and Barber (2019) aimed to reduce sleep disruption and social media use by conducting a sleep hygiene and technology education intervention; however, the researchers saw no differences post-intervention between their control and education conditions on social media use. Finally and more encouragingly, a week-long intervention aimed at reducing social media addiction, consisting of a 30-minute cognitive restructuring session, keeping a daily diary record, and using a reminder card of advantages of reducing social media and disadvantages of excessive social media as the telephone lock screen was effective in significantly reducing social media addiction scores, improving sleep quality and self-esteem in pre and post-intervention scores within the experimental group when compared to a control group. Additionally, participants reported increased learning engagement and positive emotional state during the week-long intervention period (Hou et al., 2019). While promising, participants
were of Chinese descent and follow-ups after posttest were not conducted, thus limiting
generalizability of findings and the important assessment of maintenance of treatment gains.
Further research is warranted to assess motivation to reduce social media use and potential risk
and protective factors to develop highly efficacious and tailored interventions for
Hispanic/Latinx individuals on the U.S./Mexico border.

Theoretical Background

Given the need and novelty of a comprehensive assessment of excessive social media use
in Hispanics, it is critical to do so through a theoretical framework that encompasses a
multidimensional approach. The National Institute on Minority Health and Health Disparities
Research Framework provides such a theoretical framework that emphasizes research on health
disparities within minority populations (Alvidrez et al., 2019). This framework includes five
domains of influence (biological, behavioral, physical/built environment, sociocultural
environment, and health care system) across four levels of influence (individual, interpersonal,
community, and societal). For the purpose of this study, three domains of influence
(Sociocultural Environment, Behavioral, Physical/Built Environment) across two levels of
influence (Individual, Interpersonal) were assessed to focus on social media use, social media
addiction, self-control failure of social media use, and motivation to reduce social media use.
Constructs for the sociocultural environment domain on the individual level include participant
sex, age, preferred language, level of acculturation, and perceived microaggressions, and on the
interpersonal level include family/friends’ preferred language and familism. Aside from the
dependent variables which are within the behavioral domain (the individual’s social media use
frequency, level of social media addiction, self-control failure of social media use, motivation to
reduce social media use) constructs for the behavioral domain on the individual level include, the
participant’s social media use craving, fear of missing out, and impulsivity, and on the interpersonal level include individual’s social prioritization and social comparison. Constructs for the physical/built environment domain on the individual level include the individual’s residency (U.S. vs. Mexico), primary location of social media use (work, home, school), impact of COVID-19 restrictions on social media use, and on the interpersonal level include family residence type (living with parents vs. not living with parents), and policy of social media use (work, home, school; See Figure 1).

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<th>Domain of Influence</th>
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Based on National Institute of Minority Health and Health Disparities Research Framework (Alvidrez et al., 2019).

Figure 1. Constructs within the Socioecological Framework
Sociocultural Environment Predictors

Within the sociocultural environmental domain, the majority of the literature has suggested that females are more prone to social media addiction than males (Andreassen et al., 2017; Andreassen, 2015; Chae et al., 2018; Chung et al., 2019; Cudo et al., 2020; Kircaburun et al., 2018). However, in a Hispanic sample on the U.S./Mexico border, no sex differences were observed in social media addiction (Lerma et al., in press). Additionally, being of a younger age has also been associated with increased social media use and social media addiction (Andreassen et al., 2017; Blachnio & Przepiorka 2016; Blackwell et al., 2017; Lerma et al., in press). While research on social media and its correlates has grown substantially over the past decade, research assessing Hispanic/Latinx’ social media use remains in its infancy. With an estimated 60.6 million individuals living in the United States, Hispanics are the largest ethnocultural minority (U.S. Census Bureau, 2020). The Hispanic population has also seen the largest increase in university enrollment, roughly 148%, from 2008 to 2019 (U.S. Department of Education, 2019). Furthermore, Hispanics are using social media at the same rate as other racial groups (e.g., African Americans, Caucasians; Krogstad, 2015), and there has even been a reported increase of 75.54% (from 46 hours a month to 79 hours a month) in social media use in roughly three years when comparing two similar samples on the U.S./Mexico border (Lerma et al., in press). Given these disparities and considering the potential adverse effects of excessive social media use, the assessment of social media and potential risk and protective factors to inform effective interventions for excessive social media use seems necessary in Hispanics.

Acculturation is a construct in which a minority groups’ beliefs, values, and behaviors change to reflect that of the majority racial groups’ beliefs and behaviors (Berry, 1980; Redfield et al., 1936). Acculturation has been researched extensively within the Hispanic community. Of
great interest has been the relationship between acculturation and traditional addictions (e.g., drug use). Most findings – in adolescent, young adult, and adult samples – have suggested that higher acculturation has been positively associated with increased drug use (Caetano, 1987; Kondo et al., 2016; Lui & Zamboanga, 2018; Martinez et al., 2017; Unger et al., 2014), while a couple of studies have found mixed results (Resor & Cooper, 2010) and no association (Rodríguez- Esquivel et al., 2009).

Overall, the literature suggests acculturation as a possible risk factor for negative health outcomes among Hispanics in the U.S. When assessing the potential relationship with behavioral addictions, primarily social media, acculturation is far less studied. In one study using a Chinese and Korean sample acculturative stress and social media use was explored. Findings indicated that increased Facebook use was associated with lower acculturative stress and increased well-being; thus, it was concluded that Facebook was a valuable aid in participants’ acculturation into the U.S. culture (Park et al., 2014). Only two studies have assessed the relationship between social media use and acculturation within Hispanic samples. The first had more rudimentary findings; Hispanics who reported greater use of social media in Spanish displayed more orientation towards their Hispanic culture, thus less acculturation than those who used social media in English (Li & Tsai, 2015). Of greater relevance, Franco and Carrier (2020) indicated that acculturation did not moderate the relationship between social media use and stress and found only a marginally significant moderation effect on the relationship between social media and mental health; with caution, the authors suggest that low levels of acculturation may serve as a potential protective factor in the relationship between mental health and social media use. Given these results, it seems warranted to further assess acculturation as a potential protective or
risk factor for unhealthy social media use and motivation to reduce social media use within a Hispanic/Latinx sample.

Microaggressions are unconscious, brief and covert, verbal or nonverbal, behavioral, or environmental cues or actions that are often hostile and negative towards racial minorities (Pierce et al., 1977; Sue et al., 2007). The association between microaggressions and mental and physical health in Hispanic/Latinx samples has been well recorded. Experiencing or perceiving microaggressions has been negatively associated with mental health (Hernandez Villodas, 2020), positively associated with psychological distress (Forrest-Bank & Cuellar, 2018; Lui, 2020) and increased depression symptoms (Torres & Taknint, 2015). Similar results have also been observed in an adolescent sample (Huynh, 2012). Furthermore, higher perceived microaggressions have also been positively associated with higher cortisol levels – a biological indicator of stress (Zeiders et al., 2018). However, there is no research on the possible relationship between microaggressions and social media. Because studies have suggested that individuals use social media as a way to escape or cope with daily stressors or problems (Lerma et al., in press; Marino et al., 2016); microaggressions may be a risk factor for unhealthy social media use and motivations to reduce social media use particularly within a Hispanic/Latinx sample.

Familism is a cultural value that emphasizes a strong connection and attachment to an individual’s family; and prioritizes loyalty and cohesion (Sabogal et al., 1987; Steidel & Contreras, 2003). There is a healthy amount of research on familism within the Hispanic/Latinx population, particularly in association with mental health and substance use. Across adolescent and adult samples, increased familism has been negatively associated with alcohol use (DiBello et al., 2016; Strunin et al., 2015) depressive symptoms and loneliness (Corona et al., 2017;
Cupito et al., 2016; Stein et al., 2015; Valdivieso-Mora et al., 2016; Zeiders et al., 2013), physical symptoms (sleep problems and back pain; Corona et al., 2017), internalizing symptoms and suicidal ideation (Valdivieso-Mora et al., 2016). Additionally, in an eight-year longitudinal study, mothers' familism values when their child was in early adolescence were negatively associated with the child’s depression levels when assessed as young adults (Zeiders et al., 2016). However, important to note, a recent study did find evidence suggesting that increased familial support was associated with decreased depression and anxiety, yet referent familism (abiding by familial expectations) was associated with adverse mental health outcomes (Diaz & Niño, 2019). Nevertheless, in a randomized clinical trial, a culturally adapted cognitive-behavioral treatment (CBT) was significantly more effective than standard CBT in reducing substance use at a 12-month follow-up in an adolescent Latinx sample (Burrow-Sanchez & Hops, 2019). Because it seems evident that familism serves as a protective factor within the Hispanic/Latinx community, and no studies have assessed the relationship between social media use and familism, investigating familism as a potential protective factor against unhealthy social media use and motivation to reduce social media seems warranted.

**Behavioral Predictors**

Fear of missing out (FoMO) is defined as pervasive anxiety and/or worries of missing out on pleasurable social situations, as well as a desire to continuously stay in touch with others in social circles (Przybylski et al., 2013). FoMO was originally, though briefly, mentioned in 2000 by Dan Herman in a published article over consumer brands and market strategies (Herman, 2000). However, years later, in 2004, Patrick McGinnis wrote a story for his school newspaper at Harvard school of business regarding fear of missing out on social situations and has since been regularly credited for coining the term FoMO (McGinnis, 2004). While this phenomenon grew
over the next decade, it was not until 2013 when FoMO was assessed empirically (Przybylski et al., 2013). Since then, the research on FoMO and its relation to social media has grown considerably, specifically over the past few years. Similar to social media, FoMO has also been associated with lower levels of life satisfaction (Przybylski et al., 2013), emotional well-being (Gugushvili et al., 2020; Stead & Bibby, 2017), poor sleep quality (Scott & Woods, 2018) increased symptoms of depression (Baker et al., 2016) and negative daily life and work productivity (Rozgonjuk et al., 2020). Additionally, FoMO has been positively associated with social media use (Baker et al., 2016; Blackwell et al., 2017; Reyes et al., 2018; Przybylski et al., 2013) as well as social media addiction (Blackwell et al., 2017; Fang et al., 2020; Franchina et al., 2018; Moore & Carciun, 2020; Reyes et al., 2018). In adolescent samples, studies have suggested the same positive associations between FoMO and social media use and addiction (Beyens et al., 2016; Fabris et al., 2020). Given the recent findings on the negative effect of FoMO, it seems warranted to assess its potential as a risk factor within a Hispanic/Latinx sample.

Impulsivity has commonly been associated with traditional addictions such as alcohol use (Coskunpinar et al., 2013; Dick et al., 2010), cigarette use (Mitchell, 1999), electronic cigarette use (Grant et al., 2019), and also engaging in drug abuse (Perry & Carroll, 2008). However, more recently, empirical investigations have shifted to investigate impulsivity and social media use. Results indicate that across young adult and adolescent samples, impulsivity has been positively associated with social media addiction (Burnell & Kuther, 2016; Cerniglia et al., 2019; Turel & Bechara, 2017; Wegmann et al., 2020) and has also been associated with using specific social media platforms such as Facebook and Instagram (Cudo et al., 2019; Sindermann et al., 2020, respectively). Instant messaging on social media (Levine et al., 2013) and specific features/actions on Facebook (e.g., updating status, playing games on Facebook, and attending to
notifications) have also been positively associated with impulsivity (Rothen et al., 2018). Conversely, one study suggested that there is no relationship between social media use and impulsivity (Chung et al., 2019). Although most of the literature has suggested that impulsivity is positively associated with social media addiction, all of the studies mentioned above, with the exception of Levine and colleagues (2013) and Wegmann and colleagues (2020), have assessed impulsivity as a singular facet construct. Thus, further research is needed in assessing impulsively as a multifaceted (Attentional, Motor, and Non-planning) construct as proposed by Patton and colleagues (1995) in relation to social media use as a potential risk factor, specifically within the Hispanic/Latinx community.

It has been proposed that similar to traditional addictions (e.g., substance use; Fatseas et al., 2015; Sayette, 2016; Serre et al., 2015), social media addiction is associated with strong urges to use, otherwise known as craving (Griffiths, 2013). However, there are few studies empirically assessing craving in relation to social media. Hormes (2014) found that females tend to report greater Facebook craving relative to males. In more recent studies, all three traits from the dark triad (Machiavellianism, Psychopathy, Narcissism) mediated the relationship between social media craving and online self-disclosure (Savci, 2019). Craving has also mediated the relationship between social media use and engaging in risky social media use behaviors (e.g., using social media while driving; Turel & Bechara, 2017). Lastly, in an experimental study, there was a positive relationship between pleasant responses to Facebook cues and Facebook cravings (van Koningsbruggen, 2017). Clearly, there is a paucity of research regarding social media craving, given that this is a critical part of what addiction entails, further research seems warranted.
Primarily what has been assessed regarding social media and social life is social capital, which is defined as the attainment of resources accrued through various relationships (Coleman, 1988) and the framing of interpersonal relationships as a resource (Liu et al., 2016). Both bonding (benefits from close family and friend relationships) and bridging (benefits from more loose-knit connections in broader social networks; Putnam, 2000) social capital have been positively associated with increased social media in adolescents (Antheunis et al., 2016) and college samples (Ellison et al., 2007; Johnston et al., 2013). Furthermore, a meta-analysis on the relationship between social media and social capital observed that social media and bridging and bonding capital were more robust for males than females and that social media was an effective tool to build social capital (Liu et al., 2016), thus, possibly highlighting benefits social media may provide in individuals’ social life. Conversely, no research has assessed the importance someone places on their social life (e.g., social prioritization; Lisha et al., 2016) in relation to their social media use patterns. In fact, research observing this construct is far less studied, and the few studies that have assessed social prioritization have focused on traditional addictions, mainly tobacco use among young adults (Lisha et al., 2016; Lisha et al., 2019; Stalgaitis et al., 2020). Given that social media is now so intertwined and is such an integral part of individuals’ social lives, a more nuanced approach would be to assess if social prioritization may serve as a risk factor for unhealthy social media use and motivation to reduce social media use.

Perceived social comparisons in relation to social media have been studied to a respectable extent. Primarily of focus in the literature has been the impact social comparisons on social media have on health outcomes. Across adolescent and college samples, studies have suggested that engaging in social comparison and, more specifically, upward social comparisons – comparing yourself to someone who you perceive is doing better than you are – on social
media is associated with lower self-esteem (Midgley et al., 2020; Schmuck et al., 2019), lower life satisfaction (Frison & Eggermont, 2016), and increased maternal depression (Coyne et al., 2017). Furthermore, upward social comparisons have mediated the relationship between increased Facebook use and lower self-esteem (Vogel et al., 2014). Experimental studies have shown similar results; participants who indicated holding high social comparison tendencies reported lower self-esteem and higher negative affect than those who indicated that they engaged in social comparison less frequently (Vogel et al., 2015). In another experimental study, participants who browsed their own Facebook feed reported higher depression levels than participants who browsed through a national geographic Facebook profile with social comparison moderating this relationship (Alfasi, 2019). Also, more nuanced approaches in assessing social comparisons have revealed that the number of strangers followed on Instagram moderated the relationship between Instagram use and social comparison (Lup et al., 2015) and specific features of social media platforms such as likes on Facebook and Instagram provide other avenues for social comparison and potential mental health discrepancies (Rosenthal-von der Pütten et al., 2019).

While these findings are of great use in advancing social media literature, no studies have assessed how offline social comparisons influence social media use, thus leaving a critical gap in the literature. Only two studies have had similar, albeit different aims. Steers and colleagues (2014) assessed the mediation effects of social comparison on the relationship between increased Facebook use and depression. A more recent study aimed to assess whether offline and Facebook social comparisons would be predictors of depression when evaluated simultaneously. Results showed that participants who had a higher frequency of comparing themselves offline had more negative comparison tendencies on Facebook; however, only increased offline comparisons
tendencies were associated with increased depression (Faranda & Roberts, 2019). Nonetheless, these findings are important because if offline social comparisons are already considered risk factors for adverse mental health outcomes, further negative comparisons via social media coupled with potential excessive social media use patterns may exacerbate any potential mental health discrepancies being experienced. Taken together, assessing whether offline social comparisons are a risk factor for unhealthy social media use and lacking motivation to reduce social media use in a Hispanic/Latinx sample is warranted.

**Physical/Built Environmental Predictors**

There is a paucity of research across the proposed Physical/Built Environmental constructs. Some studies have suggested that social media is associated with poor academic (Cao et al., 2018) and job (Andreassen et al., 2014) performance. However, there is no research assessing whether individuals’ preference of location when using social media or if family’s attitudes towards social media may be protective or risk factors for unhealthy social media use and motivation to reduce social media use.

Of great relevance is exploring the relationship between the COVID-19 pandemic and social media. Research suggests that social media has been primarily used as a tool for information dissemination of the novel coronavirus, although there have been multiple concerns regarding the spread of misinformation (see Depoux et al., 2020; Kouzy et al., 2020; Malecki et al., 2020; Tasnim et al., 2020). Additionally, studies have observed that adherence to containment guidelines of COVID-19 were positively associated with social media use (Cooper et al., 2020a; Cooper et al., 2020b) while having a negative relationship with social media addiction (Cooper et al., 2020b) suggesting that social media use may aid in prevention of community spread of COVID-19 via adherence, yet become less adaptive once excessive use
becomes addictive in nature. A unique approach may be to assess the impact the COVID-19 pandemic and subsequent restrictions may have in relation to social media use tendencies and motivation to reduce social media use. Though there is limited to no research regarding this topic; one study in Spain suggested there was a substantial increase in social media use and addictive tendencies that can be linked to lockdown measures emplaced by their government (Gómez-Galán et al., 2020), thus further research is necessary.

**Study Aims & Hypotheses**

The aims of this study were to identify potential protective and risk factors associated with increased social media use, social media addiction, social media self-control failure, and motivation to reduce social media use – while applying the National Institute on Minority Health and Health Disparities Research Framework – within a Hispanic/Latinx college student sample.

Hypotheses included the following: In the sociocultural environment domain of influence, H1: At the individual level of influence, being of younger age, English as the preferred language of use on social media, higher levels of acculturation and perceived microaggressions are risk factors for social media use frequency, social media addiction, social media self-control failure, and lesser motivation to reduce social media use at the individual level of influence. H2: At the interpersonal level of influence, English as Family/Friends Preferred Language to use on Social Media is a risk factor, while higher levels of familism is a protective factor for social media use frequency, social media addiction, social media self-control failure, and motivation to reduce social media use.

In the behavioral domain of influence, H3: At the individual level of influence, increased fear of missing out, impulsivity, and social media craving are risk factors for social media use frequency, social media addiction, social media self-control failure, and lesser motivation to
reduce social media use at the individual level of influence. H₄: At the interpersonal level of influence, increased social prioritization and social comparison are risk factors for social media use frequency, social media addiction, social media self-control failure, and lesser motivation to reduce social media use.

In the Physical/Built Environment Domain of influence, H₅: At the individual level of influence, living in the U.S, primarily using social media at work, and COVID-19 restrictions are risk factors for social media use frequency, social media addiction, social media self-control failure, and lesser motivation to reduce social media use at the individual level of influence. H₆: At the interpersonal level of influence, living with parents and strict social media policy use are protective factors for social media use frequency, social media addiction, social media self-control failure, and motivation to reduce social media use.
Chapter 2: Methods

Participants

Two hundred and seventy-three Hispanic/Latinx undergraduate students were recruited from a university located on the U.S./Mexico border. A power analysis was conducted to determine the number of participants needed using G*Power 3.1, a widely used statistical power analysis tool (Faul et al., 2009). The test family and statistical test within G*Power were set to F-Tests and linear multiple regression fixed model, $R^2$ deviation from zero, respectively. Power was set at .80, $\alpha = .05$ and effect size to $f^2 = .103$. The effect size was determined using unpublished data from the Prevention and Treatment in Clinical Health Lab; Pearson correlations between a proposed cultural construct, racial and ethnic microaggressions: assumption of inferiority, and weekly social media use was calculated ($r = .102$; Lerma & Cooper, 2020). Notably, a second Pearson correlation between a proposed behavioral construct, fear of missing out, and social media use was assessed from previous literature ($r = .21$; Chai et al., 2019). However, because it yielded a larger Pearson correlation than the cultural construct mentioned above – the smaller Pearson correlation was used for the power analysis to be able to detect the smallest likely/possible effect sizes. The number of predictors in G*Power was set to 33. Predictors were calculated by determining the number of independent variables across all domains and levels of influence as proposed in Figure 1. The inclusion criteria included being 18 years or older and self-reporting as being of Hispanic descent. Although participants from all ethnocultural groups were permitted to take part in the study, only Hispanic/Latinx participants’ data were analyzed for this study. There were no exclusion criteria, yet only participants who passed four attention checks at the 75% (e.g., answer “moderately true of me” to this question) level were retained for analyses.
Measures

Dependent Variables

Social Media Use Frequency (SMUF).

This 5-item scale assessed participants’ frequency of daily, weekly, and monthly social media use, as well as their frequency of social media use divided across major social media platforms (Facebook, Instagram, Snapchat, dating apps, and Tik Tok). For the purpose of this study, participants’ social media use frequency was assessed by their weekly social media use. Similar assessment of social media use frequency has been used in previous research (Gutierrez & Cooper, 2016; Lerma et al., in press; Appendix B).

The Bergen Social Media Addiction Scale (BSMAS).

The Bergen social media addiction scale (BSMAS) is a 6-item scale that assessed an individual’s level of social media addiction. Items were scored on a 5-point Likert scale ranging from 1 (Very Rarely) to 5 (Very Often). Items were summed to compute a total score; higher scores indicate greater levels of social media addiction. A monothetic scoring approach (scoring 3 or above on all three on all six items) was used to assess percentage of participants addicted to social media as suggested by Andreassen and colleagues (2012). The BSMAS was originally adapted from the Bergen Facebook Addiction Scale which has shown adequate 3-week test re-test reliability ($r = .82$) and convergent validity when correlated with the addictive tendencies scale ($r = .69$; Andreassen et al., 2012). Previously the BSMAS has demonstrated high internal consistency ($\alpha = .88$; Andreassen et al., 2017); Internal consistency for the present study was similar ($\alpha = .84$; Appendix C).

Social Media Self-Control Failure Scale (SMSCF).
The social media self-control failure scale (SMSCF) is a 3-item scale that aims to assess one’s failure to control their social media use. The SMSCF is proposed to assess everyday lower end of the continuum/subclinical problematic social media use. Items were rated using a 5-point Likert scale ranging from 1 (Almost Never) to 5 (Very Often). Items were summed, and a mean score was computed with higher scores indicating higher failure of social media self-control. The SMSCF scale has demonstrated a moderate construct validity when compared to the Bergan social media addiction scale ($r = .56$), thus further indicating evidence in assessing subclinical levels of social media addiction. Lastly, the SMSCF demonstrated adequate 4-week test re-test reliability ($r = .68$) and high internal consistency at two time points ($\alpha = .87$ and .88, respectively; Du et al., 2018) Internal consistency for the present study was high ($\alpha = .93$; Appendix D).

Motivation to Reduce Social Media Use Scale.

The motivation to stop scale is a single item validated scale that aims to assess individuals’ motivation to stop smoking. The motivation to stop scale has demonstrated validity in predicting an increase in the percentage of smokers who made quit attempts based on their level of motivation to quit (e.g., the higher a participant scores on the motivation to stop scale, the greater odds they attempted to quit smoking; Kotz et al., 2013). For the purpose of this study the motivation to stop scale was adapted to assess individuals’ motivation to reduce social media use. Participants are asked “which of the following describes you?” responses and ratings are as follows: (1) “I don’t want to reduce my social media use”; (2) “I think I should reduce my social media use but don’t really want to”; (3) “I want to reduce my social media use but haven’t thought about when”; (4) I really want to reduce my social media use but I don’t know when I will”; (5) “I want to reduce my social media use and hope to soon”; (6) “I really want to reduce
my social media use and intend to in the next 3 months”; (7) “I really want to reduce my social media use and intend to in the next month.” Higher scores indicated greater intention and desire to reduce social media use (Kotz et al., 2013; Appendix E).

Independent Variables

Sociodemographics.

This 32-item questionnaire collected typical demographic information (e.g., age, sex, education) and information related to the COVID-19 pandemic (e.g., have you ever been diagnosed with COVID-19; Appendix A).

Revised 28 item Racial and Ethnic Microaggression Scale (R28REMS).

The revised 28-item racial and ethnic microaggression scale (R28REMS) is a five-factor scale that aims to assess feelings of being a second-class citizen and assumptions of criminality, assumptions of inferiority, assumptions of similarities, microinvalidations, and media microaggressions. Items were rated on a 5-point Likert scale ranging from 0 (I did not experience this event) to 5 (I experienced this event five or more times in the past 6 months). Items within each subscale were summed, and mean scores were computed; higher scores indicated greater perceived microaggressions. Previously, the R28REMS’ subscales internal consistency ranged from respectable to high (α = .77-.92; Forest-Bank et al., 2015); internal consistency for the present study ranged from acceptable to high (α = .71-.93; Appendix F).

Short Acculturation for Scale Hispanics (SASH).

The acculturation scale for Hispanics is a 12-item three-factor scale that aims to measure participants’ acculturative preference with which participants perform certain behaviors (i.e., language usually spoken at home, preference of the ethnicity of people at social gatherings, etc.). Items were rated on a five-point Likert scale ranging from 1 (Only Spanish) to 5 (Only English).
Items within each subscale were summed with higher scores indicating greater acculturation. The acculturation scale for Hispanics subscales’ internal consistency ranged from respectable to high ($\alpha = .78-.92$; Marín et al., 1987). The internal consistency for the present study ranged from acceptable to high ($\alpha = .71-.91$; Appendix G).

*Attitudinal Familism Scale (AFS).*

The attitudinal familism scale (AFS) is an 18-item four-factor scale that aims to assess the beliefs and attitudes towards family members. The AFS contains four subscales: Familial Support, Family Interconnectedness, Family Honor, and Subjugation of Self for the Family. Items are rated on a 10-point Likert scale ranging from 1 (*Strongly Disagree*) to 10 (*Strongly Agree*). Items within each subscale were summed, and mean scores were computed; higher scores indicated stronger family-oriented beliefs and attitudes. The internal consistency for the attitudinal familism scale’s subscales ranged from slightly low to respectable ($\alpha = .67-.81$; Steidel & Contreras, 2003); internal consistency for the present study ranged from low to acceptable ($\alpha = .56-.74$; Appendix H).

*Fear of Missing Out scale (FoMOs).*

The fear of missing out scale (FoMOs) is a 10-item scale that aims to assess participants’ anxiety and/or worries of missing out on different social situations, as well as their desire to continuously stay in touch with others in their social circles. Items are scored on a 5-point Likert scale ranging from 1 (*Not true of me at all*) to 5 (*Extremely true of me*). Items were summed, and a mean score were computed; higher scores indicated a greater fear of missing out. The FoMOs has previously demonstrated high internal consistency ($\alpha = .89$; Przybylski et al., 2013); internal consistency for the present study was similar ($\alpha = .85$; Appendix I).

*The Barratt Impulsiveness Scale (BIS-11).*
The Barratt impulsiveness scale (BIS-11) is a 30-item scale that aims to assess participants’ impulsiveness. The BIS-11 contains three subscales: Attentional, Motor, and Non-planning; items are answered on a 4-point scale ranging from 1 (Rarely/Never) to 4 (Almost Always/Always) (Patton et al., 1995). Items within each subscale were summed to compute total subscale scores; higher scores indicated higher levels of impulsiveness. The BIS-11 subscales internal consistency ranged from low to respectable ($\alpha = .59-.74$; Stanford et al., 2009); internal consistencies for the present study were acceptable ($\alpha = .67-.70$; Appendix J).

**Social media craving scale (SMCS).**

The social media craving scale (SMCS) is a 5-item scale that aims to assess various facets of craving social media use (e.g., rate of intensity, frequency, and ability to resist craving). Items on the SMCS were rated on a 7-point Likert scales and were summed to compute a total score; higher scores indicated greater craving of social media use. The SMCS has demonstrated good internal consistency ($\alpha = .82$; Savci & Griffiths, 2019); internal consistency for the present study was high ($\alpha = .89$; Appendix K).

**Social Prioritization Index (SPI).**

The social prioritization index (SPI) is a 13-item scale that aims to assess the degree to which an individual places importance on their social life. Participants were asked to select phrases that best describe them (items are scored as such: 1 = more socially oriented choice, 0 = less socially oriented choice); answer true/false items (scored 1 or 0) and indicate how many times they have gone out in a week and how late they usually stay out (scored 0-3). Total scores range from 0 to 17, with greater scores indicating more importance being placed on participants’ social life. The SPI has demonstrated acceptable internal consistency ($\alpha = .68$; Lisha et al., 2016); internal consistency for the present study was acceptable ($\alpha = .65$; Appendix L).
**Social Comparison Scale.**

The social comparison scale is an 11-item scale that aims to assess self-perception of social status. Participants are instructed to make a comprehensive comparison of themselves relative to other people and rate themselves on 10-point scales. Items were summed to compute a total score; lower scores indicated self-views of inferiority, low social status, and feeling a lack of connectedness with others in society. The social comparison scale has demonstrated high internal consistency with student samples ($\alpha = .90-.91$; Allan & Gilbert, 1995); internal consistency for the present study was high ($\alpha = .90$; Appendix M).

**General Social Media Questionnaire.**

This 25-item questionnaire was created for the purpose of this study. This questionnaire collected information on a participant’s desire and motives to reduce social media use, the situations and environments that participants use social media in, if they engage in risky behaviors via social media platforms, preferred language to use on social media, and how COVID-19 has affected their social media use patterns (Appendix N).

**Procedure**

Prior to study implementation, approval was obtained by the university’s institutional review board. Participants were recruited via Sona-System, a secure web-based requirement website. Participants completed the informed consent process online via Qualtrics. Once consent was obtained, participants completed a series of questionnaires that were not connected to the consent form. After completion participants received course credit for their participation. Measures within the survey were counterbalanced to guard against order effects (Allen, 2017); measures on Qualtrics were set to randomized roughly an equal number of times across all participants.
**Approach to Analyses**

Descriptive analyses were conducted to generate participant characteristics of the sample. Prior to final multiple regression models being established, univariate analyses were conducted to assess potential correlates of social media use frequency, social media addiction, social media self-control failure, and motivation to reduce social media use. Separate univariate analyses were conducted for the four dependent variables to assess their associations with the proposed independent variables: participant sex, age, country of residence, family residence (living with parents vs. not living with parents), location of social media use (work, home, school), impact of COVID-19 restrictions on social media use, preferred language used on social media, family/friends preferred language used on social media, policy of social media use at work, home, and school, fear of missing out, social prioritization, social comparison, impulsivity, social media craving, perceived microaggressions, acculturation, and familism. Associations with a $p$ value less than 0.25 were retained for analyses; this cutoff $p$ value has previously been used in the literature as a moderately liberal value to assess possible predictors (Cooper et al., 2010; Woloshchuk et al., 2020). Because the item assessing primary location of social media was a multi-level categorical variable four separate Kruskal-Wallis H Test were preformed to determine statistical significance between the multilevel categorical variable and the four dependent variables. Associations with a $p$ value less than .25 were retained for each of the four separate multiple regression models.

Four separate multiple regression analyses were conducted with social media use frequency, social media addiction, social media self-control failure, and motivation to reduce social media use as dependent variables and the retained independent variables from their respective analyses.
Chapter 3: Results

Participants mean age was 20.57 years old ($SD = 3.46$), and 76.9% were female. Approximately, 92.3% of the sample reported living in the United States, with 85.3% of the sample still living with their parents. Participants reported using social media an average of 27.37 ($SD = 20.51$) hours per week and 116.75 ($SD = 105.03$) hours per month. 10.6% of the sample met the threshold for social media addiction as suggested by Andreassen and colleagues (2012) monothetic cut off criteria. Lastly, 72.2% participants reported an increase in social media use since the COVID-19 pandemic began (see Table 1).

Table 1. Participant Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency ($n$)/Mean ($SD$)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>20.57 (3.46)</td>
<td>18 - 39</td>
</tr>
<tr>
<td>Female</td>
<td>76.9% (210)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23.1% (63)</td>
<td></td>
</tr>
<tr>
<td>Country of residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>92.3% (252)</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>7.7% (21)</td>
<td></td>
</tr>
<tr>
<td>Family residence type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with parents</td>
<td>85.3% (233)</td>
<td></td>
</tr>
<tr>
<td>Not living with parents</td>
<td>14.7% (40)</td>
<td></td>
</tr>
<tr>
<td>Monthly social media use</td>
<td>116.75 (105.03)</td>
<td>0 - 630</td>
</tr>
<tr>
<td>Weekly social media use</td>
<td>27.37 (20.51)</td>
<td>0 - 110</td>
</tr>
<tr>
<td>BSMAS</td>
<td>15.86 (5.31)</td>
<td>6 - 29</td>
</tr>
<tr>
<td>Above addiction monothetic score</td>
<td>10.6% (29)</td>
<td></td>
</tr>
<tr>
<td>Under addiction monothetic score</td>
<td>84.9% (244)</td>
<td></td>
</tr>
<tr>
<td>SMSCFS</td>
<td>3.19 (0.97)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Motivation to reduce social media use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don't want to reduce my social media use</td>
<td>21.2% (58)</td>
<td></td>
</tr>
</tbody>
</table>
I think I should reduce my social media use, but I don't really want to 16.1% (44)

I want to reduce my social media use but haven't thought about when 17.9% (49)

I really want to reduce my social media use, but I don't know when I will 13.2% (36)

I want to reduce my social media use and hope to soon 17.2% (47)

I really want to reduce my social media use and intend to in the next 3 months 2.2% (6)

I really want to reduce my social media use and intend to in the next month 12.1% (33)

R28REMS
Second class citizen and assumption of criminality 1.10 (0.27) 1 - 3.17
Assumptions of inferiority 1.30 (0.67) 1 - 6
Assumptions of similarity 1.92 (1.04) 1 - 5.6
Microinvalidations 1.39 (0.67) 1 - 5.17
Media microaggressions 2.08 (1.06) 1 - 6

SASH
Language 3.42 (1.05) 1.2 - 5
Media 4.10 (0.84) 1 - 5
Social relations 2.36 (0.53) 1 - 4

AFS
Familial support 6.42 (1.29) 2.67 - 10
Familial interconnectedness 7.53 (1.37) 2 - 10
Familial honor 4.05 (1.34) 1 - 7.25
Subjugation of self for family 5.75 (1.88) 1 - 10

Frequency of posting on social media in English
Never 5.9% (16)
Sometimes 14.7% (40)
About half the time 14.7% (40)
Most of the time 24.2% (66)
Always 40.7% (111)
Frequency of posting on social media in Spanish

- Never: 36.3% (99)
- Sometimes: 33% (90)
- About half the time: 17.6% (48)
- Most of the time: 11.4% (31)
- Always: 1.8% (5)

Frequency of friends/family posting on social media in English

- Never: 3.3% (9)
- Sometimes: 18.7% (51)
- About half the time: 27.1% (74)
- Most of the time: 34.1% (93)
- Always: 16.8% (46)

Frequency of friends/family posting on social media in Spanish

- Never: 5.5% (15)
- Sometimes: 33.7% (92)
- About half the time: 31.1% (85)
- Most of the time: 22% (60)
- Always: 7.7% (21)

Fear of missing out: 2.15 (0.77) 1 - 4.60

BIS-11

- Attentional impulsiveness: 17.36 (3.97) 8 - 29
- Motor impulsiveness: 21.43 (4.67) 12 - 37
- Nonplanning impulsiveness: 24.11 (5) 13 - 37

Social media craving: 10.64 (6.68) 0 - 28

Social prioritization index: 5.39 (2.94) 0 - 15

Social comparison: 63.38 (17.21) 11 - 106

Primary location of social media use

- At home: 95.6% (261)
- At work: 1.5% (4)
- At school: 1.1% (3)
Current social media use relative to use pre-COVID-19 pandemic

| Increase | 72.2% (197) |
| Decrease | 10.3% (28) |
| No change | 17.6% (48) |

Restriction of social media use at home

<table>
<thead>
<tr>
<th>Extent</th>
<th>1 Not at all</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 Extremely restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>59.3% (162)</td>
<td>9.5% (26)</td>
<td>10.3% (28)</td>
<td>8.8% (24)</td>
<td>6.2% (17)</td>
<td>2.9% (8)</td>
<td>2.9% (8)</td>
</tr>
<tr>
<td>Extremely restricted</td>
<td>2% (5)</td>
<td>7% (19)</td>
<td>5% (14)</td>
<td>15.2% (41)</td>
<td>10.8% (29)</td>
<td>9.3% (25)</td>
<td>20.1% (54)</td>
</tr>
</tbody>
</table>

Restriction of social media use at school/during classes

<table>
<thead>
<tr>
<th>Extent</th>
<th>1 Not at all</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7 Extremely restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>17.2% (47)</td>
<td>6.6% (18)</td>
<td>13.6% (37)</td>
<td>18.7% (51)</td>
<td>13.2% (36)</td>
<td>10.3% (28)</td>
<td>20.5% (56)</td>
</tr>
</tbody>
</table>

Note. BSMAS = Bergen social media addiction scale; SMSCFS = Social media self-control failure scale; BIS-11 = Barratt impulsiveness scale-11; R28REMS = Revised 28-item racial
and ethnic microaggressions scale; SASH = Short acculturation scale for Hispanics; AFS = Attitudinal familism scale.

The following variables were retained as continuous variables for inferential analysis however were reported in a categorical fashion to present a more precise descriptive assessment of the data: motivation to reduce social media use, frequency of posting on social media in English, frequency of posting on social media in Spanish, frequency of friends/family posting on social media in English, frequency of friends/family posting on social media in Spanish, current social media use relative to use pre-COVID-19 pandemic restriction of social media use at the home, restriction of social media use at the workplace, restriction of social media use at school/during classes (see Table 1). Correlations of potential independent variables with the dependent variables appear in Table 2, and Kruskal-Wallis H Test results appear in Table 3.

Table 2. Correlation Matrix
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td></td>
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<tr>
<td>4</td>
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<tr>
<td>5</td>
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<tr>
<td>6</td>
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<td>9</td>
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<tr>
<td>13</td>
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<tr>
<td>14</td>
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<tr>
<td>15</td>
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<tr>
<td>16</td>
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<tr>
<td>17</td>
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<tr>
<td>18</td>
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<tr>
<td>19</td>
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<td>20</td>
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<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *Significant at p < .05.
Weekly Social Media Use

The first regression model assessing predictors of weekly social media use was statistically significant, $F(21,246) = 4.82$, $p < .001$, Adjusted $R^2 = 0.23$. The model indicated that females were using social media weekly at a statistically higher rate than their male counterparts ($B = -6.70$, $p = .02$). Additionally, increased weekly social media use was negatively associated attentional impulsiveness ($B = -0.87$, $p = .02$), and social comparison ($B = -0.20$, $p = .01$), and positively associated with social media craving ($B = 1.01$, $p < .001$), primarily using social media at work ($B = 21.50$, $p = .03$), and current use of social media use relative to use pre-COVID-19 pandemic ($B = 5.31$, $p = .004$; See Table 4).
Table 4. Linear Regression: Weekly Social Media Use

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>b</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological sex</td>
<td>-6.70</td>
<td>2.89</td>
<td>-0.14</td>
<td>-12.39</td>
<td>-1.00</td>
</tr>
<tr>
<td>Age</td>
<td>-0.27</td>
<td>0.39</td>
<td>-0.04</td>
<td>-1.05</td>
<td>0.51</td>
</tr>
<tr>
<td>SASH Social relations</td>
<td>-3.62</td>
<td>2.21</td>
<td>-0.09</td>
<td>-7.96</td>
<td>0.73</td>
</tr>
<tr>
<td>R28REMS Microinvalidations</td>
<td>1.85</td>
<td>1.76</td>
<td>0.06</td>
<td>-1.61</td>
<td>5.32</td>
</tr>
<tr>
<td>Frequency of social media posting in English</td>
<td>0.49</td>
<td>0.94</td>
<td>0.03</td>
<td>-1.35</td>
<td>2.34</td>
</tr>
<tr>
<td>AFS Familial support</td>
<td>-1.68</td>
<td>1.23</td>
<td>-0.10</td>
<td>-4.09</td>
<td>0.74</td>
</tr>
<tr>
<td>AFS Familial interconnectedness</td>
<td>-1.89</td>
<td>1.20</td>
<td>-0.13</td>
<td>-4.26</td>
<td>0.47</td>
</tr>
<tr>
<td>AFS Familial honor</td>
<td>0.13</td>
<td>1.15</td>
<td>0.01</td>
<td>-2.14</td>
<td>2.40</td>
</tr>
<tr>
<td>AFS Subjugation of self for family</td>
<td>0.77</td>
<td>0.95</td>
<td>0.07</td>
<td>-1.10</td>
<td>2.65</td>
</tr>
<tr>
<td>Fear of missing out</td>
<td>-1.74</td>
<td>1.77</td>
<td>-0.07</td>
<td>-5.22</td>
<td>1.75</td>
</tr>
<tr>
<td><strong>BIS-11 Attentional impulsiveness</strong></td>
<td><strong>-0.87</strong></td>
<td><strong>0.36</strong></td>
<td><strong>-0.17</strong></td>
<td><strong>-1.59</strong></td>
<td><strong>-0.15</strong></td>
</tr>
<tr>
<td>BIS-11 Motor impulsiveness</td>
<td>0.25</td>
<td>0.32</td>
<td>0.06</td>
<td>-0.38</td>
<td>0.89</td>
</tr>
<tr>
<td>BIS-11 Nonplanning impulsiveness</td>
<td>0.31</td>
<td>0.29</td>
<td>0.08</td>
<td>-0.25</td>
<td>0.88</td>
</tr>
<tr>
<td><strong>Social media craving</strong></td>
<td><strong>1.01</strong></td>
<td><strong>0.20</strong></td>
<td><strong>0.33</strong></td>
<td><strong>0.62</strong></td>
<td><strong>1.40</strong></td>
</tr>
<tr>
<td>Social prioritization</td>
<td>0.64</td>
<td>0.45</td>
<td>0.09</td>
<td>-0.25</td>
<td>1.54</td>
</tr>
<tr>
<td><strong>Social comparison</strong></td>
<td><strong>-0.20</strong></td>
<td><strong>0.08</strong></td>
<td><strong>-0.16</strong></td>
<td><strong>-0.34</strong></td>
<td><strong>-0.05</strong></td>
</tr>
<tr>
<td>Family residence type</td>
<td>-1.41</td>
<td>3.67</td>
<td>-0.02</td>
<td>-8.65</td>
<td>5.82</td>
</tr>
<tr>
<td><strong>Primarily using social media at work</strong></td>
<td><strong>21.50</strong></td>
<td><strong>9.76</strong></td>
<td><strong>0.13</strong></td>
<td><strong>2.27</strong></td>
<td><strong>40.73</strong></td>
</tr>
<tr>
<td>Primarily using social media at school</td>
<td>-1.40</td>
<td>10.96</td>
<td>-0.01</td>
<td>-22.98</td>
<td>20.17</td>
</tr>
<tr>
<td><strong>Current social media use relative to use pre-covid-19 pandemic</strong></td>
<td><strong>5.31</strong></td>
<td><strong>1.82</strong></td>
<td><strong>0.17</strong></td>
<td><strong>1.73</strong></td>
<td><strong>8.90</strong></td>
</tr>
<tr>
<td>Restriction of social media use at school/during classes</td>
<td>-0.32</td>
<td>0.56</td>
<td>-0.03</td>
<td>-1.42</td>
<td>0.79</td>
</tr>
</tbody>
</table>

*Note. Bold indicates p<0.05. Overall model was significant, F(21,246) = 4.82, p < .001. Adjusted R² = 0.23. BIS-11 = Barratt Impulsiveness Scale-11; R28REMS = Revised 28-item racial and ethnic microaggressions scale; SASH = Short acculturation scale for Hispanics; AFS = Attitudinal familism scale.*
Social Media Addiction

The second regression model assessing predictors of social media addiction use was statistically significant, $F_{(19,247)} = 17.27, p < .001$, Adjusted $R^2 = 0.54$. The model demonstrated that an increase in social media addiction was positively associated with frequency of posting on social media in Spanish ($B = 0.92, p < .001$), fear of missing out ($B = 0.84, p = .01$), social media craving ($B = 0.40, p < .001$), current use of social media relative to use pre-COVID-19 pandemic ($B = 1.15, p = .002$), and restriction of social media use at home ($B = 0.33, p = .03$; See Table 5).

Table 5. Linear Regression: Social Media Addiction

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>b</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological sex</td>
<td>-1.05</td>
<td>0.57</td>
<td>-0.08</td>
<td>-2.16, 0.07</td>
</tr>
<tr>
<td>Age</td>
<td>0.02</td>
<td>0.07</td>
<td>0.01</td>
<td>-0.12, 0.17</td>
</tr>
<tr>
<td>SASH Social relations</td>
<td>-0.74</td>
<td>0.44</td>
<td>-0.07</td>
<td>-1.62, 0.13</td>
</tr>
<tr>
<td>R28REMS Assumptions of inferiority</td>
<td>0.18</td>
<td>0.35</td>
<td>0.02</td>
<td>-0.50, 0.87</td>
</tr>
<tr>
<td>R28REMS Media microaggressions</td>
<td>-0.14</td>
<td>0.21</td>
<td>-0.03</td>
<td>-0.56, 0.29</td>
</tr>
<tr>
<td>Frequency of social media posting in English</td>
<td>0.40</td>
<td>0.23</td>
<td>0.10</td>
<td>-0.07, 0.86</td>
</tr>
<tr>
<td><strong>Frequency of social media posting in Spanish</strong></td>
<td><strong>0.92</strong></td>
<td><strong>0.25</strong></td>
<td><strong>0.19</strong></td>
<td><strong>0.42</strong>, <strong>1.42</strong></td>
</tr>
<tr>
<td>Frequency of friends/family on social media posting in Spanish</td>
<td>0.23</td>
<td>0.25</td>
<td>0.05</td>
<td>-0.26, 0.71</td>
</tr>
<tr>
<td><strong>Fear of missing out</strong></td>
<td><strong>0.84</strong></td>
<td><strong>0.34</strong></td>
<td><strong>0.12</strong></td>
<td><strong>0.18</strong>, <strong>1.50</strong></td>
</tr>
<tr>
<td>BIS-11 Attentional impulsiveness</td>
<td>0.07</td>
<td>0.07</td>
<td>0.05</td>
<td>-0.07, 0.21</td>
</tr>
<tr>
<td>BIS-11 Motor impulsiveness</td>
<td>0.01</td>
<td>0.06</td>
<td>0.01</td>
<td>-0.11, 0.13</td>
</tr>
<tr>
<td>BIS-11 Nonplanning impulsiveness</td>
<td>0.02</td>
<td>0.05</td>
<td>0.02</td>
<td>-0.09, 0.12</td>
</tr>
<tr>
<td><strong>Social media craving</strong></td>
<td><strong>0.40</strong></td>
<td><strong>0.04</strong></td>
<td><strong>0.51</strong></td>
<td><strong>0.32</strong>, <strong>0.48</strong></td>
</tr>
<tr>
<td>Primarily using social media at work</td>
<td>2.76</td>
<td>1.92</td>
<td>0.06</td>
<td>-1.03, 6.54</td>
</tr>
<tr>
<td>Primarily using social media at school</td>
<td>-2.60</td>
<td>2.21</td>
<td>-0.05</td>
<td>-6.94, 1.75</td>
</tr>
<tr>
<td><strong>Current social media use relative to use pre-covid-19 pandemic</strong></td>
<td><strong>1.15</strong></td>
<td><strong>0.36</strong></td>
<td><strong>0.14</strong></td>
<td><strong>0.44</strong>, <strong>1.86</strong></td>
</tr>
</tbody>
</table>
Social Media Self-Control Failure

The third regression model assessing predictors of social media self-control failure was statistically significant, $F_{(16,252)} = 12.70$, $p < .001$, Adjusted $R^2 = 0.41$. The model showed that increase in social media self-control failure was negatively associated with acculturative language ($B = -0.20$, $p = .01$), and positively associated with frequency of social media posting in English ($B = 0.11$, $p = .03$), attentional impulsiveness ($B = 0.04$, $p = .003$), social media craving ($B = 0.07$, $p < .001$), and restriction of social media use at home ($B = 0.07$, $p = .02$; See Table 6).

Table 6. Linear Regression: Social Media Self-Control Failure

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>$b$</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological sex</td>
<td>-0.05</td>
<td>0.11</td>
<td>-0.02</td>
<td>-0.27 to 0.18</td>
</tr>
<tr>
<td><strong>SASH Language</strong></td>
<td><strong>-0.20</strong></td>
<td><strong>0.08</strong></td>
<td><strong>-0.21</strong></td>
<td><strong>-0.35 to -0.04</strong></td>
</tr>
<tr>
<td>SASH Social relations</td>
<td>-0.07</td>
<td>0.09</td>
<td>-0.04</td>
<td>-0.25 to 0.10</td>
</tr>
<tr>
<td><strong>Frequency of social media posting</strong></td>
<td><strong>0.11</strong></td>
<td><strong>0.05</strong></td>
<td><strong>0.15</strong></td>
<td><strong>0.01 to 0.22</strong></td>
</tr>
<tr>
<td>in English</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of social media posting in</td>
<td>-0.03</td>
<td>0.07</td>
<td>-0.03</td>
<td>-0.16 to 0.11</td>
</tr>
<tr>
<td>Spanish</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of friends/family on</td>
<td>0.01</td>
<td>0.05</td>
<td>0.01</td>
<td>-0.10 to 0.11</td>
</tr>
<tr>
<td>social media posting in Spanish</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFS familial support</td>
<td>-0.04</td>
<td>0.04</td>
<td>-0.05</td>
<td>-0.11 to 0.03</td>
</tr>
<tr>
<td>Fear of missing out</td>
<td>0.02</td>
<td>0.07</td>
<td>0.02</td>
<td>-0.12 to 0.16</td>
</tr>
<tr>
<td><strong>BIS-11 Attentional impulsiveness</strong></td>
<td><strong>0.04</strong></td>
<td><strong>0.01</strong></td>
<td><strong>0.18</strong></td>
<td><strong>0.01 to 0.07</strong></td>
</tr>
<tr>
<td>BIS-11 Motor impulsiveness</td>
<td>-0.01</td>
<td>0.01</td>
<td>-0.04</td>
<td>-0.04 to 0.02</td>
</tr>
</tbody>
</table>
**BIS-11 Nonplanning impulsiveness** 0.02 0.01 0.10 0.00 0.04

**Social media craving** 0.07 0.01 0.47 0.05 0.09

Social prioritization 0.01 0.02 0.04 -0.02 0.05

Current social media use relative to use pre-covid-19 pandemic 0.09 0.07 0.06 -0.06 0.23

**Restriction of social media use at home** 0.07 0.03 0.12 0.01 0.12

Restriction of social media use at school/during classes -0.02 0.02 -0.04 -0.07 0.03

*Note. Bold indicates p<0.05. Overall model was significant, F(16,252) = 12.70, p < .001, Adjusted R² = 0.41. BIS-11 = Barratt impulsiveness scale-11; R28REMS = Revised 28-item racial and ethnic microaggressions scale; SASH = Short acculturation scale for Hispanics; AFS = Attitudinal familism scale.*

**Motivation to Reduce Social Media Use**

The fourth regression model assessing predictors of motivation to reduce social media use was statistically significant, F(9,260) = 2.22, p = 0.02, Adjusted R² = 0.04. The model indicated that individuals living in the United States were more motivated to reduce their social media use relative to those living in Mexico (B = 0.89, p = .05; See Table 7).

**Table 7. Linear Regression: Motivation to Reduce Social Media Use**

<table>
<thead>
<tr>
<th>B</th>
<th>Std. Error</th>
<th>b</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological sex</td>
<td>-0.47</td>
<td>0.29</td>
<td>-0.10</td>
<td>-1.04</td>
</tr>
<tr>
<td>Age</td>
<td>-0.03</td>
<td>0.04</td>
<td>-0.05</td>
<td>-0.10</td>
</tr>
<tr>
<td>R28REMS Assumptions of similarity</td>
<td>0.11</td>
<td>0.11</td>
<td>0.06</td>
<td>-0.11</td>
</tr>
<tr>
<td>Frequency of friends/family on social media posting in Spanish</td>
<td>0.12</td>
<td>0.12</td>
<td>0.06</td>
<td>-0.11</td>
</tr>
<tr>
<td>AFS familial interconnectedness</td>
<td>0.06</td>
<td>0.09</td>
<td>0.04</td>
<td>-0.11</td>
</tr>
<tr>
<td>Social media craving</td>
<td>0.03</td>
<td>0.02</td>
<td>0.09</td>
<td>-0.01</td>
</tr>
<tr>
<td>Social prioritization</td>
<td>-0.05</td>
<td>0.04</td>
<td>-0.08</td>
<td>-0.13</td>
</tr>
<tr>
<td><strong>Country of residence</strong></td>
<td><strong>0.89</strong></td>
<td><strong>0.44</strong></td>
<td><strong>0.12</strong></td>
<td><strong>0.02</strong></td>
</tr>
<tr>
<td>Restriction of social media use at home</td>
<td>0.11</td>
<td>0.07</td>
<td>0.10</td>
<td>-0.03</td>
</tr>
</tbody>
</table>
Note. **Bold** indicates $p<0.05$. Overall model was significant, $F_{(9,260)} = 2.22$, $p = 0.02$, Adjusted $R^2 = 0.04$. R28REMS = Revised 28-item racial and ethnic microaggressions scale; AFS = Attitudinal familism scale.
Chapter 4: Discussion

Weekly Social Media Use

Within the socioecological framework and the sociocultural environment domain of influence at the individual level, participants who reported being female were using social media weekly at a statistically higher rate than their male counterparts. The current finding is inconsistent with hypotheses and previous research conducted on the border regarding weekly social media use and participant sex (Lerma et al., in press). Furthermore, while female sex has been well recorded as being statistically significantly associated with social media addiction (Andreassen, 2015; Su et al., 2020), the assessment of frequency in terms of weekly social media use has been observed less frequently. Nevertheless, this finding suggests that females may be more susceptible to using social media to a disproportionate degree and may suggest unhealthy social media use. As with other addictive behaviors, assessing sex and gender differences in social media research is optimal.

Unexpectedly, in the behavioral domain of influence at the individual level, attentional impulsiveness was negatively associated with increased weekly social media use. This finding is inconsistent with the hypotheses. That social media use was inversely related to attentional impulsiveness suggests that individuals who have fewer attentional impulsive characteristics use social media at higher rates weekly. Given that attentional impulsiveness is defined as the inability to concentrate or focus (Stanford et al., 2009), it may be that those who score lower on this facet of impulsivity are able to maintain their focus longer when on social media platforms than those who are high in attentional impulsivity, thus leading the former to longer duration of usage. Alternatively, it may be these individuals are better at managing time or more efficient in their academic and occupational lives, thus affording them the ability to be on social media more
hours a week. Although frequency of social media use is a different construct altogether, it is important to note that this finding is not consistent with behavioral (Bouna-Pyrrou et al., 2018; Ioannidis et al., 2019) or traditional (Chuang et al., 2017; Coskunpinar et al., 2013) addiction literature which has consistently suggested that impulsivity is positively associated with addictive behaviors. Assessing attentional impulsiveness with more detail and/or utilizing an experimental, in vivo design may benefit future research.

Consistent with hypotheses, social media craving was positively associated with weekly social media use, suggesting that social media craving is a risk factor for increased social media use. Though there is a healthy amount of literature that presents a link between craving and behavioral (Limbrick-Oldfield et al., 2017) and traditional addictions (Serre et al., 2015), this finding adds to a dearth of research regarding craving social media and its association with frequency of use and highlights a potential target for intervention strategies to prevent unhealthy social media use.

At the interpersonal level, social comparison was negatively associated with an increase in weekly social media use. While not supporting hypotheses, this finding suggests that individuals who see themselves as inferior and of low social status are using social media at an increased rate. It may be that individuals who are using social media at a high frequency are engaging in online social comparison – which research suggests can be detrimental to one’s mental health (Sidani et al., 2020; Yang, 2018) – and then carrying those negative comparisons to in-person social interactions leading to the feelings of inadequacy and a lack of connectedness with others. However, given the cross-sectional nature of the present study, this finding may also suggest that individuals who view themselves negatively in person may be using social media to
cope with these negative feelings (Lerma et al., in press). Future prospective research is warranted to assesses the directionality of this finding.

Within the physical/built environment domain of influence at the individual level, weekly social media use was significantly higher for individuals who primarily use social media at work relative to those who use social media primarily at home. This finding is consistent with the hypotheses, suggesting that primarily using social media at work is a risk factor for increased weekly social media use. Furthermore, that weekly social media use was positively associated with primarily using social media at work and not restriction of social media use may suggest that individuals who are more readily able to use social media at work (e.g., marketing promoter, social media account administrator, working remotely or from home) relative to those who are not, are likely to use social media at an increased rate. More fine-tuned assessments of in real time social media use, such as the use of ecological momentary assessment (EMA), may enhance future studies.

Consistent with hypotheses, current social media use relative to use pre-COVID-19 was positively associated with increased weekly social media use. Our current sample reported using social media an average of 27.37 ($SD = 20.51$) hours a week, which is a 35.83% increase relative to a previous college sample from the U.S./Mexico border who reported using social media an average of 20.15 ($SD = 19.47$) hours per week pre-pandemic (Lerma et al., in press). There has been a substantial increase in Hispanic/Latinx college students’ social media use on the U.S./Mexico border during the pandemic. However, this substantial increase may be attributed to social and physical restrictions that were emplaced in efforts to prevent the spread of COVID-19. Furthermore, similar findings have also been observed in the literature, suggesting increased social media use is associated with the COVID-19 pandemic and subsequent restrictions
(Burhamah et al., 2020; Cooper et al., 2020a; Cooper et al., 2020b; Fernandes et al., 2020; Gómez-Galán et al., 2020). Assessing whether these increases in social media use persist beyond even limited restrictions is a critical avenue for future social media research and clinical practice.

**Social Media Addiction**

Inconsistent with hypotheses, in the sociocultural domain of influence at the individual level, frequency of posting on social media in Spanish was positively associated with social media addiction. That social media addiction was positively associated with posting in Spanish suggests that individuals may be attempting to maintain ties to their Hispanic culture (Li & Liu, 2017). However, these efforts may be extending to addiction, thus a risk factor for unhealthy social media use. Additionally, given that most individuals reported not posting on social media in Spanish, it may be that those who do are posting in both languages (English and Spanish), thus reaching a plethora of social circles and engaging in unhealthy social media use. Further studies are warranted to assess the role language may have in social media addiction, specifically within Hispanic/Latinx communities.

At the individual level within the behavioral domain of influence, fear of missing out was positively associated with social media addiction. This finding aligns with previous literature that has found a positive relationship between social media addiction and fear of missing out (Blackwell et al., 2017; Moore & Carciun, 2020) and is consistent with hypotheses. Furthermore, this relationship’s positive association may suggest individuals who are high on fear of missing may be using social media excessively to avoid missing out on social situations and feel connected to their social circles, to the point where use becomes addictive. Given that both fear of missing out and social media addiction have been linked to adverse mental health outcomes (Baker et al., 2016; Barry & Wong, 2020), intervention efforts aimed to reduce social media
addiction that specifically target fear of missing as a risk factor seem critical. As with weekly social media use, social media craving was positively associated with social media addiction, thus consistent with the hypotheses and previous literature, which suggests that craving is a predictor of social media addiction (Hormes et al., 2014). The current finding further indicates that social media craving is a risk factor for not only increased use but also social media addiction. Future intervention efforts should implement prevention and intervention strategies to curb social media cravings to reduce unhealthy social media use.

In the physical/built environment domain of influence at the individual level, current social media use relative to use pre-COVID-19 was positively associated with social media addiction, which is consistent with hypotheses. That social media addiction was positively associated with an increase in social media use during the COVID-19 pandemic further suggests that efforts to maintain adherence to social distancing guidelines may have not only been a risk factor for increased frequency of social media use but also social media addiction. Albeit restrictions that were emplaced due to the pandemic were intended to act as safeguards during the pandemic and reduce the spread of COVID-19, these findings suggest that they were associated as risk factors for increased social media use and subsequent addiction. Furthermore, literature has suggested that unhealthy levels of social media use have been associated with negative mental health outcomes, specifically, fear and anxiety related to COVID-19 (Geirdal et al., 2021; Lin et al., 2020); thus, promoting healthier alternatives to social media use such as engaging in physical activity may indirectly reduce adverse mental health outcomes that are associated social media addiction and the COVID-19 pandemic.

At the interpersonal level, restriction of social media use at home was positively associated with social media addiction, which is inconsistent with hypotheses. However, given
that 85.3% of the sample still live with their parents, this finding may suggest that individuals whose social media use at home is restricted by their parents may be acting rebellious towards their parents’ restrictions, thus engaging in unhealthy social media use. Substance use literature has suggested similar findings regarding rebellion and drug use (Dingle et al., 2015; Mallett et al., 2005). However, that restriction of social media use at home was positively associated with social media addiction may also suggest that family members, primarily parents, may be aware of problematic social media habits and are attempting to limit social media use when possible – as found in the adolescent literature regarding internet addiction and social media use (Ding et al., 2017; Padilla-Walker et al., 2020, respectively). Again, fine grained, prospective EMA studies may inform the assessment of these relationships.

**Social Media Self-Control Failure**

In the sociocultural environment domain of influence at the individual level, acculturative language was negatively associated with social media self-control failure. This finding is inconsistent with hypotheses. Given that our sample consisted of only participants who self-reported as Hispanic/Latinx, this finding may suggest individuals who are less acculturated in language preference (e.g., primarily communicating in Spanish) may be using social media to facilitate their acculturation process into U.S. culture (Li & Tsai, 2015) yet may be using social media in an unhealthy way. Consistent with hypotheses, social media self-control failure was positively associated with frequency of social media posting in English. Previous research has indicated that ethnocultural groups, including individuals from the Latinx community, have used social media as an instrument to enhance their learning and development of English (Anwas et al., 2020; Stewart, 2014). Thus, this finding may suggest that individuals who are more prone to speak in Spanish may be utilizing social media to post in English to aid in their development and
practice of English as a second language. That social media addiction was related to posting in Spanish and the subclinical social medial self-control failure was related to posting in English may suggest language experimentation efforts in pre-clinical excessive use and a facility posting bilingually in addiction. Future studies of both constructs and language posting need to be assessed in nuanced ways.

Within the behavioral domain of influence at the individual level, attentional impulsiveness was positively associated with increased social media self-control failure. This finding is consistent with hypotheses, suggesting that attentional impulsiveness is a risk factor of social media self-control failure. Given that individuals who are high on attentional impulsiveness are unable to focus on tasks for extended periods (Stanford et al., 2009), it seems that this facet of impulsivity may exacerbate one’s ability to self-control their social media use regardless of whether their use is conflicting with goals or responsibilities. Additionally, attentional impulsiveness has been linked to other behavioral addictions such as internet gaming disorder (Bargeron & Hormes, 2017), food addiction (Meule et al., 2017), and social media addiction (Wegmann et al., 2020). Although social media addiction was not found to be associated with attentional impulsiveness in the present study, that higher attentional impulsiveness scores were associated with social media self-control failure and lower scores were associated with increased social media use highlights that attentional impulsivity may serve as a predictor in distinguishing between excessive and unhealthy social media use. Furthermore, attentional impulsiveness may also prove to be key in the development of intervention programs aimed to reduce unhealthy social media use.

Similar to weekly social media use and social media addiction, social media craving was positively associated with social media self-control failure suggesting that craving social media
is also a predictor of an individual’s inability to exert self-control over using social media. This finding is consistent with hypotheses and emphasizes social media craving as a critical risk factor in the three proposed constructs assessing social media use tendencies (weekly social media use, social media addiction, and social media self-control failure). It is likely social media craving serves as an important target in developing an effective intervention program geared toward promoting healthy social media use.

In the physical/built environment domain of influence at the interpersonal level, restriction of social media use at home was positively associated with social media self-control failure. Although inconsistent with hypotheses because social media self-control is a subclinical state of social media addiction, it may be that, like with social media addiction, parents may notice problematic social media habits and are attempting to limit social media use when possible. The alternative suggestion may also be true here; social media self-control failure may also result from rebellion towards parents’ restrictions of social media use. Future prospective studies should assess rebellion as a risk factor for social media addiction and social media self-control failure within Hispanic/Latinx samples.

**Motivation to Reduce Social Media Use**

Within the physical/built environment domain at the individual level of influence, individuals who lived in the United States reported being more motivated to reduce their social media use relative to those who live in Mexico. This finding may suggest that individuals who live in the United States may be more aware of the science and growing awareness shared by news outlets such as NBC News (Mulqueen, 2020) and The Washington Post (Griffiths & Kuss, 2018), suggesting that excessive social media use may lead to health concerns and is a growing behavioral addiction. The current finding may also suggest that individuals who live in Mexico
who are less acculturated in terms of language and post more in Spanish are a critical target population when aiming to enhance motivation to reduce social media use. Interestingly, 62.6% of the sample reporting some level of motivation to reduce their social media use; thus, it is clear participants recognize a need to self-regulate and/or reduce their current social media use habits. Yet, considering that social media has been a beneficial tool used to stay connected with family/friends during the COVID-19 pandemic, it may be that individuals on the border are prolonging their intentions to reduce their use until after major restrictions, specifically on the U.S./Mexico border, have been lifted (e.g., the re-opening of international bridges/ports of entry), allowing easier access to friends/family that social media has otherwise been supplementing during the COVID-19 pandemic.

However, given the lack of research in this area of the social media literature, the measure used to assess this construct was adapted from a previously validated motivation to stop smoking scale; thus, it may not have adequately captured the proposed construct. It is important to note that although the overall model was significant, it only explained 4% of the variance, with only one statistically significant predictor. This observation and lack of subsequent findings may indicate that future research is warranted to more precisely measure an individual’s motivation to reduce social media. Lastly, it may also be that constructs strongly associated with excessive and unhealthy social media use are distinct from those that will be associated with the construct of motivation toward reduction. Future studies may wish to assess constructs that may promote motivation to reduce social media use, such as academic performance, mental and physical health concerns, significant relationships promoting motivation to reduce (romantic partner, friend, family), self-efficacy, and mindfulness.
Limitations & Strengths

Although the current study adds to the growing body of social media literature, several limitations must be acknowledged. The internal consistencies of two measures used were low (e.g., Attitudinal familism scale and the Barratt impulsiveness scale); nevertheless, the current study’s internal consistencies were comparable to the psychometric properties of the original studies. The cross-sectional and correlational design of the study did not allow to assess the directionality of the findings. Future prospective studies are warranted to explore the temporal relationships between the observed associations. Additionally, that a convenience sample was utilized consisting of only individuals who self-reported as Hispanic/Latinx limits the generalizability of the findings. Moreover, using a convenience sample led to a majority of the sample being female, further limiting generalizability. Additional studies should extend to non-college young adult Hispanic/Latinx samples, other Latinx ethnocultural groups, and non-Hispanic/Latinx samples to replicate and extend the current findings. Notably, the participants’ motivation to reduce social media use was assessed using an adapted measure, thus possibly not adequately capturing individual’s motivation to reduce. The development of a validated measure to more accurately assess motivation to reduce social media is warranted.

The present study’s noteworthy strengths include that the sample was comprised of Hispanic/Latinx individuals which significantly adds to the body of social media literature which has little to no research regarding this ethnocultural group. Additionally, this was the first study to apply the National Institute on Minority Health and Health Disparities Research Framework when assessing unhealthy social media use. This theoretical framework allowed the assessment of social media use patterns and motivation to reduce social media use through a multidimensional approach that identified critical risk and protective factors that may be used to
inform future research and develop effective prevention and intervention strategies for unhealthy social media use.

**Study Implications & Future Directions**

The current study highlights several research implications that should be considered in the conceptualization of future research studies regarding social media use and motivation to reduce use. First, a prospective study is warranted to assess the directionality of the present study’s findings. Additionally, given the conflicting directionality of attentional impulsiveness in relation to social media addiction and social media self-control, future studies may wish to further assess attentional impulsiveness through the first-order factor structure (e.g., attention and cognitive instability) as proposed by Patton and colleagues (1995). Ecological momentary assessment (EMA) may prove to be a more nuanced way to assess predictors of social media use within the physical/built environment domain of influence; for example, a stressful job or home environment may be a risk factor for increased use of social media. EMA may provide valuable real-time experiences (Shiffman et al., 2008), further informing future intervention strategies. Furthermore, assessing the salience of other behavioral and cultural constructs not included in the current study such as rebellion/noncompliance to parental rules, peer influence, social desirability, mindfulness, self-efficacy, whether an individual is a first- or second-generation U.S citizen, machismo and marianismo and religiosity seems warranted. Specifically, within the socioecological framework, future research regarding social media patterns and motivation to reduce social media use should extend further to assess the other domains (biological and health care system) and levels (community and societal) of influence that were beyond the scope of this study. For example, future studies may wish to assess the biological domain via cue reactivity and neuroimaging in efforts to continue to develop a strong assessment of social media addiction.
specifically within Hispanic/Latinx samples, as has been done in the addiction sciences when assessing traditional addictions (Jasinska et al., 2014; Salgado-García et al., 2013; Schacht et al., 2013) and behavioral addictions (Nasser et al., 2020; Schulte et al., 2019).

Overall, the present findings highlight key clinical implications that may be beneficial in the development and implementation of intervention and prevention programs to reduce excessive and unhealthy social media use. That social media craving was positively associated with weekly social media use, social media addiction, and social media self-control failure emphasizes social media craving as a critical mechanism of unhealthy social media use that should be targeted in intervention and prevention efforts. Ways to reduce social media craving may include cognitive-behavioral strategies such as reappraisal, which is effective in reducing food craving (Wolz et al., 2020), and assessing the short-term benefits vs. long term consequences of use which is effective in reducing food and alcohol craving (Sun & Kober, 2020; Suzuki et al., 2020, respectively). Similarly, Mindfulness-Based Interventions (MBIs), which have been found to be effective in reducing substance use cravings (Bowen et al., 2009; Chiesa & Serretti, 2014; Enkema & Bowen, 2017), may also be an effective way to reduce social media craving. Furthermore, given that MBIs emphasize that people stay in the present (Kabat-Zinn, 2003), MBIs may also prove to be effective in reducing fear of missing out, thus leading to healthier social media use patterns. Employing more behavioral-based strategies to promote healthier social media use, such as setting time limits or turning off notifications for social media applications on cellphones, may also reduce excessive and/or problematic use. Lastly, utilizing other theoretical models such as Self Determination Theory (SDT) is a possible strategy to enhance individual’s motivation to reduce their social media use, given that SDT components
have been observed as efficacious in yielding desired behavior changes such as smoking cessation (Williams et al., 2006; Williams et al., 2016) and weight loss (Silva et al., 2010).

Conclusion

The present study aimed to assess risk and protective factors associated with unhealthy social media use and motivation to reduce social media use while applying the National Institute on Minority Health and Health Disparities Research Framework in a Hispanic/Latinx student sample. Although the frequency of use reported was alarmingly high (27 hours a week), only 10.6% of the sample was categorized as being addicted to social media according to Andreassen and colleagues’ (2012) monothetic criteria. Additionally, constructs such as attentional impulsiveness, fear of missing out, and social media craving were found to be associated with excessive and unhealthy social media use. Notably, social media use increased significantly during the COVID-19 pandemic, which may suggest that social restrictions emplaced may also be risk factors for excessive and unhealthy social media use. Future research is needed to further assess individuals’ motivation to reduce unhealthy social media use; however, mindfulness and cognitive behavioral-based interventions and the promotion of healthy alternatives to excessive and unhealthy social media use (e.g., exercise and physical activity) seem warranted.
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Appendix

A. Sociodemographics

1. What is your biological sex?
   - Male
   - Female
   - Intersex

2. What is your gender?
   - Man
   - Woman
   - Transgender
   - Gender Fluid
   - Non-Binary
   - Other (please specify):

3. What is your age?

4. What is your height (in inches)?  (e.g., 5ft = 60 inches)

5. How much do you currently weigh in pounds (lbs)?

6. What is your race/ethnicity?
   - Asian or Pacific Islander
   - White/Caucasian
   - Black/African American
   - American Indian/Native American or Alaska Native
   - Hispanic/LatinX
   - Native Hawaiian
   - Other (please specify):

7. What is your household income?
   - Less than $10,000
   - $10,000 - $19,999
   - $20,000 - $29,999
   - $30,000 - $39,999
   - $40,000 - $49,999
   - $50,000 - $59,999
   - $60,000 - $69,999
   - $70,000 - $79,999
   - $80,000 - $89,999
8. How many people live in your current household?

9. My household consists of: (Select all that apply)
   - Great grandparents
   - Grandparents
   - Mother or father
   - Siblings
   - Mother or father in-law
   - Brother or sister in-laws
   - Daughter or son
   - Cousins
   - Niece or nephew
   - Grandchildren
   - God children
   - Uncles or aunts
   - Son or daughter in-laws
   - Guardian
   - Stepparents
   - Step Siblings

10. Do you speak more than one language?
    - Yes
    - No

11. What was the first language you spoke?
    - English
    - Spanish
    - Other (Please specify)

12. Do you still live at home or with your parent(s) or legal guardian(s)?
    - Yes
    - No

13. What is the highest level of education obtained by your father?
    - Less than high school
    - High School Diploma
    - Some College
    - 2 Year College
    - 4 Year College
14. What is the highest level of education obtained by your mother?
   - Less than high school
   - High School
   - Some College
   - 2 Year College
   - 4 Year College
   - Graduate School

15. What is the primary language spoken at home?
   - English
   - Spanish
   - Other, please specify

16. Are you a veteran or have you ever been in military active duty?
   - Yes
   - No

17. What is your sexual orientation?
   - Heterosexual
   - Bisexual
   - Gay
   - Lesbian
   - Asexual
   - Pansexual

18. What describes your current romantic relationship?
   - Single
   - Dating
   - In a Committed relationship
   - Engaged
   - Married
   - Open-Relationship
   - Other, please specify:

19. How long have you been in this relationship for? (In Months)

20. Have you ever received Mental Health Services?
   - Yes
   - No
21. If yes, what conditions were you treated for?
   - Substance Abuse
   - Depression
   - Anxiety
   - Post-Traumatic Stress Disorder
   - Schizophrenia
   - Other, please specify:

22. Are you currently employed?
   - Employed full time
   - Employed part time
   - Unemployed looking for work
   - Unemployed not looking for work

23. What is your current GPA (on a 4.0 scale)

24. What country do you live in?
   - United States
   - Mexico

25. Have you ever been diagnosed with COVID-19?
   - No
   - Yes

26. Are you presently diagnosed with COVID-19?
   - No
   - Yes

27. Have you suspected that you might have COVID-19 but were not able to get tested?
   - No
   - Yes

28. Have any of your loved ones been diagnosed with COVID-19 or suspected they have it?
   - No
   - Yes

29. Do you know of anyone in the city you reside in who has been confirmed to have COVID-19?
   - No
   - Yes
30. What best describes the impact that the COVID-19 pandemic has had on your romantic relationship?
   - Extremely positive
   - Moderately positive
   - Slightly positive
   - Neither positive nor negative
   - Slightly negative
   - Moderately negative
   - Extremely negative

31. What best describes the impact that the COVID-19 pandemic has had on your mental health?
   - Extremely positive
   - Moderately positive
   - Slightly positive
   - Neither positive nor negative
   - Slightly negative
   - Moderately negative
   - Extremely negative

32. What best describes the impact that the COVID-19 pandemic has had on your physical health?
   - Extremely positive
   - Moderately positive
   - Slightly positive
   - Neither positive nor negative
   - Slightly negative
   - Moderately negative
   - Extremely negative
B. Social Media Use Frequency

1. How often did you use social media (e.g., Facebook, Twitter, Instagram, snapchat, etc.) during the last month?
   - I did not at all.
   - About once a month.
   - Two to three times a month.
   - Once or twice a week.
   - Three to four times a week.
   - Nearly every day.
   - Once a day or more.

2. Typically in a day, how many hours do you spend on social media sites?
   ___ Hours ___ Minutes

3. Typically in a week, how many hours do you spend on social media sites?
   ___ Hours ___ Minutes

4. Typically in a month, how many hours do you spend on social media sites?
   ___ Hours ___ Minutes

5. Thinking of how many hours, you typically spend on social media in a day (total must sum to 100. What percentage of those hours would you say you spend on:
   Facebook daily?
   Instagram daily?
   Twitter daily?
   Snapchat daily?
   A dating app (e.g., Tinder, Bumble, etc.) daily?
   Tik Tok daily?
   Other (please specify)?
   I do not use social media (enter 100 here)?
C. The Bergen Social Media Addiction Scale

Each item is scored on a 5-point scale: 1: Very rarely, 2: Rarely, 3: Sometimes, 4: Often, 5: Very often. Higher scores indicate greater social media addiction

1. How often during the last year have you spent a lot of time thinking about social media or planned use of social media?
2. How often during the last year have you felt an urge to use social media more and more?
3. How often during the last year have you used social media in order to forget about personal problems?
4. How often during the last year have you tried to cut down on the use of social media without success?
5. How often during the last year have you become restless or troubled if you have been prohibited from using social media?
6. How often during the last year have you used social media so much that it has had a negative impact on your job/studies?
D. Social Media Self-Control Failure Scale

items rated on a 5-point scale (1 = almost never, 2 = rarely, 3 = sometimes, 4 = often, 5 = very often)

1. How often do you give in to a desire to use social media even though your social media use at that particular moment conflicts with other goals (for example: doing things for school/study/work or other tasks)?

2. How often do you give in to a desire to use social media even though your social media use at that particular moment makes you use your time less efficiently?

3. How often do you give in to a desire to use social media even though your social media use at that particular moment makes you delay other things you want or need to do?
E. Motivation to Reduce Social Media Use Scale

1. Which of the following describes you?
   - I don’t want to reduce my social media use
   - I think I should reduce my social media use but don’t really want to
   - I want to reduce my social media use but haven’t thought about when
   - I really want to reduce my social media use but I don’t know when I will
   - I want to reduce my social media use and hope to soon
   - I really want to reduce my social media use and intend to in the next 3 months
   - I really want to reduce my social media use and intend to in the next month
F. Revised 28 Item Racial and Ethnic Microaggression Scale

Think about your experiences with race. Please read each item and think of how many times this event has happened to you in the PAST SIX MONTHS.

Rating is as follows: 0 = I did not experience this event, 1 = I experienced this event one time in the past 6 months, 2 = I experienced this event two times in the past 6 months, 3 = I experienced this event three times in the past 6 months, 4 = I experienced this event four times in the past 6 months, 5 = I experienced this event five or more times in the past 6 months

1. “I was ignored at school or at work because of my race”
2. “Someone’s body language showed they were scared of me because of my race”
3. “Someone avoided walking near me on the street because of my race”
4. “Someone avoided sitting next to me in a public space (e.g., restaurants, movie theaters, subways, buses) because of my race”
5. “Someone clenched her/his purse or wallet upon seeing me because of my race”
6. “Someone avoided eye contact with me because of my race”
7. “Someone assumed that I would not be intelligent because of my race”
8. “Someone acted surprised at my scholastic or professional success because of my race”
9. “Someone assumed that I would not be educated because of my race”
10. “Someone told me that I was ‘articulate’ after she/he assumed I wouldn’t be”
11. “Someone assumed that I would have a lower education because of my race”
12. “Someone assumed that I held a lower-paying job because of my race”
13. “Someone assumed that I was poor because of my race”
14. “Someone assumed that I spoke a language other than English”
15. “Someone asked me to teach them words in my ‘native language’”
16. “Someone assumed that I ate foods associated with my race/culture every day”
17. “Someone told me that all people in my racial group look alike”
18. “Someone assumed that I speak similar languages to other people in my race”
19. “I was told that I should not complain about race”
20. “Someone told me that she or he was colorblind”
21. “I was told that I complain about race too much”
22. “Someone told me that they ‘don’t see color’”
23. “Someone told me that they don’t see race”
24. “Someone told me that people should not think about race anymore”
25. “I observed people of my race portrayed positively on television”

(1) Answer “I experienced this event one time in the past 6 months” to this question

26. “I observed people of my race portrayed positively in magazines”
27. “I read popular books or magazines in which a majority of contributions featured people from my racial group”
28. “I observed people of my race portrayed positively in movies”
G. Short Acculturation Scale for Hispanics

Please circle one response for each question.

1. In general, what language(s) do you read and speak?
   - Only Spanish
   - More Spanish than English
   - Both equally
   - More English than Spanish
   - Only English

2. What was the language(s) you used as a child?
   - Only Spanish
   - More Spanish than English
   - Both equally
   - More English than Spanish
   - Only English

3. What language(s) do you usually speak at home?
   - Only Spanish
   - More Spanish than English
   - Both equally
   - More English than Spanish
   - Only English

4. In which language(s) do you usually think?
   - Only Spanish
   - More Spanish than English
   - Both equally
   - More English than Spanish
   - Only English

5. What language(s) do you usually speak with your friends?
   - Only Spanish
   - More Spanish than English
   - Both equally
   - More English than Spanish
   - Only English

6. In what language(s) are the T.V. programs you usually watch?
   - Only Spanish
   - More Spanish than English
   - Both equally
   - More English than Spanish
   - Only English
7. In what language(s) are the radio programs you usually listen to?
   - Only Spanish
   - More Spanish than English
   - Both equally
   - More English than Spanish
   - Only English

8. In general, what language(s) are the movies, T.V. and radio programs you prefer to watch and listen to?
   - Only Spanish
   - More Spanish than English
   - Both equally
   - More English than Spanish
   - Only English

9. Your close friends are
   - All Hispanic
   - More Hispanic than Non-Hispanic than Non-Hispanic
   - About half and half
   - More Non-Hispanic than Hispanic
   - All Non-Hispanic

10. You prefer going to social gatherings/parties at which people are
    - All Hispanic
    - More Hispanic than Non-Hispanic than Non-Hispanic
    - About half and half
    - More Non-Hispanic than Hispanic
    - All Non-Hispanic

11. The persons you visit or who visit you are
    - All Hispanic
    - More Hispanic than Non-Hispanic than Non-Hispanic
    - About half and half
    - More Non-Hispanic than Hispanic
    - All Non-Hispanic

12. If you could choose your children’s friends you would want them to be
    - All Hispanic
    - More Hispanic than Non-Hispanic than Non-Hispanic
    - About half and half
    - More Non-Hispanic than Hispanic
    - All Non-Hispanic
H. Attitudinal Familism Scale

**Scoring:** Strongly disagree (1) to Strongly agree (10)

1. Children should always help their parents with the support of younger brothers and sisters, for example, help them with homework, help the parents take care of the children, and so forth.
2. The family should control the behavior of children younger than 18.
3. A person should cherish the time spent with his or her relatives.
4. A person should live near his or her parents and spend time with them on a regular basis.
5. A person should always support members of the extended family, for example, aunts, uncles, and in-laws, if they are in need even if it is a big sacrifice.
6. A person should rely on his or her family if the need arises.
7. A person should feel ashamed if something he or she does dishonors the family name.
8. Children should help out around the house without expecting an allowance.
9. Parents and grandparents should be treated with great respect regardless of their differences in views.
10. A person should often do activities with his or her immediate and extended families, for example, eat meals, play games, or go somewhere together.
11. Aging parents should live with their relatives.
12. A person should always be expected to defend his/her family’s honor no matter what the cost.
13. Children younger than 18 should give almost all their earnings to their parents.
14. Children should live with their parents until they get married.
15. Children should obey their parents without question even if they believe they are wrong.
16. A person should help his or her elderly parents in times of need, for example, helping financially or sharing a house.
17. A person should be a good person for the sake of his or her family.
18. A person should respect his or her older brothers and sisters regardless of their differences in views.
I. Fear of Missing Out Scale

Below is a collection of statements about your everyday experience. Using the scale provided please indicate how true each statement is of your general experiences. Please answer according to what really reflects your experiences rather than what you think your experiences should be. Please treat each item separately from every other item.

Rating scale: 1. Not at all true of me, 2. Slightly true of me, 3. Moderately true of me, 4. Very true of me, 5. Extremely true of me

1. I fear others have more rewarding experiences than me.
2. I fear my friends have more rewarding experiences than me.
3. I get worried when I find out my friends are having fun without me.
4. I get anxious when I don’t know what my friends are up to.
5. It is important that I understand my friends’** jokes**.

(2) Answer “moderately true of me” to this question.

6. Sometimes, I wonder if I spend too much time keeping up with what is going on.
7. It bothers me when I miss an opportunity to meet up with friends.
8. When I have a good time it is important for me to share the details online (e.g. updating status).
9. When I miss out on a planned get-together it bothers me.
10. When I go on vacation, I continue to keep tabs on what my friends are doing.
J. The Barratt Impulsiveness Scale – 11

DIRECTIONS: People differ in the ways they act and think in different situations. This is a test to measure some of the ways in which you act and think. Read each statement and put an X on the appropriate circle on the right side of this page. Do not spend too much time on any statement. Answer quickly and honestly.

1. I plan tasks carefully.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

2. I do things without thinking.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

3. I make-up my mind quickly.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

4. I am happy-go-lucky.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

5. I don’t “pay attention”.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

6. I have “racing” thoughts.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

7. I plan trips well ahead of time.
   - Rarely/never
   - Occasionally
8. I am self-controlled.
   o Rarely/never
   o Occasionally
   o Often
   o Almost Always/Always

9. I concentrate easily.
   o Rarely/never
   o Occasionally
   o Often
   o Almost Always/Always

10. I save regularly.
    o Rarely/never
    o Occasionally
    o Often
    o Almost Always/Always

11. I “squirm” at plays or lectures.
    o Rarely/never
    o Occasionally
    o Often
    o Almost Always/Always

12. I am a careful thinker.
    o Rarely/never
    o Occasionally
    o Often
    o Almost Always/Always

13. I plan for job security.
    o Rarely/never
    o Occasionally
    o Often
    o Almost Always/Always

    o Rarely/never
    o Occasionally
    o Often
    o Almost Always/Always

15. I like to think about complex problems.
16. I change jobs.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

17. I act on “impulse”.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

18. I get easily bored when solving thought problems.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

19. I act on the spur of the moment.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

20. I am a steady thinker.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

21. I change residences.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

22. I buy things on impulse.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always
23. I can only think about one thing at a time.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

24. I change hobbies.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

25. I spend or charge more than I earn.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

26. I often have extraneous thoughts when thinking.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

27. I am more interested in the present than the future.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

28. I am restless at the theater or lectures.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

29. I like puzzles.
   - Rarely/never
   - Occasionally
   - Often
   - Almost Always/Always

30. I am future oriented.
   - Rarely/never
   - Occasionally
   - Often
Almost Always/Always

(3) Answer “Often” to this question.
- Rarely/never
- Occasionally
- Often
- Almost Always/Always
K. Social media craving scale

This research is carried out to evaluate your social media craving (desire for social media use). Please read the following questions and choose the option that suits you. Please, consider the option for each question that best describes your social media craving over the past week.

1. In the past week, how often have you thought about using social media or about how good using social using would make you feel?
   - Never, that is, 0 times during this period of time.
   - Rarely, that is, 1 to 2 times during this period of time.
   - Occasionally, that is, 3 to 4 during this period of time.
   - Sometimes, that is, 5 to 10 times during this period or 1 to 2 times a day.
   - Often, that is, 11 to 20 times during this period or 2 to three times a day.
   - Most of the time, that is, 20 to 40 during this period or 3 to 6 times a day.
   - Nearly all of the time, that is, more than 40 times during this period or more than 6 times a day.

2. In the past week at its most severe point, how strong was your social media craving?
   - None at all.
   - Slight, that is a very mild urge.
   - Mild urge.
   - Moderate urge.
   - Strong urge, but easily controlled.
   - Strong urge and difficult to control.
   - Strong urge and uncontrollable.

3. In the past week, how much time have you spent thinking about using social media or about how good using social media would make you feel?
   - None at all.
   - Less than 20 min.
   - 21–45 min.
   - 46–90 min.
   - 90 min-3 h.
   - Between 3 to 6 h.
   - More than 6 h.

4. In the past week, how difficult would it have been to resist using social media if you knew you had the opportunity to engage in using social media?
   - Not difficult at all.
   - Very mildly difficult.
   - Mildly difficult.
   - Moderately difficult.
   - Very difficult.
   - Extremely difficult.
   - Would not be able to resist.
(4) Answer “Disagree” to this question.
   o Strongly disagree
   o Disagree
   o Somewhat disagree
   o Somewhat agree
   o Agree
   o Strongly agree

5. Keeping in mind your responses to the previous questions, please rate your overall average social media craving during the past week.
   o Never thought about social media using and never had the urge to social media using.
   o Rarely thought about social media using and rarely had the urge to social media using.
   o Occasionally thought about social media using and occasionally had the urge to social media using.
   o Sometimes thought about social media using and sometimes had the urge to social media using.
   o Often thought about social media using and often had the urge to social media using.
   o Thought about social media using most of the time and had the urge to social media using most of the time.
   o Thought about social media using nearly all of the time and had the urge to social media using nearly all of the time.
L. Social Prioritization Index

Overview
The social prioritization index (SPI) is a validated measure of the degree to which an individual places importance on their social life. This measure has been associated with young adult cigarette use.

• The original version of the index (all questions listed below) contains 13 items, with score ranging from 0-17.

Items
For EACH row below, select the phrase that best describes you. Select one answer in each row.

1. Up for anything OR Picks and chooses what to do
2. Low-key OR Outgoing
3. Center of attention OR Lay low
4. Street smart OR Book smart
5. Studier OR Partier
6. Plan it out OR Wing it
7. The carefree one OR The responsible one
8. In a picture, I am more likely to …
   o Strike a pose
   o Smile big
9. In groups of people, I am rarely the center of attention
   o TRUE or FALSE
10. I have considered being an entertainer or actor
    o TRUE or FALSE
11. I can look anyone in the eye and tell a lie with a straight face.
    o TRUE or FALSE
12. How many nights did you go out to have fun this week?
    o 0
    o 1
    o 2
    o 3
    o 4
    o 5
    o 6
    o 7
13. When you go out, how late do you usually stay out until?
    o 9:59 – 10:59 PM
    o 11 PM – 12:59 PM
    o 1 AM – 2:59 AM
    o 3 AM or later
M. Social Comparison Scale

Please circle a number at a point which best describes the way in which you see yourself in comparison to others. For example: Short 1 2 3 4 5 6 7 8 9 10 Tall If you put a mark at 3 this means you see yourself as shorter than others; if you put a mark at 5 (middle) about average; and a mark at 7 somewhat taller. If you understand the above instructions, please proceed. Circle one number on each line according to how you see yourself in relationship to others. In relationship to others

I feel:

1. Inferior 1 2 3 4 5 6 7 8 9 10 Superior
2. Incompetent 1 2 3 4 5 6 7 8 9 10 More competent
3. Unlikeable 1 2 3 4 5 6 7 8 9 10 More likeable
4. Left out 1 2 3 4 5 6 7 8 9 10 Accepted
5. Different 1 2 3 4 5 6 7 8 9 10 Same
6. Untalented 1 2 3 4 5 6 7 8 9 10 More talented
7. Weaker 1 2 3 4 5 6 7 8 9 10 Stronger
8. Unconfident 1 2 3 4 5 6 7 8 9 10 More confident
9. Undesirable 1 2 3 4 5 6 7 8 9 10 More desirable
10. Unattractive 1 2 3 4 5 6 7 8 9 10 More attractive
11. An outsider 1 2 3 4 5 6 7 8 9 10 An insider
N. General Social Media Questionnaire

1. How interested are you in reducing your social media use?
   - None at all
   - A little
   - A moderate amount
   - A lot
   - A great deal

2. If you decide to reduce your social media use, why would you consider reducing it?
   - Personal Choice
   - Mental Health
   - Physical Health
   - Person close to me wants me to (significant other, friend, family, etc.)
   - Social media is too time consuming
   - It’s affecting my work/school performance
   - Other (please specify)

3. How often do you use social media in class?
   - Always
   - Most of the time
   - About half the time
   - Sometimes
   - Never

4. How often do you use social media while on the job?
   - Always
   - Most of the time
   - About half the time
   - Sometimes
   - Never

5. How often do you use social media while driving?
   - Always
   - Most of the time
   - About half the time
   - Sometimes
   - Never

6. Have you ever paid for an adult content subscription (e.g., OnlyFans, Patreon, Fancentro, etc.)?
   - Yes, I currently do
7. Have you ever created adult content for a site such as OnlyFans, Patreon, FanCentro, or another similar platform?
   - Yes, I currently do
   - Yes, I have but not currently
   - No, I never have

8. When on social media, how often do you post in English?
   - Always
   - Most of the time
   - About half the time
   - Sometimes
   - Never

9. When on social media, how often do you post in Spanish?
   - Always
   - Most of the time
   - About half the time
   - Sometimes
   - Never

10. When on social media, how often do your friends/family post in English?
    - Always
    - Most of the time
    - About half the time
    - Sometimes
    - Never

11. When on social media, how often do your friends/family post in Spanish?
    - Always
    - Most of the time
    - About half the time
    - Sometimes
    - Never

12. Where do you primarily use social media?
    - At home
    - At work
    - At school
    - Other (please specify)
13. How pleased or displeased is your family with the amount of time you spend on social media?
   - Extremely pleased
   - Moderately pleased
   - Slightly pleased
   - Neither pleased nor displeased
   - Slightly displeased
   - Moderately displeased
   - Extremely displeased

* Rating for items 14-16 (1 Not at all to 7 Extremely restricted)

14. At home to what extent is your social media use restricted (e.g., not being permitted to social media during dinner time)?

15. At work to what extent is your social media use restricted?

16. At school/during classes to what extent is your social media use restricted?

17. Relative to your social media use pre-covid-19 pandemic does your current social media use represent:
   - An Increase
   - A Decrease
   - No Change

*Rating for items 18-25
   - Always
   - Most of the time
   - About half the time
   - Sometimes
   - Never

18. How frequently do you use social media for the purpose of socializing with others?

19. How frequently do you use social media for the purpose of gathering with others?

20. How frequently do you use social media for the purpose of information seeking relative to entertainment purposes (e.g., sport events, celebrity/entertainment news, etc.)?

21. How frequently do you use social media for the purpose of information seeking relative to the current COVID-19 pandemic?

22. How frequently do you use social media for the purpose of connecting with others on social justice issues?
23. How frequently do you use social media to escape from COVID-19 pandemic related news?

24. How frequently do you use social media to escape from political related news?

25. How frequently do you use social media to escape from social justice related news?
Vita

Marcos Esteban Lerma was born and raised in El Paso, Texas. He attended The University of Texas at El Paso as an undergraduate, where he graduated with honors and earned a Bachelor of Arts in Psychology with a minor in Biology. In the fall of 2018, he enrolled in the Master of Arts program in Clinical Psychology at The University of Texas at El Paso, where he worked under the direction of Dr. Theodore V. Cooper in the Prevention and Treatment in Clinical Health Laboratory. While in the master’s program, he secured multiple grants to attend and present at national conferences such as The Association for Behavioral and Cognitive Therapies Annual Convention and at The Society for Behavioral Medicine’s Annual Meeting and Scientific Sessions. Additionally, he is a first author of a manuscript currently in press that will be published in Cyberpsychology, Behavior, and Social Networking, a co-author of a manuscript of a manuscript currently in press that will be published in Journal of Technology in Behavioral Science, and a co-author of a publication in the Journal of Ethnicity in Substance Abuse. Marcos will be attending The University of Memphis, where he will be pursuing a Ph.D. in Clinical Psychology beginning Fall 2021.

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