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The Effects of Social Media on Mental Health and Career Planning

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The Effects of Social Media on Mental Health and Career Planning

by

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ABSTRACT

Social media use is prevalent and necessary in society—nearly anything can be accomplished with a mobile device or smartphone. Among the US population, two thirds of American adults admit to using social media (Perrin, 2015) and in 2022, Georgiev (2023) found Americans spent an average of two and a half hours daily on social media. Furthermore, social media use is tied to mental well-being, work confidence levels, and feelings of being an imposter (Johnson et al., 2020; Uram & Skalski, 2022; Hernandez & Chalk, 2021; Myers, 2021; Ramm, 2019).

This project examined the role of social media use among college students, their mental well-being, and reported decisions about major choice. Using the online survey platform Qualtrics, 74 college students were surveyed about their social media use, mental well-being, and career planning. They were also asked about the role of algorithms in social media use. Findings showed increased social media use decreased positive mental well-being but did not appear to influence career planning. Open ended text analyses indicated that most respondents did not understand what algorithms are, which can be problematic as algorithms shape social media feeds and may influence how social media users feel about themselves.

Keywords: Social Media, Career Confidence, Mental Well-being, Social Networking Sites, Algorithms

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LIST OF ABBREVIATIONS

SNS	Social Networking Site
IP	Imposter Phenomenon
FoMO	Fear of Missing Out
WWW	World Wide Web

CHAPTER I INTRODUCTION

Social media technological advances in society have had broad impacts on people and institutions. For instance, nearly anything can be accomplished with the use of a mobile device or smartphone. According to Perrin (2015), among the US population, two thirds of American adults admit to using social media and in 2022, Georgiev (2023) found Americans spent an average of two and a half hours daily on social media.

Technology use is also tied to mental well-being, work confidence, and feelings of being an imposter (Johnson et al.; Uram & Skalski, 2022; Hernandez & Chalk, 2021; Myers, 2021; Ramm, 2019). Additionally, with the proliferation of technology in the workplace, the pace of work has also increased. Alongside it, increased rates of employee stress, overload, exhaustion, and burnout have been documented as well (Barley et al., 2011; Chesley, 2014; Maier et al., 2015; Murray & Rostis, 2007; Su & Mark, 2008, as cited in Johnson et al., 2020). For instance, according to the Desjardins Financial Security Survey of Health and the Desjardins National Financial Security Index (2006, as cited in Murray & Rostis, 2007), 62% of workers reported they worked with some kind of information and communications technology (ICT); of the 62% using ICT, 54% reported having higher stress levels because of these technologies.

Technologies are also connected to educational experiences and future career planning. For instance, K-12 institutions work to prepare college-bound students for college-readiness courses and standardized tests (e.g., SAT and ACT). Then once in college, students often feel pressured to know exactly what they will study and what profession or career path they will pursue (Bryant, 2022).

Knowing about the role of social media use and its impact on mental well-being and career planning of college students is important—already research finds adolescent social hierarchies in schools are affected such that who is seen as the most "popular" is tied to their online social presence (Schwartz et al., 2021) which can translate to bullying in school (Jose et al., 2015 as cited in Schwartz et al., 2021). As social media platforms become primary tools for communication, it is important to better understand their impact on humans. Therefore, this project investigated the role of social media use, specifically among college students, as well as college student well-being, and their reported decisions about choice of major. Specifically, two research questions were examined: 1) "What role does social media play when it comes to college student mental well-being?" and 2) "What role does social media play when it comes to college student career confidence?"

CHAPTER II REVIEW OF LITERATURE

This section reviews existing literature on social media use, mental well-being, and career-planning as it pertains to college students.

History of Social Media

The Internet began in the early 1960s with the vison of J.C.R Licklider; this vision consisted of an internetwork of programs being able to talk to each other and individuals being able to access data and programs from any site (Leiner et al., 2009). The U.S. Advanced Research Projects Agency Network, or ARPANET, was the first computer network used exclusively by government agencies and universities; it was decommissioned in 1990 to make way for the World Wide Web (Wright, 2021). By the late 1990s, the World Wide Web, created by Tim Berners-Lee, was originally used for intense physics collaborations that required instantaneous information sharing all over the world (Erickson, 2017). Today, the World Wide Web is used to access a vast array of websites and servers on the Internet. The first social website, SixDegrees, was launched on the World Wide Web in 1997. This social website innovated the personal user profile, contact lists, friend invites, and composing short messages (Lawson 2022)—all features used regularly today.

Presently, there are many popular social media platforms. For instance, Instagram, Snapchat, TikTok, YouTube, Facebook, and Twitter are a few of the most well-known (Pew Research Center, 2021; Ang, 2021). Instagram, Snapchat, and TikTok, are especially popular with young adults aged 18 to 29. In fact, according to the Pew Research Center (2021), 84% of young adults aged 18 to 29 say Facebook, YouTube, and Twitter are the most widely used social media platforms.

Social Networking Sites (SNSs)

Social networking sites (referred to commonly by the acronym, SNSs) came about for the purpose of connecting people; the first widely used SNSs were Myspace and LinkedIn in 2003 (Hines, 2022). Since Myspace and LinkedIn, SNSs have become more mainstream with the rise of Facebook, Twitter, and Instagram in the late 2000s. From 2005 to 2021, the percentage of American adults using SNSs jumped from seven percent to sixty-five percent (Perrin, 2015; Pew Research Center, 2021). In 2022, according to the Pew Research Center, "half of U.S. adults get news at least sometimes from social media."

Social networking and social media terms are typically used interchangeably. Ellison & Boyd (2013) define SNSs as "networked communication platform[s] in which participants (1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-provided data; (2) can publicly articulate connections that can be viewed and traversed by others; and (3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site" (p. 7). These authors assert that SNSs belong to a "computer-mediated communication (CMC) genre that emerged during an industry-wide innovation boom referred to as the 'Web 2.0' phenomenon and thus is part of a category of tools referred to as social media," (Ellison & Boyd, 2013, p. 9). In other words, the term social media falls under the umbrella of social networking sites. Because the terms are often used interchangeably, the terms are used interchangeably in this paper.

SNSs and Machine-Learning Algorithms

The conglomerates behind tech websites, such as Meta, (owner of Facebook and Instagram), Twitter, Inc., ByteDance, (owner of TikTok), and Alphabet, (owner of YouTube), all need to continually grow and expand (Ang, 2021); this is so they can make profits by maintaining user retention and presenting advertisements (Squires, 2016). As a result of this, social media sites began introducing machine-learning algorithms to promote engagement and retention. Brown (2023) defines an algorithm as "a step-by-step instruction for solving a problem" (p. 17). SNSs use a subset of algorithms called machine-learning algorithms that gather user inputs and adapt to new information (Brown, 2023). Following the introduction of machine-learning algorithms, content was presented to users based on what they indicated their likes and interests were; the purpose of these platform feeds was to encourage engagement and retention (Brown, 2023). The more users are encouraged to stay on the site for longer periods of time, the more advertisements they are exposed to for SNS websites to generate more revenue. As one of the first platforms, Facebook inspired other SNSs to migrate to algorithmic feeds. This migration encouraged users to personalize their home pages or profiles, such as providing biographic information, assigning a profile picture for other users to see, and designing their webpages in their own ways, making them popular among those who sought broader connections with their communities. However, this migration to algorithmic feeds has also had the consequence of leading many users to suffer from low levels of life satisfaction, low self-esteem, high levels of loneliness, and a poor overall mental well-being (Masciantonio, A, et al., 2021; Hogan & Strasburger, 2018; Uram & Skalski, 2022). Thus, SNSs have benefits and drawbacks when used consistently.

Benefits of Using Social Media

As social media has widespread use among US adults and adolescents alike (Perrin, 2015; Pew Research Center, 2021), it has beneficial impacts on its users. For example, one benefit of social media is that it allows many individuals to keep in touch with friends and family (Hogan & Strasburger, 2018). Using social media to connect with one's community can have a positive impact on life satisfaction by improving social connectivity and social involvement, increasing the ability to attain information, and providing entertainment to users (Khan et al., 2014). Some researchers have also found social media used for maintaining social connections improves young adult mental health when used to follow fewer strangers and receive positive feedback from others (Lup, Trub, & Rosenthal, 2015; Valkenburg, Peter, & Schouten, 2006, as cited in Glaser, P et al., 2018). These findings were based on the augmentation hypothesis which asserts that Internet use builds upon preexisting face-to-face relationships which may improve social support and promote positive mental health (Glaser, 2018). Hernandez & Chalk (2021) specifically found that social media used to maintain personal relationships by keeping in touch with others led to higher life satisfaction. These conclusions are supported by previous research that finds those using social media to stay in communication with friends, family, and community tend to have greater levels of subjective happiness and life satisfaction (Brailovskaia & Margraf, 2019; Houghton et al., 2020, as cited in Hernandez, A. & Chalk, H. M., 2021). In summary, social media can have positive impacts on life satisfaction through social involvement (Khan et al., 2014), improving life satisfaction through keeping in touch with others (Hernandez & Chalk, 2021), and improving young adult mental health by receiving positive feedback from others and

following fewer strangers (Lup, Trub, & Rosenthal, 2015; Valkenburg, Peter, & Schouten, 2006, as cited in Glaser, P et al., 2018).

Challenges of Using Social Media

While social media can have benefits, there are also challenges to using these platforms. For instance, according to Uram & Skalski (2022), overexposure to SNSs and technology can lead to negative life satisfaction, higher levels of loneliness, and lowered self-esteem—especially in younger age groups. Literature from Hogan & Strasburger (2018) found similar results, in that lower levels of life satisfaction and self-esteem were more common in those who used social media more often. Additionally, social media addiction patterns were found in some users and resulted in withdrawal symptoms like those found after drug withdrawals (Pantic, 2014, p. 1210, as cited in Hogan & Strasburger, 2018). Although Hernandez & Chalk (2021) found some benefits to social media use, they also found that using social media specifically to gain information and to develop new online relationships, were correlated with lowered life satisfaction. Thus, in some instances, social media use can lead to negative outcomes. For example, Rosen et al. (2013) found that those who manage their friends list and impressions they receive from friends in an obsessive manner experienced more depression and mania than those who did not. As another example, Schwartz, et al. (2021) found that personal relationships were negatively affected in adolescent settings, (e.g., school), towards those who did not have an active presence in social media circles—that is, those who did not have a presence online were more likely to lack strong social presences in school.

Social Media Use and Mental Well Being

Research finds that social media use and mental well-being typically have a negative or inverse relationship with one other. In other words, those who use social media more often tend to experience lower levels of mental well-being (Kolhar et al., 2021; Royal Society for Public Health and Youth Health Movement 2021, as cited in Vallejos et al 2021; Yang & Robinson, 2018; Gerson, Plagnol, & Corr, 2019). For example, a study by Kolhar et al. (2021) sampled 300 college students ranging in age from 17 to 29 and found that 66% felt a stronger pull towards social media use than their academics. Consequently, they found that academic performance, social interactions, and sleep performance were all negatively affected as social media use increased. Additional research suggests that increased social media use negatively affects individual well-being by exacerbating the user's anxiety symptoms, amplifying body dysmorphia, and impacting sleep (Royal Society for Public Health and Youth Health Movement, 2019, as cited in Vallejos et al., 2021).

Imposter syndrome, now commonly referred to as imposter phenomenon (IP), often effects mental well-being. IP occurs when someone feels like a fraud and does not believe they have earned their successes (Slank, 2019). Studies indicated that anyone can experience signs of IP (Myers, 2021; Ramm, 2019). Ramm (2019) investigated two behaviors common with those exhibiting IP: 1) belief in effortless perfectionism, or the idea that intellect comes with little to no effort, and 2) "self-handicapping" (p. 5), or constantly self-policing behaviors to protect their public image from failure(s). These behaviors act as mediators in the prediction of imposter feelings from SNS use; that is, those who exhibit effortless perfectionism and "self-handicapping" behaviors resulting

from SNS use, are more prone to lower well-being (Ramm, 2019). Because happiness is typically tied to one's successes, those who publish successes on social media can be damaging to the well-being of those with IP (Myers, 2021). Social media users who exhibit signs of imposter phenomenon are more likely to have lower levels of well-being (Yang & Robinson, 2018; Gerson, Plagnol, and Corr, 2016). This may be due to the feelings of inadequacy that are often tied to IP (Ramm, 2019).

Increased social media use among young people can lead to the Fear of Missing Out (commonly referred to by the acronym, FoMO). The term was coined by marketing strategist and researcher Dan Herman (Morford, 2010; Wortham, 2011, as cited in Uram & Skalski, 2022). FoMO captures the feelings of individuals who feel as though they are "missing out" on social gatherings or events they are not physically present for but see on social media posts. Some research not only finds that dependence on social media can lead to lowered life satisfaction, high levels of loneliness, and low self-esteem but that all three may also lead to higher levels of FoMO, leading to more social media use (Uram et al., 2022). This then creates a feedback loop of social media use leading to poor mental well-being leading to more social media use. According to Barry & Wong (2020), the effects of FoMO do not reflect a particular age group but are common in those with poor self-concept in how they view mental or physical attributes of themselves. Moreover, Barry & Wong (2020) found that across age groups, those with low self-esteem, low self-compassion, and high levels of loneliness also had higher levels of FoMO. Lee et al. (2016) also found that social networking fatigue brought on by constant SNS usage, born out of an obligation to respond to others in a timely fashion, contributed to physical and psychological strain. This obligation to respond to others is a form of FoMO, in that

users want to have their phone within an arm's reach to stay aware of all incoming information (Uram et al., 2022).

Some researchers, however, find mixed results when it comes to overall positive or negative effects of social media use on mental well-being. For instance, when electing to follow and engage with friends and family as well as receiving positive reinforcement, social media can reflect a positive relationship with mental well-being and health by enhancing social connectedness (Lup, Trub, & Rosenthal, 2015; Valkenburg, Peter, & Schouten, 2006; Huang, 2012, as cited in Glaser, P. et al., 2018). However, negative effects of social media use like FoMO, low life satisfaction, and sleep deprivation manifested when social media was used in unhealthy ways, like chatting with others and browsing SNSs to pass time (Royal Society for Public Health and Youth Health Movement, 2019, as cited in Vallejos et al., 2021; Kolhar et al., 2021).

Social Media Use and Career Planning

After high school, many young American youth are faced with decisions about what to do regarding future career paths. Once in college, students often feel pressured, both financially and socially, to know exactly what they will study and what profession or career path they will pursue (Bryant, 2022). Such an important decision puts a lot of pressure on young people; in fact, according to the 2022 national survey by the Board of Governors of the Federal Reserve System, thirty eight percent of respondents who completed at least some college expressed regret in their chosen degrees. Considering Perrin (2015) found that ninety percent of young adults use social media, better understanding the effects of social media use on college student career choices is important.

There is a lack of literature on career confidence, or the confidence a given student has in pursuing, graduating, and working in their chosen major, with a chosen degree in college and social media use; however available literature finds mixed results. On one hand, Poncy et al. (2017) discovered that active Facebook users, or those who directly engaged with others (i.e., commenting on others' posts and posting status updates), were influenced with career decisions, suggesting a possible relationship with social media use and career confidence. These influences were measured with a short career decision self-efficacy scale that utilized five subscales: self-appraisal, occupational information, goal selection, planning, and problem solving. Thus, those who used Facebook actively also had higher scores on these scales. On the other hand, Kazi & Akhlaq (2017) found that young adults' career choices were not influenced by digital media but were more influenced instead by peers, education mentors, and/or family. For instance, out of 432 university students surveyed by Kazi & Akhlaq, only one indicated media use of any kind had any influence, implying that electronic media did not play a role in career choice.

Therefore, after reviewing the above literature, this project sought to examine the role of social media use among college students and their mental well-being, as well as the role of social media use and their confidence of chosen college major.

CHAPTER III METHODS

This section details the methods used for this project. To better understand college student social media use, mental well-being, and career confidence, a quantitative online survey was created and administered.

Methods

Quantitative research methods involve gathering numerical data for a research-driven purpose (Babbie, 2008) and were primarily used for this project. Qualitative research methods, on the other hand, examine non-numerical data and provide richer meaning and detail (Babbie, 2008). For the examined open-ended question, text analysis and coding were performed. Qualitative coding aims to discover patterns after assembling a cluster of seemingly unrelated parts (Saldaña, 2012).

In this project, an online questionnaire using the platform, Qualtrics, was used including both closed-ended and open-ended questions; college students in a southern public university were sampled. The two primary research questions examined were 1) "What role does social media play when it comes to college student mental well-being?' and 2) "What role does social media play when it comes to college student career confidence?"

Survey Procedures

After receiving IRB approval (IRB #22-1523) the online survey was sent to college undergraduate students. Participants were recruited from several undergraduate courses in Sociology and Information Technology. Respondents were incentivized with extra credit points in these classes and provided an alternative in the event they did not wish to participate in the survey.

Survey Instrument

The survey consisted of eight sections. The first section included the informed consent. If respondents consented, they were moved to the rest of the survey. Those who did not consent were directed to the end of the survey and were not permitted to take it. Sections two through eight were labeled the following: Social Networking Tendencies, Addiction, Imposter Phenomenon, Career Planning, Mental Well Being and Life Satisfaction, Offline Social Capital, and Demographic information. Respondents could not see the labels of each section.

There were several instruments used and/or adapted for use in the survey. They included: Experience Sampling Method Social Media Use Questionnaire (Valkenburg, et al., 2022), Social Media Disorder Scale (van den Eijnden, 2016), Leary Imposterism Scale (2013), six questions adapted from Kazi & Akhlaq's (2017) career planning scale, K6 psychological distress instrument (Kessler, 2003), the existing Life Satisfaction scale from Diener et al. (1985), and Glasier, et al.'s (2018) social capital scale.

Questions and measures were adapted from the Experience Sampling Method Social Media Use Questionnaire from the work of Valkenburg, et al., (2022). To measure time spent on YouTube, TikTok, Instagram, and Twitter, eight multiple choice questions asked if respondents used any of the four platforms as well as how much time spent on them. Options ranged from "less than an hour" to "more than six hours." Respondents were asked three open ended questions about whether they had alternative accounts, their personal definition of the word "algorithm," and their assessment of the difference between "Social Networking Sites" and "Social Media Sites."

Addiction

To measure Social Media Addiction, respondents were asked to evaluate reliance on Social Media platforms with a nine statement, seven-point scale from the Social Media Disorder Scale by van den Eijnden (2016). Statements included: "During the past year, I have regularly found that I can't think of anything else but the moment that I will be able to use social media again," "During the past year, I have regularly felt dissatisfied because I wanted to spend more time on social media," "During the past year, I have often felt bad when I could not use social media," "During the past year, I have tried to spend less time on social media but failed," "During the past year, I have regularly neglected other activities (e.g., hobbies, sports) because I wanted to use social media," "During the past year, I have regularly had arguments with other people because of my social media use," "During the past year, I have regularly lied to my parents or friends about the amount of time I spend on social media," "During the past year, I have often used social media to escape from negative feelings," and "During the past year, I have had serious conflict with my parents, brother(s), or sister(s) because of my social media use." The original study had three questions to highlight nine criteria: preoccupation, tolerance, withdrawal, displacement, escape, problems, deception, displacement, and conflict. After testing, the compressed nine-question survey was shown to be as effective as the original 27-question survey, with a significantly reduced test-taking time (van den Eijnden, 2016). Therefore, the nine-question instrument was used in this survey.

Imposter Phenomenon

To measure imposter phenomenon, the Leary Imposterism Scale (2013) was used; although it is not the original scale it has been found to be reliable by Mak, et al. (2019).

Six statements were provided to respondents and used a five-point Likert-scale, with one meaning "not at all characteristic of me" and five meaning "extremely characteristic of me." Statements included "Sometimes I am afraid I will be discovered for who I really am," "In some situations, I act like an imposter," "I tend to feel like a phony," "I'm afraid people important to me may find out that I'm not as capable as they think I am," "Sometimes I'm afraid others will discover how much knowledge or ability I really lack," "In some situations I feel like a "great pretender; that is, I'm not as genuine as others think I am," and "In some situations, I feel like an imposter."

College Career Planning

Participants' influences on their career paths were measured with 14 total statements. Six of those statements were from Kazi & Akhlaq's (2017) survey that included the following statements: "I chose my major because I am fully confident that I want to do this," "I chose my major because I was advised by my teachers," "I chose my major because I was inspired by my teachers," "I chose my major because my teachers made me feel that I could succeed in this occupation/field," "I chose my major because of parental influence," "I chose my major because I see people of my gender represented in this field," and "I neglected to pursue another career because of a lack of people of my gender in the field." The other statements that were created for this research project were "I intend to graduate from USM with this major," "Something from Instagram influenced me to pursue this major," "Something from Twitter influenced me to pursue this major," "Something from TikTok influenced me to pursue this major," and "Something from YouTube influenced me to pursue this major." Two open-ended questions were also asked: "If you selected that you were influenced by any social media platform

(Instagram, Twitter, TikTok, or YouTube), please indicate how you were influenced and why?" and "If you were influenced by any social media platforms other than the ones listed (e.g., Reddit, Facebook, etc.) please specify which one(s) and why you were influenced."

Mental Well-Being

Respondents' mental well-being scores were measured using the K6 psychological distress instrument by Kessler (2003). Respondents were provided a matrix table asking how often over the past 30 days respondents felt nervous, hopeless, restless, or fidgety; so depressed that nothing could cheer them up; that everything was effortless and that they felt worthless. Options ranged from all of the time (1) to none of the time (5). Subsequent questions asked "During the past 30 days, how many days out of 30 were you totally unable to work or carry out your normal activities because of these feelings? Respondents would then indicate the number of days.

Life satisfaction was measured using an already existing instrument from Diener et al., (1985) that included six statements on a seven-point scale. Questions included "In most ways my life is close to ideal," "The conditions of my life are excellent," "I am satisfied with my life," "So far I have gotten the important things I want in life," and "If I could live my life over, I would change almost nothing." Choices were in a Likert scale format ranging from strongly disagree (1) to strongly agree (7).

Offline Social Capital

Respondents' social capital, as used in previous literature by Glasier et al., (2018) was measured by a six-point, five statement instrument. The five statements were: "People in my community feel like family to me," "I think people in my community share

values," "In my community, we talk to each other about community problems," "I think people in my community feel connected to each other," and "In my community, people help each other when there is a problem". Respondent choices ranged from disagree completely (1) to agree completely (6).

Three more statements that were created assessed how respondents felt about their communities. They included "I care about my community," "I believe my community cares about me," and "I feel like my community cares about me as I care about them," using a similar Likert scale format, with choices ranging from disagree completely (1) to agree completely (6).

Sample Description

A total of 74 respondents completed the survey and were analyzed. Survey demographics included respondents' current university major, classification, age, race, ethnicity, and gender. Student email addresses were collected to award extra credit and were then deleted. Below are the reported demographics.

As seen in Table 1, 21.6% of the sampled college students were male while 74.3% were female. The remaining 4.1% identified as non-binary or gender non-conforming.

Table 1 – Sample Demographics: Sex of College Students

	Frequency	**Percent**
Male	16	21.6%
Female	55	74.3%
Gender Non-Conforming/Non-Binary	2	4.1%

Total	73	100%

As reported in Table 2, of the 74 respondents, 35.1% identified as freshman, 24.3% identified as sophomores, 13.5% identified as juniors, 23% identified as seniors, and 4.9% as graduate students.

Table 2 – Sample Demographics: Classification of College Students

	Frequency	**Percent**
Freshman	26	35.1%
Sophomore	18	24.3%
Junior	10	13.5%
Senior	17	23%
Total	71	95.1%

As seen in Table 3, 17.6% of respondents identified as18 years old, 29.7% identified as 19 years old, 8.1% identified as 20 years old, 12.2% identified as 21 years old, and 27% were older than 22 years old.

Table 3 – Sample Demographics: Age of College Students

	Frequency	**Percent**
18 years old	13	17.6%
19 years old	22	29.7%
20 years old	6	8.1%
21 years old	9	12.2%
Older than 22 years	20	27%

Total	73	98.6%

Table 4 shows the reported race of survey respondents and 62.2% identified as White, 25.7 % identified as Black, 5.4% identified as Native American or Alaskan Native, 2.7% identified as biracial, and 2.7% identified as multiracial.

Table 4 – Reported Race of College Students

	Frequency	Percent
White	46	62.2%
Black or African American	19	25.7%
Native American or Alaskan Native	4	5.4%
Biracial	2	2.7%
Multiracial	2	2.7%
Total	73	98.6%

As reported below in Table 5, most students reported they were not Hispanic or Latino (89.2%) while 8.1% reported they were of Hispanic or Latino origin.

Table 5 – Reported Ethnicity of College Students

	Frequency	Percent
Hispanic or Latino	6	8.1%
Not Hispanic or Latino	66	89.2%
Total	72	97.3%

Analyses

Quantitative analyses were performed using IBM SPSS 28 software to examine bivariate correlations. The main dependent variable examined was social media use specifically measured by examining social media use attitudes from the social media addiction scale, and questions about how much time respondents spent on social media platforms (specifically TikTok, YouTube, Twitter, and Instagram).

There were several independent variables examined. They included mental well-being (measured by probable anxiety and probable depression), career confidence

(measured by statements about confidence in continuing their current college major), and imposter phenomenon (measured by combining statements from the Leary Imposterism Scale (2013). The first and second independent variables were created from the Kessler (2003) instrument and included probable anxiety and probable depression (since respondents were not actually diagnosed with anxiety or depression). The third dependent variable, career confidence came from statements from the Kazi & Akhlaq (2017) instrument.

To analyze open-ended questions, the responses were transferred to Microsoft Excel to conduct manual text analysis via qualitative coding. Although several open-ended questions were asked, only one, "How would you personally define the word 'algorithm' and why?" was answered and analyzed. For this survey, responses were compared to Brown's (2023) definition of algorithm: "a step-by-step instruction for solving a problem" (p. 17). Respondents were placed into three groups: 1) those who were able to define the word *algorithm*, 2) those who attempted to define the word but were incorrect, and 3) those who attempted to define the word and were incorrect but specifically used social media to help them understand it. To be placed in group one, respondents used terminology gathered from Brown's (2023) definition of algorithm, like "instructions," "rules," "formula," "pattern," "calculations," and "steps." To be placed in group three, respondents used terminology like "content," "social media," "show you," "engagement," "likes", "dislikes," and "feed." The remaining open-ended questions were mostly unanswered and therefore were omitted from analysis.

CHAPTER IV RESULTS

This section reports the findings of the quantitative survey and open-ended qualitative responses.

Quantitative Results

Seven bivariate correlations were examined in this project. The first three correlations examined mental health (positive and negative) as the dependent variable and four independent variables on negative social media attitudes about (social media) use. The fourth correlation examined imposter phenomenon as the dependent variable and four independent variables on negative social media attitudes about social media use. The fifth correlation examined time spent on social media as the dependent variable and four independent variables on negative social media attitudes about social media use. The sixth correlation examined career confidence as the dependent variable and time spent on social media as the independent variable. The seventh correlation examined career confidence as the dependent variable and four independent variables on negative social media attitudes about social media use.

The first bivariate correlation looked at positive mental health (life satisfaction) as the dependent variable and four independent variables on negative social media attitudes about social media use (social media withdrawal, trying to spend less time on social media and failing to do so, social media denial, and regularly using social media as an escape for negative feelings). None of the relationships were significant.

The second bivariate correlation looked at negative mental health (anxiety) as the dependent variable and four independent variables on negative social media attitudes

about social media use (social media withdrawal, trying to spend less time on social media and failing to do so, social media denial, and regularly using social media as an escape for negative feelings). As seen in Table 6, only two of the relationships were significant. First, probable anxiety was positively correlated with social media withdrawal and was statistically significant at the 0.05 level (0.251). As social media withdrawal increased so did probable anxiety. Second, probable anxiety was positively correlated with trying to spend less time on social media but failing to do so. This was statistically significant at the 0.01 level (0.318). As respondents tried to spend less time on social media but failed to do so, probable anxiety increased.

Table 6 - Negative Mental Health (Anxiety) and Negative Social Media Attitudes about Social Media Use

		Social Media Withdrawal	**Tried spending less time on social media but failed**
Probable Anxiety	Pearson Correlation	.251*	.318**
	N	74	74

* $\geq$ 0.05
** $\geq$ 0.01

The third bivariate correlation looked at negative mental health (depression) as the dependent variable and four independent variables on negative social media attitudes about social media use (social media withdrawal, trying to spend less time on social media and failing to do so, social media denial, and regularly using social media as an escape for negative feelings). As seen in Table 7, three of the relationships were significant. First, probable depression was positively correlated with trying to spend less time on social media but failing to do so. This was statistically significant at the 0.01 significance level (0.318). As respondents tried to spend less time on social media but

failed to do so, probable depression increased. Second, probable depression was positively correlated with social media denial. This was statistically significant at the 0.05 level (0.237). As social media denial increased, so did probable depression. Third, probable depression was positively correlated with using social media as an escape for negative feelings. It was also statistically significant at the 0.05 level (0.241). As respondents used social media as an escape for negative feelings, probable depression increased.

Table 7 - Negative MH (Depression) and Negative Social Media Attitudes about Usage

		Tried spending less time on social media but failed	**Social Media Denial**	**Regularly used social media as escape for negative feelings**
Probable Depression	Pearson Correlation	.318**	.237*	.241*
	N	74	74	74

* $\geq$ 0.05
** $\geq$ 0.01

The fourth bivariate correlation looked at imposter phenomenon and four independent variables on negative social media attitudes about social media use (social media withdrawal, trying to spend less time on social media and failing to do so, social media denial, and regularly using social media as an escape for negative feelings). As seen in Table 8, all four relationships were significant. First, imposter phenomenon was positively correlated with social media withdrawal at the 0.05 significance level (0.266). As social media withdrawal increased, so did feelings of imposter phenomenon. Second, imposter phenomenon was positively correlated with trying to spend less time on social media but failing to do so, at the 0.05 significance level (0.269). In other words, as

respondents tried to spend less time on social media (and failed), their feelings of imposter phenomenon also increased. Third, imposter phenomenon was positively correlated with social media denial at the 0.01 significance level (0.366). As social media denial increased, so did feelings of imposter phenomenon. Fourth, imposter phenomenon was positively correlated with regularly using social media as an escape for negative feelings at the 0.01 significance level (0.431). As respondents regularly used social media as an escape for negative feelings, feelings of imposter phenomenon also increased.

Table 8 - Imposter Phenomenon and Negative Social Media Attitudes about Usage

		Social Media Withdrawal	**Tried spending less time on social media but failed**	**Social media denial**	**Regularly used social media as an escape for negative feelings**
Imposter Phenomenon	Pearson Correlation	.266*	.269*	.366**	.431**
	N	74	74	74	74

* $\geq$ 0.05
** $\geq$ 0.01

The fifth bivariate correlation looked at time spent on social media (number of hours on TikTok, YouTube, Twitter, and Instagram) as the dependent variable and four independent variables on negative social media attitudes about social media use (social media withdrawal, trying to spend less time on social media and failing to do so, social media denial, and regularly using social media as an escape for negative feelings). None of the relationships were significant.

The sixth bivariate correlation looked at career confidence as the dependent variable and time spent on social media (number of hours on TikTok, YouTube, Twitter, and Instagram) as the independent variables. None of the relationships were significant.

The seventh bivariate correlation looked at career confidence as the dependent variable and four independent variables on negative social media attitudes about social media use (social media withdrawal, trying to spend less time on social media and failing to do so, social media denial, and regularly using social media as an escape for negative feelings). None of the relationships were significant.

Qualitative Results

The only open-ended question examined in this project was "How would you personally define the world 'algorithm' and why?"

Respondents' definitions of *algorithm* were divided into three groups after qualitative coding: 1) those who were able to define the word *algorithm*, 2) those who attempted to define the word but were incorrect, and 3) those who attempted to define the word and were incorrect but specifically used social media to help them understand it.

Twelve of the respondents accurately defined what an algorithm was. Therefore, they were placed in group 1.

Examples of what these respondents said include the following:

"A procedure used to solve a particular problem."

"Rules or instructions used to solve a problem. Math equations are solved using algorithms so it's seen as a set of rules or instructions."

"I believe an algorithm is a certain pattern or set of specific steps that are followed in certain processes."

Twenty of the respondents did not know what an algorithm functionally was. These responses typically consisted of short, incomplete sentences. Therefore, they were coded in the second group and included statements such as the following:

"Something to do with math and such."

"I honestly do not know what the word means ..."

"The way in which things are presented."

Over half of the respondents (42) defined *algorithm* in the context of social media. They were confident in their answers, though did not accurately define *algorithm*. These respondents said some of the following:

"AI [is] used to show [the] most popular/personalized results."

"Algorithm is how a social media platform takes your interests (the kind of content you usually consume) into account when deciding what it is going to show you (recommended videos, for example)."

"Computer program that funnels you down a content path to keep you engaged. They want you to spend as much time as possible on the site."

Responses were compared to Brown (2023)'s definition of an algorithm: "a step-by-step instruction for solving a problem" (p. 17). To be placed in group one, respondents had to provide a definition that met the aforementioned criteria of words: instructions," "rules," "formula," "pattern," "calculations," and "steps". All other responses that did not meet that criterion were placed in either group two or group three. To be placed in group three, respondents had to provide a definition that did not satisfy the group one requirement but did use terminology relevant to social media. To be

placed in group two, respondents could not use terminology that satisfied the group one requirement nor the group three requirement.

Conclusion

This project examined the relationship between social media use and mental well-being (positive and negative mental health), and the relationship between college career confidence and social media use. Results indicated a positive relationship between probable anxiety and negative attitudes about social media use and a positive relationship between probable depression and negative attitudes about social media use. There was also a positive relationship between imposter phenomenon and negative attitudes about social media use. However, all other relationships were not significant.

When analyzing the open-ended question "How would you personally define the word 'algorithm and why?" three main groups emerged. The first group, which made up about a fifth of respondents, correctly defined what an algorithm was. Most respondents fell into the second and third groups who did not correctly define what an algorithm was. The third group, which made up more than half of respondents by itself, not only incorrectly defined algorithms, but they specifically referenced social media.

Discussion

The two primary questions offered by this research project were 1) "What role does social media play when it comes to college student mental well-being?" and 2) "What role does social media play when it comes to college student career confidence?"

In response to the first question about the role of social media and college student mental well-being there were a few main findings. First, respondents who attempted to cut back on social media but failed also had higher anxiety. Second, respondents who

tried to spend less time on social media but failed to do so, who had increased social media denial, and who used social media to escape negative feelings had increased probable depression. Social media and its impact on depression and social media in the literature is vast. Rosen, et al. (2018) found that depression was common in those who obsessively managed their social media accounts. Glaser, et al. (2018) found increased rates of depression and anxiety when mediated with social media addiction, the latter of the two tying back to withdrawal symptoms. The present study did not find a relationship between depression and withdrawal symptoms but did find one between anxiety and withdrawal symptoms, conflicting with the findings by Glaser, et al. (2018) study who found that who found positive relationships with depression and SNS withdrawal symptoms. Additionally, Collis and Eggars (2022) found no relationship between mental well-being and social media use, which is not only contrary to much of the literature, (Kolhar et al. 2021; Royal Society for Public Health and Youth Health Movement, 2021; Uram et al., 2022; Barry & Wong, 2020) it also did not match the findings of this study. One of the main contributions of this study are the findings that some aspects of social media use, including attempts to cut down on social media use, withdrawal symptoms from social media use, social media denial, and using social media as an escape for negative feelings, appear to have negative impacts on mental well-being.

Third, as respondents regularly used social media as an escape from negative feelings, feelings of imposter phenomenon also increased. Literature already supported relationships between IP and depression, in that those who feel feelings of imposterism are more likely to exhibit signs of depression (Myers, 2021). The present study also contributes to the existing literature by finding that social media user failed attempts to

cut back on social media use and using social media as an escape for negative feelings increased both probable depression and IP in respondents.

In response to the second question about the role of social media and college student career confidence, none of the examined correlations were significant. Although the literature surrounding social media use and career selection or confidence in college is sparse, there is some support for Kazi & Akhlaq (2017)'s study that found young adults' career choices were not influenced by digital media. However, this differs from what Poncy et al. (2017) found—in that active users, or users who engage with others online (i.e., commenting on posts and posting status updates)—which suggests a relationship between career confidence and social media usage. In conclusion, this study contributes to the existing literature by having found some support for the role of social media on negative mental well-being and indicating there is no support for the role of social media on career confidence.

The qualitative research question involving algorithms was intended to gauge the general college population's understanding of the innerworkings of devices and applications they use every day. Technically, an algorithm is defined as a set of rules or instructions to complete a task. Over half of the respondents used their understanding of social media to define what an algorithm was, as if they are associating both algorithms and social media as one entity.

Limitations

There were three limitations of this research project. First, the survey sample was not representative since the sample size was small and only included students in a few majors and classes. Second, the study design is cross-sectional and therefore can only

report on one point in time. Third, no intercoder reliability was conducted for the qualitative coding.

Future Research

Future researchers should consider more investigation into the negative consequences of social media use on college student mental health since this project found some evidence of increased probable anxiety and probable depression. Another area of interest would be to continue examining traditional college students through their four years of college and the choice of career path as well as career confidence and use of social media to continue to contribute to the body of literature. Thus, future researchers should consider surveying or interviewing freshman and then following them each year in a longitudinal study to assess how their career trajectories change over time.

Investigating further into the algorithm definition might be another topic of interest for future research. Over half of the sample used social media terms incorrectly to define the word *algorithm*, implying that a significant number of the population could not define it without mentioning social media. Research that looks further into this phenomenon could yield interesting results regarding the state of users and their technological literacy of something they use every day.

Because ninety percent of young adults use social media in some form (Perrin, 2015) it is important to ensure individuals know how to use social media in healthy ways. Currently, there exists little to no social media literacy curriculum taught in junior high or senior high that teach students how to use social media and technology safely to protect themselves and their futures. Future researchers might consider looking into how a

mandatory social media literacy course to teach in schools would affect overall usage and attitudes towards social media.

APPENDIX A IRB APPROVAL LETTER

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The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident submission on InfoEd IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER:	22-1523
PROJECT TITLE:	College Student Perceptions of Social Media Use, Mental Well-Being, and College Major.
SCHOOL/PROGRAM	School of Computing Sciences & Computer Engineering
RESEARCHERS:	PI: Spencer Rowan Investigators: Rowan, Spencer~McLeese, Michelle Frances~
IRB COMMITTEE ACTION:	Approved
CATEGORY:	Expedited Category
PERIOD OF APPROVAL:	12-Dec-2022 to 11-Dec-2023

Donald Sacco

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

APPENDIX B IRB MODIFICATION APPROVAL LETTER

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Donald Sacco

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

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