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The Use of Social Media in Moderating Feelings of Belongingness and Suicidal Ideation Among Women

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Walden University
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Abstract

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by

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MPhil, Walden University, 2019

MHR, University of Oklahoma, 2002

BS, University of Maryland, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Human and Social Services

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Abstract

Suicide among women in the United States increased significantly over the last decade, now accounting for six suicides per 100,000 population. Concurrently, there has been an increase in social media use, with women exhibiting elevated presence on social networking platforms. Grounded in the theoretical framework of the theory of suicide and the interpersonal theory of suicide, the purpose of this quantitative nonexperimental study was to evaluate the association between social media use, feelings of belongingness, and suicidal ideation to address the increased suicide rate among adult women in the United States. One research question focused on how social media use moderates the relationship between feelings of belongingness and suicidal ideation among adult women over age 21. A convenience sample of 98 participants was recruited via social networking sites and electronic communication. Participants completed an anonymous online survey, and multiple linear regression analysis was used to analyze survey data. Key findings determined that social media use did not moderate the relationship between feelings of belongingness and suicidal ideation. However, there was a significant, positive relationship between social media use and suicidal ideation. There was a significant, negative relationship between feelings of belongingness and suicidal ideation. These study findings have far-reaching implications in advising prevention programming strategies that target healthy social media use and online behavior. Additionally, these findings provide context for the development of gender-specific intervention and treatment strategies that focus on the psychosocial factors associated with suicidality among women.

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Dedication

First, I dedicate this work to Christ – without whom, I am nothing. I am thankful for the stillness of peace and gentle wisdom that guides my life. May I always seek to please you above all else and truly live out the scripture that my life is hidden in you (Colossians 3).

I also dedicate this work to the two most instrumental women in my life – my grandmother, Mary F. Nix and my mother, De Dora A. Oliver. Although both are deceased and in heaven with the Lord, their examples of resilience, strength, compassion, and faith have shaped me into the woman that I am today. As a young girl, I watched you both live your lives as a shining example of how to – Love God, Love People, and Love Family. We may not have had the best of material things, but I watched you both sacrifice endlessly to ensure that we had everything that we needed. Whether cooking meals or holiday pies or sewing an outfit for a friend, you extended yourselves in the community as a daily example of the hands and feet of Jesus. Your gifts, talents, and wisdom rival anything that I could ever learn in a classroom. I thank the Lord for allowing me to be your daughter. My love for you both is endless.

And finally, I dedicate this work to my two loving sons, Derrian and Dalton. Your immeasurable support, understanding, and love has guided me throughout this journey. Thank you for your honesty and at times, for pushing me to be the best version of myself. I truly thank the Lord for allowing me to be your mother and for the opportunity to experience the overwhelming joy that you bring to me each and every day. I love you both dearly.

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Thank you to my committee, Dr. Tracey Phillips and Dr. Garth Den Heyer for your support and guidance during this process. Dr. Phillips, I sincerely appreciate your wisdom and keeping me on track along the journey. Your encouragement over my years with Walden has been instrumental. Dr. Den Heyer, thank you for your valuable quantitative research insight. Your guidance helped ensure that my research was sound.

And finally, I'd like to thank all of my friends, colleagues, and mentors for supporting me in this effort. I definitely leaned on your prayers over this long six-year journey! Your continued encouragement while unselfishly and patiently listening to me ramble (and sometimes cry) on the phone for hours was invaluable to me. Your love and continued guidance helped me in ways that you cannot imagine. I love you all.

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Chapter 1: Introduction to the Study

Suicide is a global public health phenomenon that has become the second leading cause of death for individuals ages 15 – 34 in the United States and the fourth leading cause of death for those age 35 – 54 (Centers for Disease Control [CDC], 2019). The National Institute of Mental Health (CDC, 2019) reported that in 2017, 9.8 million adults in the United States had serious thoughts of dying by suicide and 1.3 million adults had attempted suicide. Although adult men are the primary demographic of individuals who die by suicide in the United States, in recent years, there has been an increase in suicide among women (CDC, 2019).

There are differences in female suicidal behavior versus that of men and gender-specific approaches are needed to address the unique natures of male and female suicidal behavior. Female suicide is primarily related to psychopathology and psychosocial stressors, with strong influences from relationship stress, while male suicidal ideation tends to be based on competitive social pressures (Seeman et al., 2017). Additionally, women make more suicide attempts than men and evidence supports a link between suicidal behavior and gender that has yet to be explored thoroughly through research (Turecki & Brent, 2016).

In this study, I evaluated the association between social media use, feelings of belongingness, and suicidal ideation among adult women in an effort to address the increased suicide rate among women. Findings from this study, when combined with current literature, will inform policy and practice, prevention measures, and mental health treatment platforms for women. This chapter includes a discussion of context for the

study and an explanation of the background of the problem, research question and terminology, as well as an overview of the nature of the study.

Background

Suicidal ideation among women is linked to reduced levels of social integration (Utz & Breuer, 2017). However, social integration cannot be explored as an individual point of discussion. It is necessary to understand how social integration, social support, and community participation all influence suicidal ideation among women. Community participation is defined as an independent engagement in community-based contexts that include interpersonal, civic, and social life (Terry et al., 2018). Terry et al. (2018) expounded that the formation of relationships, performance of a social role, and participation in community activities aid in the reduction of social isolation and the adverse effects of psychological stress symptoms. In recent decades there has been a shift in community engagement from in-person interaction to an increase in online community involvement, virtual relationships, and groups (Ridings & Gefen, 2017). Although there is no exact reason why individuals join and remain a part of virtual groups, social support and friendship were identified as leading reasons for affiliation in virtual communities (Ridings & Gefen, 2017). Members of virtual communities often feel that they are a part of a larger social group with interwoven relationships that connect them to others based on values, hobbies, or the development of a lasting relationship (Ridings & Grefen, 2017).

There is a significant difference between social integration and social support. Founded in Durkheim's seminal work (1951), social integration points to inclusion in a

larger community based on values, beliefs, and norms that make up a collective consciousness. This collective consciousness informs a sense of belonging, identity, and behavior (Durkheim, 1951). Oppositely, social support focuses on interpersonal interactions that involve emotional concern and appraisal, where individuals seek empathy, love, self-evaluation standards, and approval via social networks (Utz & Breuer, 2017).

For many women, social media is a source of social integration that contributes to community connectedness and social support (Burrow and Rainone (2017). Although positive social integration is possible, Olie et al. (2017) found that women with lower levels of social integration were associated with higher levels of suicide. Individuals that sought social support online experienced increased stress and lower life satisfaction (Utz & Breuer, 2017). Excessive use of social media is evidenced as a contributing factor to feelings of isolation and resultant suicidal behavior among women (Marchant et al., 2018).

Problem Statement

Death by suicide is a global phenomenon that claims more than 800,000 lives annually and accounts for 1.4 percent of deaths worldwide (World Health Organization, 2018). Specifically, suicidal deaths among women in the United States have increased sharply in the last decade, now accounting for six suicides per 100,000 people and contributing to the overall rise of suicide as the 10th leading cause of death in the United States (CDC, 2019). Concurrently, in recent years, social media use increased as not only

a platform for information and news, but also an avenue linked to community connectedness and self-esteem (Burrow and Rainone, 2017; Sinclair & Grieve, 2017).

Particular to women, social media use supports addictive patterns that contribute to low self-esteem (Andreassen et al., 2017). Wang et al. (2017) explained that the excessive use of social networking sites is related to lower levels of subjective well-being, including higher levels of depressive symptoms and anxiety. Social media presence is also linked to reduced feelings of belongingness among some users (Gao et al., 2017). There is an agreement that belongingness and perceived burdensomeness are two known risk factors for suicidal ideation and attempts (Chu et al., 2017), and there is growing evidence pointed to understanding the influence of social media on overall suicidal behavior (Marchant et al., 2018).

This increased number of deaths by suicide among women reveals a need to develop prevention policies and programs that seek to reduce suicide among various populations. Most current suicide prevention research analyzes outcomes of education and training programs as well as bystander intervention and individual support initiatives (Elliman et al., 2018; Kania & Cale, 2018). Community leaders and prevention organizations have created evidence-based programs and training, with the primary paradigms resting in bystander intervention strategies (Elliman et al., 2018; Kania & Cale, 2018). Unfortunately, many of these efforts have failed to significantly reduce or address suicide within the psychosocial parameters of suicide associated with women (Milner et al., 2017). Additionally, there continues to be an unspoken stigma surrounding female suicide that highlights a lack of investment in the exploration of strategies to

address suicidal ideation and attempts among women. Given that women make more failed suicidal attempts than men, many interpret these acts by women as manipulative or as a tactic to seek attention and thus, not requiring an urgent response (Turecki & Brent, 2016).

Although the aforementioned research regarding suicide and women illuminates important findings, I have found no research that examines the impact of social media use on feelings of belongingness as a contributing factor to suicidal ideation among adult women. Given such, further research is warranted to examine the relationship between social media use, belongingness, and suicidal ideation among women in an effort to address the increased female suicide rate (CDC, 2019)

Purpose of the Study

The purpose of this quantitative nonexperimental study was to evaluate the association between social media use, feelings of belongingness, and suicidal ideation among adult women. My intent was to address the suicide rate among women in the United States, which increased by 50% between 2000 and 2016 (CDC, 2019). Study results will contribute to the existing body of literature which, when combined, may inform policy and practice as well as targeted suicide prevention programming and mental health treatment for women. The study results will help to highlight and address the psychosocial stressors (Batty et al., 2018) associated with female suicidal ideation and develop platforms that support prevention efforts.

Research Question and Hypothesis

I postulated one research question for this quantitative study.

Research Question 1 (RQ1): How does social media use moderate the relationship between feelings of belongingness and suicidal ideation among adult women over age 21?

Null Hypothesis (H_0): Social media use does not moderate the relationship between feelings of belongingness and suicidal ideation among adult women over age 21.

Alternative Hypothesis (H_1): Social media use moderates the relationship between feelings of belongingness and suicidal ideation among adult women over age 21.

Theoretical Framework

The theoretical framework for this study is based on the seminal work of Emilie Durkheim's theory of suicide (1951) and Thomas Joiner's interpersonal theory of suicide (2005). The theory of suicide explained four reasons individuals die by suicide: egoistic, altruistic, anomic, and fatalistic (Durkheim, 1951). Particular to this study is egoistic suicide, which explains that individuals die by suicide due to a prolonged sense of not belonging or an incapability to integrate into a community. The interpersonal theory of suicide (Joiner, 2005) proposes that in addition to the simultaneous existence of feelings of thwarted (prevented) belongingness and perceived burdensomeness, hopelessness regarding these feelings must also be present for individuals to have a desire to die by suicide (Ma et al., 2019). Fisher et al. (2015) pointed out that hopelessness is directly linked to a sense of belonging and depression.

Therefore, I considered belongingness as a risk factor for female suicidal ideation and the evidenced link between social media use and feelings of isolation (Marchant et al., 2018). Both the theory of suicide and the interpersonal theory of suicide provide a

study framework that evaluates the association between suicidal ideation and negative feelings of belongingness brought on as a result of repeated exposure to painful or provocative encounters via social media use in women. I used this framework to examine social media use as a moderator of the relationship between belongingness and suicidal ideation.

Nature of Study

The research design for this study was a quantitative nonexperimental design with a cross-sectional online survey for data collection. This research design was appropriate for the study. Omair (2015) explained that the correlational design does not consider the cause- and-effect relationship of variables, but observes phenomena via data collection analysis. Since belongingness is already founded as a risk factor for suicidal ideation, I used my data analysis to determine increased or decreased levels of belongingness and suicidal ideation in relation to the level of social media use.

Participants for this quantitative study were women over the age of 21 with self-reported social media use on social networking sites. Considering the large population size, I used simple randomized sampling to select a subset of the population from varying demographic groups. The total sampling size was 98 participants. This sample size is appropriate as indicated by GPower analysis for a linear multiple regression with an effect size of .10, power of .80, and one predictor. Following the sampling procedure, participants completed two surveys addressing feelings of belongingness and suicidal ideation. Participants gave demographic information, including: age, race, education level, relationship status, income level, religious affiliation, and social media use patterns.

I used the Interpersonal Needs Questionnaire (INQ-15) to address feelings of

belongingness and the Suicidal Ideation Attributes Scale (SIDAS) to investigate suicidal

ideation patterns. The survey was generated by Survey Monkey.

The INQ-15 measured thwarted belongingness and perceived burdensomeness in

relation to suicidal ideation. Specifically, the INQ-15 is a reliable 15-item measurement

tool that analyzes the correlation between belongingness, loneliness, burdensomeness,

and self-worth (Van Orden et al., 2012). The INQ-15 measured the independent variable

of feelings of belongingness via a scale ranging from 1 (*not at all true for me*) to 7 (*very*

true for me (Van Orden et al., 2012).

The SIDAS (Van Spijker et al., 2014) was utilized to measure the dependent

variable suicidal ideation. The SIDAS is a 5-item instrument that pinpoints suicidal

thoughts by considering the frequency of thoughts, ability for individuals to control

thoughts, level of distress associated with the thoughts, level of impact on daily

functioning and closeness to attempt. Measurement is based on a 10-point scale ranging

from 0 = Never to 10 = Always (Van Spiiker et al., 2014). SIDAS is a valid tool with

high internal consistency (Ma et al., 2019).

The moderator variable of social media use was measured via demographic

information questions that addressed the primary reason the participant accessed social

media, and the number of hours spent on social media daily. I conducted the analysis of

survey data via a multiple linear regression, analyzing the relationship among the

variables. I completed the analysis via SPSS. Multiple linear regression is an appropriate

analysis for this study, as Curtis et al. (2016) noted that multiple linear regression is used to identify the strength of the independent variable on the dependent variable.

Sources of Data

I collected primary data via anonymous online surveys completed by participants. Participants were kept anonymous by collecting minimal demographic information that did not include any personally identifiable information. Additionally, the computer IP addresses were not stored and I notified participants that I conducted the data analysis as an aggregate versus individual review. Possible challenges to data collection existed in securing participants to complete the anonymous survey. I developed the survey utilizing the Survey Monkey platform, incorporating survey questions from the INQ-15 and the SIDAS. The survey completion criteria targeted women over the age of 21 having access and availability to complete the survey. I made the survey available on social media platforms including Facebook, Instagram, and LinkedIn. Additionally, I disseminated the survey via WhatsApp and email.

Limitations

Self-report bias and social desirability bias were the primary limitations of this study. These biases occur when participants disclose estimates of self-assessed behavior that are influenced by varying factors, including a lack of understanding of proper measurement or a need to appear prosocial to researchers (Brenner & DeLameter, 2016). Additionally, the inaccuracy of predictions is commonly a chief error found in multiple regression analysis (Frankfort-Nachmias & Leon-Guerrero, 2015). For this particular study, I carefully considered the validity of data. Statistical conclusion (SCV) validity

occurs when adequate analysis of the data is conducted. Threats to SCV were possible with Type I and Type II errors in this study.

Ethical Procedures

I secured Institution Review Board (IRB) approval for this study. I considered two ethical procedures: informed consent and voluntary participation. I informed study participants of the study subject matter, their voluntary participation, and the right to discontinue the assessment at any time. Furthermore, I informed individuals of the sensitivity of the topic and the availability of free counseling, support, and crisis intervention services.

Significance

Research on suicidal behaviors over the past decade has failed to yield predictions of future suicides or increased utility for clinical forums (Christensen et al., 2016). Clinical utility refers to the effectiveness of prevention results at the micro, meso, and macro levels, focusing on the impact of efforts not only on the individual but also on family and society (Christensen et al., 2016). Additionally, assessments that measure suicidal risk have been used as a standard part of prevention education, yet there is little validity that these assessments predict increased suicidal risk (Velupillai et al., 2019).

The findings of this study have far-reaching implications in addressing the literature gap regarding the influence of social media use on suicidal ideation among women. Specifically, this study affords the opportunity to pinpoint female challenges with suicidal ideation and feelings of belongingness in relation to social media use, adding to the body of research of exactly how known suicide risk factors present in

women. The results of this study will contribute to the existing body of literature that when combined, may lead to policy and practice changes and development of targeted prevention programming for women experiencing suicidal ideation.

Summary

Suicide is a worldwide phenomenon that claims more than 800,000 lives annually, averaging one death every 40 seconds (CDC, 2019). Of particular note within this statistic is the rise of suicides among women. This chapter included discussion of the background of the increase of suicide among women and the need for targeted gender-specific intervention and prevention measures. Additional research is needed to consider possible reasons for the increase in suicide among women. As such, this chapter incorporated a description of the study, in which I considered the relationship between feelings of belongingness, social media use, and suicidal ideation among adult women. Findings from the study, when combined with existing literature, will add to the body of knowledge surrounding suicidology and lend to the development of targeted prevention measures for women. The next chapter will include a review of the current literature, highlighting the theoretical foundation for the study and exploring the history of suicide, social media culture, and the uniqueness of suicide among women.

Chapter 2: Literature Review

Introduction

Chapter 2 of this study includes a review of the existing literature concerning the influence of social media use on feelings of belongingness and suicidal ideation among adult women in the United States. The following chapter incorporates a synthesis of the literature and theoretical framework, including foundational theories, history of suicidal ideation in the United States, online suicidal intervention measures, gender-specific suicidal behavior, and female social media use patterns. The summary section includes an explanation of the gap in literature based on the review findings and the need for additional research.

Literature Review Search Strategies

I began my literature search based upon the following research question: How does social media use moderate the relationship between feelings of belongingness and suicidal ideation among adult women over the age of 21? Key search terms included: *suicide in women, social media use, suicide in the United States, impact of social media, social media and belongingness, connectedness and belongingness among women, suicidal ideation, gender,* and *suicide*. Theoretical framework search terms included *suicide theory, suicidology foundational theories, the theory of suicide, and the interpersonal theory of suicide.*

I utilized several search engines and databases to identify peer-reviewed journal articles, books, and professional sources. The initial search began with the Walden University Library, which led to databases such as PsycInfo, SocIndex, and Thoreau.

Additionally, I accessed Academic Search Complete, ProQuest Central, SAGE Journals,

Google Scholar, and Research Gate for current scholarly articles. I also searched federal

government sites such as the United States Department of Health and Human Services,

including the division of Substance Abuse and Mental Health Services as well as the

Centers for Disease Control and Prevention, the Department of Veterans Affairs, and the

National Institutes of Health.

Theoretical Framework

The primary purpose of the theoretical framework is to guide the researcher's

synthesis of the data and provide a platform of merit for the study of a specific

phenomenon (Adom et al., 2018). It is essential to determine an appropriate theoretical

framework for this study by considering the phenomena of the increased suicide rate

among women in the United States and the possible reasons for the escalation. Guided by

this perspective, the goal of this study was to analyze the correlational relationship

between suicidal ideation, feelings of belongingness, and social media use among adult

women in the United States. The theory of suicide and the interpersonal theory of suicide

are the theoretical frameworks for the study.

Social integration is the foundation of Durkheim's theory of suicide (1951).

Originally written in *Le Suicide* (1951), this theory included the hypothesis that suicide

can be impacted by social causes versus original suggestions that only considered

individual temperament and personality as causes for suicide. Durkheim ascertained that

social integration is achieved through a shared experience with a broader community that

encompasses shared values, beliefs, and norms to drive a collective consciousness. Thus,

this theory was appropriate as a study foundation and provided continuity for the importance of connectivity and belongingness as a protective factor against suicide. Lew et al. (2019) expounded upon this premise. They found that personal and social bonds are pivotal to developing human connections that buffer suicidality through human elements such as love, support, and empathy. Overall well-being is increased and a reduction in social isolation occurs when individuals feel connected to a community, fulfill a social role, and participate in community activities (Terry et al., 2018).

The present study included an exploration of the relationship between feelings of belongingness, suicidal ideation, and social media use among adult women. Although research is limited for this specific demographic, a general community-based study of older adults highlighted that individuals with fewer social connections indicated higher levels of suicidal ideation (Stanley et al., 2016). Specifically, adults with an elevated sense of thwarted belongingness, less integration into mainstream society, and a lack of meaningful social connections reported increased suicidal thoughts (Stanley et al., 2016). Conversely, those with stronger family bonds and family connections noted lower levels of suicidal ideation and improved well-being when they lived with someone or had a strong social support network (Stanley et al., 2016).

Given that personal connection to a community is confirmed as a protective factor against social isolation (Terry et al., 2018), the ability for individuals to develop personal relationships via social media must be considered. The literature highlights the advantages and disadvantages of relationships maintained online (Ryan et al., 2017). Although the use of social media increases the ability for many to achieve connections

and relationships, excessive engagement with social media platforms for connection purposes has also been shown to be a source of weakened friendships, cyber-ostracism, amplified loneliness, and increased stress (Marchant et al., 2018; Ryan et al., 2017; Utz & Breuer, 2017). A review of the literature showed that excessive social media use reinforces the displacement hypothesis, which purports that time spent socializing online draws away from creating in-person relationships and leads to lower levels of overall well-being (Ryan et al., 2017). As a foundation for the present study, I used Durkheim's work as a framework to highlight the need for community connectedness and inclusion as a protective factor against suicide.

Joiner (2005) contributed to the body of literature on suicidality through the interpersonal theory of suicide. Outlined as a part of *Why People Die by Suicide* (Joiner, 2005), the theory included the explanation that individuals would have a desire to die by suicide if they experienced simultaneous feelings of thwarted (prevented) belongingness and perceived burdensomeness coupled with hopelessness regarding those feelings (Joiner, 2005). Hopelessness, however, is not an element of the two constructs of burdensomeness and belongingness, but instead, overall hopelessness is a separate and distinct factor (Mandracchia et al., 2019).

As the first theory to include ideation-to-action, the interpersonal theory of suicide was an appropriate foundation for the present study. The theory explains that thwarted belongingness and perceived burdensomeness are risk factors for suicide (Joiner, 2005). Joiner (2005) also incorporates the tenet that, in addition to the previously mentioned risk factors, the exposure to painful and provocative experiences over time contributes to

what is known as *acquired capability*. Acquired capability bridges the gap between

passive and active suicidal behavior by lowering the fear of death and increasing

tolerance to pain (Stanley et al., 2016). In essence, the theory posits that individuals die

by suicide because they have a desire to die and through painful experiences have

developed the capability for lethal self-harm (Chu et al., 2016).

A recent review of current studies regarding social media, internet usage, and

suicide attempts in adolescents aged 11 – 18 highlighted that there is a significant link to

suicidal risk and excessive social media use (Sedgwick et al., 2019). Researchers

identified nine cross-sectional studies that met criteria for further examination. Of the

nine studies, seven pinpointed an increased association between suicide attempts and

social media use when controlling for age and sex. Further, it was determined that social

media use has the potential to perpetuate destructive feelings and behavior patterns

(Sedgwick et al., 2019). In connecting their study with the interpersonal theory of

suicide, the authors posited that additional research is needed to determine if capacity for

lethal self-harm is increased due to social media use (Sedgwick et al., 2019). Specific to

the present study, I sought to determine if a sense of thwarted belongingness brought on

by social media use contributes to suicidal behavior in women. Thus, an overview of

suicide in America provides a historical perspective of the phenomena and the subsequent

increase among women.

Suicide in the United States

From 1999 – 2007, suicide in the United States remained consistent with the

global ranking of suicide ranging between the 11th and 15th cause of death annually

(World Health Organization, 2018). However, in 2008, suicide became a significant

public health issue and the 10th leading cause of death in the United States (CDC, 2019).

According to the 2017 CDC (2019) WISQARS Leading Causes of Death Reports, suicide

rose to the second leading cause of death for those ages 15 – 34 and the fourth leading

cause of death of those ages 35 – 54 in 2016 (CDC, 2019).

From 1999 to 2017, there were noticeable suicide trends in both male and female

demographics. The average suicide rate for males and females increased by one percent

per year from 1999 – 2006, with a further increase of two percent per year from 2006 –

2017. For men, the suicide completion rate increased by 26% from 1999 – 2017, rising

from 17.8 to 22.4 per 100,000 standard population (CDC, 2019). On the other hand, the

rate of female suicide completion doubled the male increase rate with a 53% increase

from 1999 – 2017, increasing from 4.0 to 6.1 per 100,000 standard population (CDC,

2019).

In addition to the over 50% increase in suicide completions for women, there was

a marked difference in suicide attempts and ideation behavior between the genders.

Women made more failed attempts than men (Turecki & Brent, 2016). The 2017 Survey

of Drug Use and Mental Health highlighted that women attempted suicide 1.4 times more

than men (SAMHSA, 2018). Suicidal ideations are also higher for women, accounting for

4.6% percent of suicidal ideations as compared to 4.1% of men (CDC, 2019). When

considering self-destructive patterns specific to women, it bears mentioning that age is an

essential factor. Suicide rates increased overall for women between the ages of 10 – 74

from 1999 – 2017 (CDC, 2019). However, the increase was higher for women ages 45 –

64. This demographic had a marked increase of 60% from 2000 – 2016 (CDC, 2019).

The present study included an exploration of the relationship between thwarted

belongingness, social media use, and suicidal ideation among adult women. With this in

mind, a deeper look at the literature regarding social media culture in the United States

provides context to the overall role of social media in American society and the behaviors

that are elicited from social media use.

Social Media Culture

Social networking site use increased in the United States over the past decade,

advancing from five percent of users on social networking sites in 2005 to 79% in 2019

and accounting for 244 million users in 2018 (Clement, 2019). People utilize social

media for a variety of reasons, including connecting with family, sharing and garnering

information, and developing friendships (Ridings & Gefen, 2017). Additionally,

universities and colleges leverage social media use for chat rooms, blogs, and classes to

optimize student performance (Siddiqui & Singh, 2016).

Although there are positive aspects of online interaction, online communication

has changed the way people experience social relations. Technology and digital platforms

have given way to communication that can be considered by some as complicated,

leading to difficulties in maintaining relationships and general avoidance of in-person

social interactions (Antonucci et al., 2017). From a health and wellness perspective, this

form of communication has been shown to perpetuate decreased well-being, increased

anxiety, elevated feelings of isolation, and lower life satisfaction (Utz & Breuer, 2017).

Additionally, social media use can lead to social media burnout and social media fatigue,

where an individual's continued use is directly impacted by feelings of emotional exhaustion (Han, 2016). Because of this, there continues to be unique challenges associated explicitly with social media connections.

Challenges in Social Media Culture – Connectivity and Addictive Patterns

Social media use can foster positive connections among users. Burrow and Rainone (2017) explained that despite this, the number of *likes* received on social media can undermine those positive connections and lead to negative emotions on users. The authors posited that adverse outcomes with excessive social media use such as amplified negative self-esteem, reduced well-being, and increased loneliness are developed and intensified with disproportionate time spent on social media (Burrow and Rainone, 2017). Individuals addicted to the internet and social media experience neurological and psychiatric symptoms similar to those that are addicted to nicotine, alcohol, or drugs (Macit et al., 2018).

Dopamine is a neurochemical created in certain parts of the brain that is predominantly related to pleasure but is also linked to critical brain functions such as thinking, attention, motivation, and rewarding (Macit et al., 2018). The authors explain that the dopamine loop refers to a cycle of anticipation, activity, and reward that occurs when a person experiences a pleasurable activity, the brain releases dopamine and stimulates the brain to repeat the action. Excessive use of social media perpetuates a similar loop where individuals perform an action (write, share, post), wait for a response (like, comment) and receive a reward (Macit et al., 2018).

There are four dopamine *pathways* with connection to different parts of the brain. Three of these pathways, mesocortical, mesolimbic, and nigrostriatal, each has distinct responsibilities for the release of dopamine in specific parts of the brain, and each contributes to reward re-enforcement (Haynes, 2018). This process strengthens over time. As the process is repeated, it increases in intensity with each response to the stimuli (Haynes, 2018). Dopamine addiction contributes to the overall decline in societal social functioning with a decrease in close relationships and increased links to depression, loneliness, and social isolation (Macit et al., 2018), which are known risk factors for suicidal ideation.

Given that the online environment is often impersonal and anonymous, there is the potential for harmful and insensitive communication (Antonucci et al., 2017) that can cause an increase of emotions for the user. Notably, the user may experience positive emotions of relational closeness, affirmation, and inspiration, while simultaneously feeling the converse emotions of disconnection and fear of judgment (Weinstein, 2018). As part of the emotional roller coaster, social media use contributes to a culture of competition, social comparison, and jealousy. Hart (2020) explained that jealousy is a blend of emotions that can cause social comparison, where individuals judge themselves and consider their self-worth in relation to others.

Festinger (1954) further clarified this point through the social comparison theory, explaining the concept of upward and downward comparison. The theory posits that individuals compare themselves to those perceived as being better than they are (upward) or less proficient than they are (downward). Comparisons can be healthy, eliciting self-

improvement, and self-motivation. However, often the opposite occurs with comparisons via social media. When engaging online, individuals tend to make more upward comparisons that have a negative impact on well-being, self-esteem, and mood (Guyer & Vaughan-Johnston, 2018). De Vries and colleagues (2018) found that individuals who viewed positive social media posts of strangers experienced decreased positive affect as compared to those that did not engage in social media comparison, viewed no posts, or viewed posts that were considered as neutral (not positive or negative).

Females are more prone to social comparison than males (Bergagna & Tartaglia, 2018), have higher occurrences of depression than men (Picco et al., 2017), and are more prone to developing problematic online behaviors as compared to men (Kircaburun & Griffiths, 2018). The above bears mentioning when considering the behaviors associated with social comparison. Research shows that social comparison has a direct influence on risky behavior and online aggression perpetration (Wang et al., 2017).

Challenges in Social Media Culture – Cyberbullying and Online Aggression

Cyberbullying, also known as virtual abuse, is an ever-increasing form of social media aggression where perpetrators intentionally exhibit aggressive online behavior toward others via electronic mediums such as social media, email, chat rooms, text, direct, or instant messaging (Wang et al., 2017). Perpetrators of cyberbullying inflict willful harm through a variety of forms such as online harassment, cyberstalking, and cyberthreats communicated by way of phone calls, texts, emails, pictures, and video clips (Asanan et al., 2017).

Although cyberbullying ranges across demographics, higher levels occur among women, young adults aged 18-25, and minority groups, including ethnic, cultural, and sexual minorities (Llorent et al., 2016). Specific to the present study, cyberbullying is directly related to belongingness and indirectly related to social connectedness (Kircaburun & Griffiths, 2018). For women, social media use is directly linked to challenges with general belongingness, problematic social media use, and depression (Kircaburun & Griffiths, 2018). In a recent study, researchers found that victims of cyberbullying were at a higher risk for suicidal behavior (Kim et al., 2019). Increased connectedness moderated the relationship, such that those with higher social connectedness reported less suicidal behavior (Kim et al., 2019).

In addition to the many forms of cyberbullying, another type of online aggression is social media blocking or "unfriending" culture. Unfriending someone is described as a harsh or impolite social etiquette where communication or "following" is halted for a variety of reasons (Gashi & Knautz, 2016). Women tend to unfriend their friends more than men (Gashi & Knautz, 2016). Although 52% of women cited that alienation is the primary reason for unfriending, other reasons included de-escalating a friendship or creating distance in a friendship (Gashi & Knautz, 2016). Adults tend to unfriend individuals based upon daily life posts about things such as family, job, and children (Verswijvel et al., 2018). While there is limited research in this area, the blocking and unfriending culture leads to adverse emotional and cognitive reactions (Williams & Nida, 2016). There is a difference with many social media users in viewing posts, with posts being considered as positive, neutral, or negative. De Vries and colleagues (2018)

explained that posts are seen as positive when individuals show the positive side of their lives and themselves as individuals. The more exposure social media users have to opposing views and posts they consider as positive, the more uncomfortable they feel (Jeong et al., 2019; Guyer & Vaughan-Johnston, 2018). To alleviate discomfort, social media users lean towards selective exposure or selective avoidance of content or people, otherwise known as blocking or unfriending (Malinen et al., 2018).

As noted in previous sections, social media use is directly linked to feelings of belongingness in women (Kircaburun et al., 2018) and belongingness is an identified risk factor for suicide. As such, social media platform researchers have recognized measures that attempt to increase belongingness and decrease suicide via online prevention campaigns and support (Zalsman et al., 2016).

Online Suicide Prevention Campaigns and Internet Support

In 2005, suicide prevention and intervention efforts increased. These efforts highlighted a variety of approaches, including reduced access to lethal means, physician and public education, media strategies, social media campaigns, and internet support platforms (Zalsman et al., 2016).

None of the aforementioned measures have been proven to be more effective than any other (Zalsman et al., 2016). However, a combination of evidence-based approaches opened the door for additional research and program development. Kegler et al. (2017) agreed that it is challenging to achieve suicide reduction with just one strategy. Still, with a combination of several approaches spanning across a collection of contexts where individuals live and work, notable decreases are possible.

Social media influences suicidal behavior in positive and negative ways through its ability to reach large numbers of people at one time. Robinson et al. (2016) explained that in addition to identifying reasons why individuals utilize social media platforms, there is also the increased ability to recognize individuals at risk for suicidal behavior. Although negative social media behavior contributes to suicidality, social media also provides a unique framework for suicide prevention and intervention strategies (Robinson et al., 2016). Online communities enable individuals to make connections with others, often anonymously, and facilitate an environment for dialogue and discussion (Rice et al., 2016). This anonymous platform is viewed by many users as an easily accessible and non-judgmental avenue to share experiences and seek support (Robinson et al., 2016). Social media users with advanced knowledge of warning signs of suicidal behavior feel more comfortable engaging with those at risk when there is a cause for concern (SAMHSA, 2018). Recognizing warning signs and providing brief, immediate intervention that leads to follow-up care has proven to save lives (SAMHSA, 2018).

The World Health Organization (2018) bolstered international parameters and benchmarks for increased online capacity for self-help services, e-mental health, and community-based platforms that utilize technology, peer-support, and access to counseling professionals. Rice et al. (2016) contended that social media is a vital aspect of communication for numerous individuals, and suicide prevention platforms implemented via social media are a mainstay in future mental health intervention.

However, potential risks are noted with online intervention strategies, including lack of evaluated platforms, misinformation sharing, normalizing suicidal behavior, and

the possibility of spreading suicidal conduct within peer groups, referred to as contagion (Bailey et al., 2018). Further, Dyson et al. (2016) discussed the impact of triggers and the challenges that may arise with the intentional sharing of self-harm acts or suicidal plans. Although online strategies via social media provide an opportunity for real-time intervention, a need exists to ensure these measures are implemented in ways that are ethical and safe and do not increase vulnerability for the already at-risk populations (O'Connor & Portzky, 2018), such as female online users.

Social Media Use Among Women

Women account for a more significant percentage of social networking site users than men and have higher rates of access on the most powerful social networking sites (Perrin & Anderson, 2019). However, before moving on to the reasons why women are more active on social media, it is essential to understand how and why women relate the way they do. There are distinct differences in the way and reasons women develop relationships versus that of males. Men tend to prefer larger, all-male clique relationships based upon hierarchical alliances as opposed to the female preference of intimate dyadic associations (David-Barrett, et al., 2015; Eisenbruch & Roney, 2020).

Historically, women met in community assemblies such as quilting bees and church groups to share information, socialize, and create connections (Butler, 2018). These intimate relationships served as a source of support and produced higher levels of overall subjective well-being for women across the lifespan (Chopik, 2017). Terry et al. (2018) highlighted that the formation of relationships and fulfilling a social role within the community reduces psychological stress and social isolation. This pattern of females

seeking community relationships remains the same in the online environment, where women often use social media as a mechanism for anger relief and social support (Keating et al., 2016). More than men, women are prone to connect with others via social networking sites, maintaining significant ties with close and distant networks (Krasnova et al., 2017). Additionally, women tend to use social networking as a "word of mouth" platform, with the opportunity to spread information and product recommendations, much like sharing recipes, community news, and family information in earlier years (Krasnova et al., 2017).

Yet, the converse to positive online interactions exists. Extreme social media use supports addictive patterns in women that contributes to low self-esteem, depression, anxiety, negative body image, eating disorders, and sexual dysfunction (Andreassen et al., 2017). In a recent study of college students, researchers found that social media anxiety and envy were two indicators of social media burnout (Liu & Ma, 2018). Social media burnout leads to depression and adverse psychological outcomes, particularly in women. As previously noted in this chapter, these patterns place women at increased risk of suicide.

Suicide and Women

Suicide among women is a multi-faceted issue that accounted for more than 7,000 deaths in the United States in 2018 (CDC, 2019). Turecki and Brent (2016) argued that female suicide patterns contribute to the overall rate of morbidity and mortality in the United States, with women making more suicide attempts than men. Although suicide is a worldwide epidemic, deaths among women often go under-reported. Suicide among

men is often considered a more critical issue than suicide among women, which is frequently overlooked in suicide prevention policies and program development (Mallon et al., 2016). Suicide incorporates numerous aspects and there are marked differences between male and female suicide patterns that illuminate the need for gender-specific prevention and intervention measures (Turecki & Brent, 2016).

Specifically, psychopathology and psychosocial stressors contribute to female suicide (Turecki & Brent, 2016), with overarching reasons often categorized as mental illness or problems with the reproductive cycle. In addition to mental illness and reproductive issues, female suicide is linked to bereavement, interpersonal violence, motherhood, family issues, and physical health complications (Mallon et al., 2016). There is little credence given to differences particular to female societal practices and expectations. Women are frequently expected to behave altruistically, caring for the welfare and well-being of others, while men are not held to the same standard (Rand et al., 2016). In this paradigm of altruistic behavior, women are more likely to encounter stressors expressed from others more than men, and bear the compounded burden of caring for the home and family, as well as maintaining employment outside of the home (Moore et al., 2018). Additionally, women are more likely to live in poverty when compared to men, thus lending to additional mental and physical stressors such as working multiple jobs, feelings of lack of control, and low self-esteem (McLeod, 2018).

In the United States, women suffer from clinical depression at twice the rate of men, representing over 12 million diagnoses annually and a diagnosis rate of 10.4% as compared to 5.5% in men (McLeod, 2018; CDC, 2019). Mostly in the role of wives and

daughters, women are the primary caregivers of family members (McLeod, 2018). These women are often at increased risk for suicide, as many of them are actively engaged in the "sandwich generation", caring for their children while tending to a sick parent (McLeod, 2018). As a result, numerous women suffer from compassion fatigue and burnout, which poses an increased risk for suicide (Lee et al., 2018).

Suicide risk may also increase during certain phases of a woman's reproductive life cycle. The perinatal period (during pregnancy and after childbirth) is a vulnerable time for suicide risk, with 20% of postpartum deaths being suicide-related (Department of Veterans Affairs, 2019). Additionally, perimenopausal women are at increased risk for suicide, with 16% – 50% reporting some form of sexual dysfunction (Department of Veterans Affairs, 2019). Khalifeh et al. (2016) explained that suicide is a significant cause of maternal death, yet there is limited research and focused prevention efforts for this demographic.

In addition to health-related suicidal risk, female intimate partner violence is a central theme found in suicide research. Displayed in many forms, including psychological or physical abuse – name-calling, insults, humiliation and acts to scare women, and financial abuse (Gibbs et al., 2018), intimate partner violence is closely linked to suicidal ideation. Women experiencing increased instances of intimate partner violence are more prone to frequent suicidal ideation when compared to those that suffer fewer instances of intimate partner violence (Gibbs et al., 2018). MacIssac, Bugeja, and Jelinek (2017) explained that there is no difference in suicidal influence whether the female was the perpetrator or victim of violence. Women that have experienced

interpersonal violence in any form have an increased risk of death by suicide, and more specifically, survivors of intimate partner violence are twice as likely to attempt suicide.

Summary

The research cited in this chapter considered the current literature relevant to the relationship between thwarted belongingness, suicidal ideation, and social media use among adult women in the United States. This analysis provided a broad review of the literature regarding two of the theoretical foundations for suicidality, the history of suicide in the United States, as well as, aspects of social media use culture. I then conducted a narrower analysis of the literature related to female suicide in the United States and female social media behavior. Specifically, the research included an examination of the impact that social media use has on feelings of belongingness in women that ultimately leads to suicidal behavior, including ideations, attempts, and completions. From my review, it is clear that the female suicide rate increased by over 50% in the last decade (CDC, 2019), and there are distinct indicators that describe the uniqueness of suicidality among women.

As I explained in the initial sections of this chapter, thwarted belongingness is a known risk factor for suicide (Joiner, 2005), and social integration is needed for individuals to feel connected to a broader community (Durkheim, 1951). However, there has been a shift in recent years, with individuals connecting more in online communities versus traditional face-to-face interaction. Two of the primary challenges with this form of communication is described in the preceding sections regarding the addiction to approval and "likes" that help individuals feel that they belong

and are accepted (Macit et al., 2018) as well as the negative social comparison and cyber aggression that can occur in online environments.

Female suicidal behavior presents unique challenges when compared to male suicidal behavior in that women are more prone to depression, fear of acceptance from others, and the cyber aggression culture that perpetuates feelings of isolation and anxiety, decreased life satisfaction, and increased risky behavior (Kircaburun & Griffiths, 2018; Chu at al, 2016). The research confirms that individuals with lower levels of social ability experience higher levels of thwarted belongingness and fear of evaluation, which are directly linked to suicidal ideation (Chu et al., 2016).

The literature, however, is lacking in research that looks explicitly at female suicidal behavior in relation to social media use. Pointedly, research is needed to consider the role that increased social media use plays in the known relationship between feelings of belongingness and suicidal ideation. The purpose of this study was to take a more in-depth look at the relationship between feelings of belongingness, social media use, and suicidal ideation in women in the United States. The next chapter will explain the research methodology, data collection, and data analysis used to conduct the study.

Chapter 3: Research Method

Introduction

The purpose of this quantitative nonexperimental study was to evaluate the association between social media use, feelings of belongingness, and suicidal ideation among adult women. My goal for the study was to address the suicide rate among women in the United States, which increased by 50% between 2000 and 2016 (CDC, 2019). Escalations covered the female lifespan, with increases shown in each age group except those over age 75. The highest level of increase was shown in women aged 45-64, and the lowest increase was in those aged 10-14 (CDC, 2019). The following chapter includes the research design, rationale, and methodology for the study.

Research Design and Rationale

The research design for this study was a quantitative nonexperimental design utilizing a cross-sectional online survey for data collection. A correlational design was appropriate for the proposed study. As explained by Omair (2015), a correlational design does not consider the cause- and-effect relationship of variables, but observes phenomena via data collection analysis. The correlational research design is used to explain the relationship among the variables and to clarify the extent of variable interaction (Seeram, 2019). Further, correlative research includes data from one point in time, allowing researchers to interpret the data and make conclusions based on statistical findings (Seeram, 2019).

The study considered the independent variable of feelings of belongingness, the dependent variable of suicidal ideation, and a moderator variable of social media use.

Since belongingness has been previously found to be a risk factor for suicidal ideation, I utilized the data analysis from this study to determine increased or decreased levels of belongingness and suicidal ideation in relation to the level of social media use. Specifically, I considered the research question – How does social media use moderate the relationship between feelings of belongingness and suicidal ideation among adult women over age 21? I measured participant responses at one time point via online survey completion and developed conclusions regarding the association between feelings of belongingness, suicidal ideation, and social media use.

Methodology

Population

Participants for this quantitative study were women over the age of 21 with self-reported use on social networking sites. Women below the age of 21 were excluded from the study. I used convenience sampling to select female participants over the age of 21, across various demographics, including age, race, income and relationship status, and religious affiliation. Convenience sampling allowed me to access a portion of the population that is easiest to reach. The demographic information collected from study participants is included in the final data analysis. The total sampling size was 98 participants. This sample size is appropriate as indicated by GPower analysis for a multiple linear regression with an effect size of .10, power of .80, and one predictor.

Procedures for Recruitment, Participation, and Data Collection

I collected data via an anonymous online survey developed utilizing the Survey Monkey program. I incorporated survey questions from the INQ-15 and SIDAS and

included completion criteria that targeted women over the age of 21 with access and availability to complete the survey. I distributed the survey link on social media platforms such as Facebook, Instagram, and LinkedIn. Additionally, I distributed the survey via email and WhatsApp. Participants informed demographic information: age, race, education level, relationship status, income level, and religious affiliation. Additionally, participants self-reported social media use, reasons for social media access, and hours of use per day.

Before entering the survey, participants acknowledged an online statement of the study subject matter, their voluntary participation, and the right to discontinue the assessment at any time. Participants also acknowledged understanding of the sensitivity of the topic and the availability of free counseling, support, and crisis intervention services as well as the process for data collection and analysis. Participants acknowledged understanding of consent via a link on the information page. Access to the survey was not allowed without acknowledgment of consent. Affirmed acknowledgment of consent enabled the participant to enter the survey site to complete the demographic information, including social media questions, as well as, the interpersonal needs questionnaire (INQ-15) and the suicidal ideation attributes scale (SIDAS). There were no debrief procedures or follow-up requirements for the study. After completing the surveys, participants accessed the final page of the survey that included a thank-you message and additional information regarding available counseling, support, and crisis intervention services.

The INQ-15 was developed by Joiner and colleagues in 2008 to measure thwarted belongingness and perceived burdensome in relation to suicidal ideation. Specifically, the INQ-15 tests the interpersonal-psychological theory of suicide through a 5-item measurement tool that analyzes the correlation between belongingness, loneliness, burdensomeness, and self-worth (Ma et al., 2019). The INQ-15 is a valid and reliable tool that measures the independent variable of feelings of belongingness via a scale ranging from 1 (*not at all true for me*) to 7 (*very true for me*). Confirmatory factor analysis showed predictive and discriminant validity and internal consistency in assessing perceived burdensomeness and thwarted belongingness in a study regarding the interpersonal needs of men in Asia (Teo et al., 2018). Additionally, an analysis of all versions of the INQ found that the INQ-15 and INQ-10 demonstrated the highest level of internal consistency (Hill et al., 2015). I was granted approval from the developer to use the INQ-15.

The suicidal ideation attributes scale (SIDAS) was developed by van Spijker and associates (2014) and was utilized to measure the dependent variable suicidal ideation. The SIDAS is a 5-item instrument that pinpoints suicidal thoughts by considering the frequency of thoughts, ability for individuals to control thoughts, level of distress associated with the thoughts, level of impact on daily functioning and closeness to attempt. Measurement is based on a 10-point scale ranging from $0 = Never$ to $10 = Always$ (van Spijker et al., 2014). SIDAS is a valid tool with high internal consistency and convergent validity (Ma et al., 2019). Permission was not required for the use of the

Suicidal Ideation Attributes Scale. Access to the survey is located with the Australian National University Research School of Population Health.

The moderator variable of social media use was measured via self-reported social media use questions following the demographic section of the survey. Survey questions addressed the primary reason the participant accessed social media as well as the number of hours spent on social media daily. I conducted data analysis via a multiple linear regression test, analyzing the relationship among the variables. The analysis was completed via SPSS. Multiple linear regression was an appropriate analysis for this study, as multiple linear regression is used to identify the strength of the independent variable on the dependent variable (Curtis et al., 2016).

Threats to Validity

Testing reactivity was a primary threat to the external validity of this study, as participants may alter responses due to the awareness that the responses are being measured. The potential for self-report bias and social desirability bias also existed. Given that the responses were informed from the participant's perspective, Brenner & DeLameter (2016) highlight that disclosure estimates of self-assessed behavior could have been influenced by varying factors, including a lack of understanding of proper measurement or a need to appear prosocial to researchers. Additionally, the inaccuracy of predictions is a chief error found in multiple regression analyses (Frankfort-Nachmias & Leon-Guerrero, 2015). For this particular study, I gave careful consideration to the validity of data. Statistical conclusion validity (SCV) occurs when adequate analysis of

the data is conducted. Threats to SCV were possible with Type I and Type II errors in this study.

Ethical Procedures

I secured IRB approval for this study. I considered two ethical procedures - informed consent and voluntary participation. I also informed participants of the study subject matter, their voluntary participation, their right to refuse to answer any questions or part of a question, and the right to discontinue the assessment at any time. Furthermore, I informed participants of the sensitivity of the topic and the availability of free counseling, support, and crisis intervention services. Surveys with some missing responses were included in the overall analysis.

I also considered ethical concerns regarding data collection. Given that the research was internet-based, I gave attention to data privacy, data integrity, and participant anonymity. I ensured that respondents to the surveys were completely unknown by anyone connected to the survey and I maintained participant anonymity by collecting minimal demographic information that did not include any personally identifiable information. Additionally, I did not store the computer IP addresses and I conducted data analysis as an aggregate versus individual review. Per IRB recommended guidelines, I will appropriately maintain data for 3 years after the research has been closed.

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Summary

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The purpose of this quantitative study was to consider the association between social media use, feelings of belongingness, and suicidal ideation among adult women

and to answer the research question - How does social media use moderate the relationship between feelings of belongingness and suicidal ideation among adult women over age 21? The chapter included a discussion of the quantitative nonexperimental study - the study procedure, study participants, data collection, and an explanation of how the study was conducted via an anonymous online survey. The following chapter will outline the study results and adherence to the study methodology.

Chapter 4: Results

Introduction

The purpose of this quantitative nonexperimental, correlational study was to evaluate the association between social media use, feelings of belongingness, and suicidal ideation among adult women. My intent was to understand the suicide rate among women in the United States, which increased by 50% between 2000 and 2016 (CDC, 2019). In addition, study results are expected to contribute to the existing body of literature, which, when combined, may inform policy and practice as well as targeted suicide prevention programming and mental health treatment for women.

One research question was postulated for this quantitative study.

RQ1: How does social media use moderate the relationship between feelings of belongingness and suicidal ideation among adult women over age 21?

H_0: Social media use does not moderate the relationship between feelings of belongingness and suicidal ideation among adult women over age 21.

H_1: Social media moderates the relationship between feelings of belongingness and suicidal ideation among adult women over age 21.

Chapter four is organized by a discussion of the data preparation, sample demographics, reliability analysis, descriptive statistics, hypothesis testing, and a summary of the results. Data were analyzed with SPSS 23 for Windows and the Hayes PROCESS macro. The following provides a discussion of the data preparation.

Data Collection and Data Preparation

The data were collected via an anonymous online survey in Survey Monkey. The survey was available for participant response for 14 days. The data were exported from SurveyMonkey directly to SPSS. One hundred and thirty-six participants entered the survey. The data were inspected visually for missing data. Thirty-eight cases were excluded because they had 40% or more of the items unanswered on the surveys. This left a sample size of 98 participants. For suicidal ideation, item #27 was reverse-scored according to the author's directions. For item #28 on the survey, 12 cases were replaced with the series mean. For item #30, 7 cases were replaced with the mean. The reliability was computed for belongingness and suicidal ideation. Scores for belongingness and suicidal ideation were computed. Scores for belongingness and social media use were centered. The interaction term was created by multiplying the centered variables for belongingness and social media use.

Sample Demographics

The final sample consisted of 98 women. The largest group of females (34.7%, $n = 34$) was 35 – 44 years of age, whereas the smallest group (6.1%, $n = 6$) was composed of women 65 and older. Age is presented in Table 1.

Table 1

Age

Age	n	%	Cumulative %
21-24	7	7.1	7.1
25-34	17	17.3	24.5
35-44	34	34.7	59.2
45-54	24	24.5	83.7
55-64	10	10.2	93.9
65+	6	6.1	100.0
Total	98	100.0	

Regarding race/ethnicity, the largest group of females were Black or African American, whereas Caucasians comprised the second largest group of participants. Women of Asian extraction had the least representation. Race/ethnicity is presented in Table 2.

Table 2

Race/Ethnicity

Race/Ethnicity	n	%
White or Caucasian	39	39.8
Black or African American	43	43.9
Hispanic or Latino	9	9.2
Asian or Asian American	2	2.0
Multiple race	5	5.1
Total	98	100.0

The sample was highly educated. Fifty-one percent ($n = 50$) had master's degrees and 12 percent ($n = 12$) had doctoral degrees. Educational attainment is presented in Table 3.

Table 3

Educational Attainment

Educational Attainment	n	%
High school graduate	13	13.3
Bachelor's degree	18	18.4
Master's degree	50	51.0
Ph.D. or higher	12	12.2
Trade school	5	5.1
Total	98	100.0

Forty-five percent ($n = 44$) of respondents were married, 27.6% (n = 27) were single, and 23.5% ($n = 23$) were divorced. Marital status is presented in Table 4.

Table 4

Marital Status

Marital Status		n	%
	Single	27	27.6
	Married	44	44.9
	Divorced	23	23.5
	Separated	1	1.0
	Widowed	2	2.0
	Total	97	99.0
Not	Answered	1	1.0
Total		98	100.0

Regarding annual income, 9.2% ($n = 9$) earned less than $30,000 and 14.3% ($n = 14$) earned between $30,000 and $49,999. Eleven percent ($n = 11$) earned over $150,000. Annual income is presented in Table 5.

Table 5

Annual Income

Annual Income	n	%	Cumulative %
Between $15,000 and $29,999	9	9.2	9.2
Between $30,000 and $49,999	14	14.3	23.5
Between $50,000 and $74,999	24	24.5	48.0
Between $75,000 and $99,999	20	20.4	68.4
Between $100,000 and $150,000	20	20.4	88.8
Over $150,000	11	11.2	100.0
Total	98	100.0	

Eleven percent of respondents ($n = 11$) reported no religious affiliation. However, the majority of participants (83.7%, $n = 82$) espoused Christianity/Catholicism. Religious affiliation is presented in Table 6.

Table 6

Religious Affiliation

Religious Affiliation	n	%
Christianity/Catholicism	82	83.7
Judaism	2	2.0
Buddhism	1	1.0
No religious affiliation	11	11.2
Total	96	98.0
Not Answered	2	2.0
Total	98	100.0

Regarding social media use, 15.3% ($n = 15$) of participants accessed sites less than 1 hour per day, whereas 43.9% *($n = 43$)* accessed social media or social networking sites 1 – 2 hours per day. Ten percent used social media for five or more hours per day. Most women (65.3%, $n = 64$) accessed social media for connecting with family or friends. Eight percent ($n = 8$) cited business or educational reasons for accessing social media. Fifteen percent ($n = 15$) primarily accessed social media for information sharing and interest groups. See Table 7.

Table 7

Social Media Use and Reasons for Accessing Social Media

Variable	Description	*n*	*%*
How many hours per day do you access social media or social networking sites?	less than 1 hour per day	15	15.3
	1-2 hours per day	43	43.9
	3-4 hours per day	30	30.6
	5+ hours per day	10	10.2
What is your primary reason for accessing social media or social networking sites?	Connect with family and/or friends	64	65.3
	Business, education	8	8.2
	News, community updates	11	11.2
	Information sharing, interest group	15	15.3

Note. $N = 98$.

Instrument Reliability for Sample

The reliability of the sample was tested with Cronbach's Alpha. The internal consistency for feelings of belongingness was good ($\alpha = .815$). However, the internal consistency for suicidal ideation was unacceptable initially, even after reverse scoring the item pertaining to control ($\alpha = .402$). An inter-item analysis was conducted. It was determined that the reliability for suicidal ideation could be improved to good ($\alpha = .85$) if the item pertaining to control was excluded. Therefore, it was excluded. See Table 8.

Table 8

Inter-Item Analysis Statistics

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
In the past month, how often have you had thoughts about suicide? (0 = Never, 10 = Always)	9.38	13.10	.41	.178
In the past month, how much control have you had over these thoughts? (0 = No control, 10 = Full control)	1.43	16.49	-.16	**.849**
In the past month, to what extent have you felt tormented by thoughts about suicide? (0 = Not at all, 10 = Extremely)	9.70	14.14	.54	.147
In the past month, how close have you come to making a suicide attempt? (0 = Not close at all, 10 = Made an attempt)	10.01	18.98	.55	.347

In the past month, how much have thoughts about suicide interfered with your ability to carry out daily activities, such as work, household tasks, or social activities? (0 = Not at all, 10 = Extremely)	9.81	14.20	.59	.136

Descriptive Statistics

For suicidal ideation, scores ranged from 4.00 to 33.00 ($M = 5.43$, $SD = 4.06$). Higher scores mean a higher degree of suicidal ideation. For feelings of belongingness, scores ranged from 3.40 to 6.67 ($M = 5.75$, $SD = 0.80$). Higher scores mean greater feelings of belongingness. For social media use, scores ranged from 1.00 to 4.00 ($M = 2.36$, $SD = 0.86$). Higher scores mean more social media use. Descriptive statistics are presented in Table 9.

Table 9

Descriptive Statistics

Variable	*Minimum*	*Maximum*	*M*	*SD*
Suicidal Ideation	4.00	33.00	5.43	4.06
Belongingness	3.40	6.67	5.75	0.80
Social Media Use	1.00	4.00	2.36	0.86

Research Question and Hypothesis Testing

Research Question

The research question was - How does social media use moderate the relationship between feelings of belongingness and suicidal ideation among adult women over age 21? The independent variable was feelings of belongingness. The moderator variable was social media use. The dependent variable was suicidal ideation.

Prior to the analyses, the moderate and predictor variable were centered to decrease collinearity. Centering the variables was accomplished by subtracting the mean of each distribution of scores from each score. Once the variables were centered, an interaction term was created by multiplying the moderator variable by the predictor variable. Next, the assumptions of multiple linear regression were tested.

Assumption 1: No Multivariate Outliers

Multiple linear regression assumes that there are multivariate outliers, which are influential cases biasing the model. This assumption was tested by analyzing the residuals. Residuals that are greater than ± 3 were candidates for exclusion. Initially, standardized residuals ranged from -1.58 to 4.64. Therefore, there were influential cases biasing the model. After three iterations of removing outliers, the distribution of residuals was more normalized, resulting in five cases being excluded.

Assumption 2: Normality of Residuals

Multiple regression assumes that the residuals are normally distributed. A residual is the difference between the observed and the model-predicted values of the dependent

variable. This assumption was tested by generating and visually inspecting a normal P-P

Plot of the residuals. The closer the dots are to the diagonal line, the closer to normal the

residuals are distributed. As presented in Figure 1, there are few dots touching the

diagonal line. This suggests that the distribution is not normal. Therefore, the results

should be interpreted with caution.

Figure 1

Normal P-P Plot of Regression Standardized Residuals for Suicidal Ideation
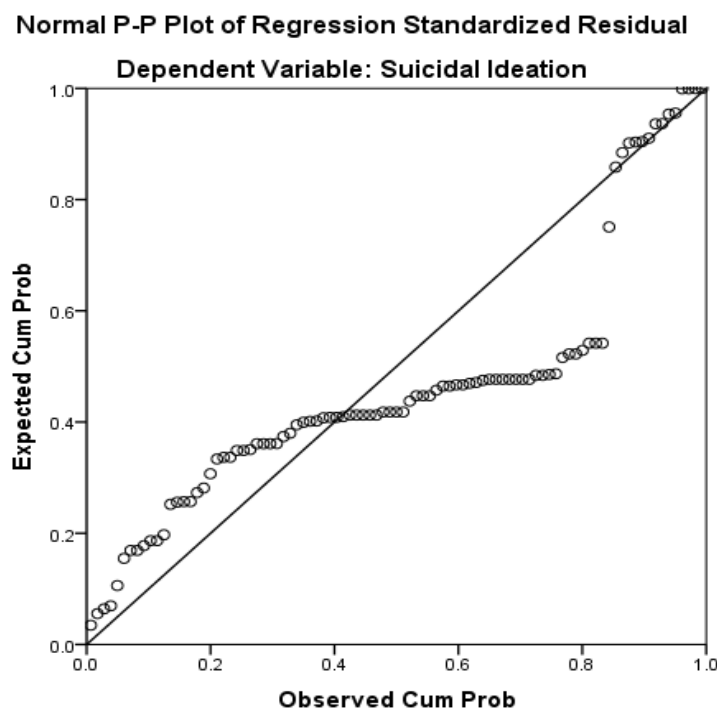
Assumption 3: Linearity of Relationships

Multiple linear regression assumes that the relationship between the independent

and dependent variables is linear. This assumption was tested with a scatterplot matrix for

the independent and dependent variables. The points fall approximately along a straight line. Therefore, the linearity assumption has been met. See Figure 2.

Figure 2

Scatterplot Matrix
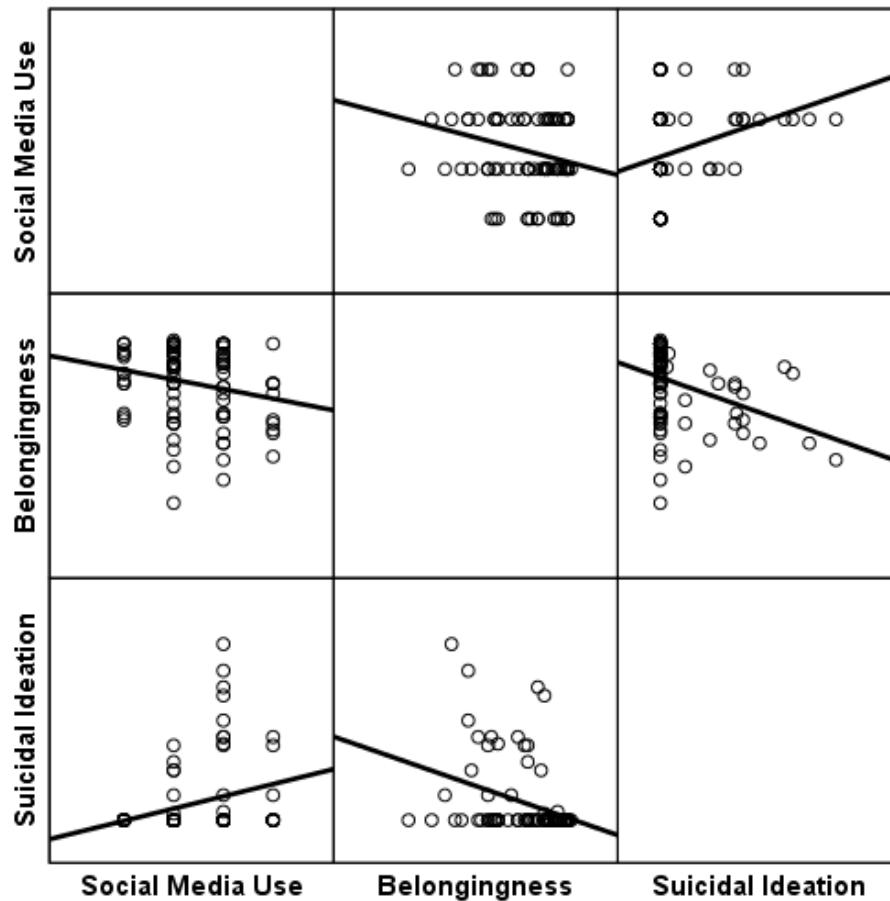
Assumption 4: Homoscedasticity

Multiple regression assumes that the variance of the residuals is constant across all levels of the independent variables. This is known as the assumption of homoscedasticity. The variation of residuals should be approximately similar and random. This is illustrated in Figure 3.

Figure 3

Scatterplot of Regression Standardized Residuals by Standardized Predicted Values for Suicidal Ideation

Scatterplot
Dependent Variable: Suicidal Ideation
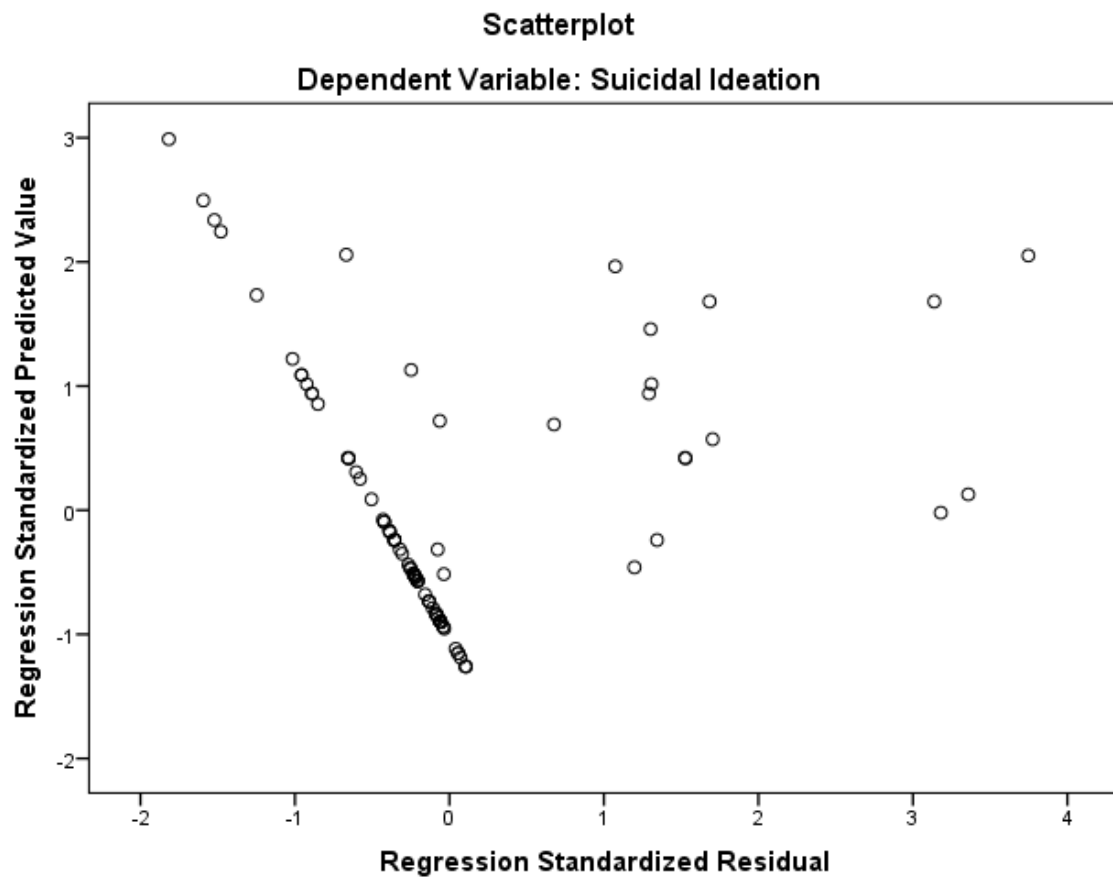
Assumption 5: No Multicollinearity

Multiple linear regression assumes that the predictors are not too highly correlated with one another. Collinearity was assessed by tolerance and variance inflation factor (VIF) statistics. Tolerance scores should be greater than 0.2 and VIF values should be below 10. Tolerance values ranged from 0.94 to 0.98, which was acceptable. VIF values

ranged from = 1.02 to 1.07 and were also acceptable. Therefore, that the assumption of no multicollinearity was met. Collinearity statistics are presented in Table 10.

Table 10

Collinearity Statistics

Step	Tolerance	VIF
1		
	0.95	1.05
	0.95	1.05
2		
	0.94	1.07
	0.95	1.05
	0.98	1.02

Assumption 6: Independence of Residuals

Multiple regression assumes that the residuals are uncorrelated or independent. This assumption was tested with the Durbin-Watson statistic. Values below 1 and above 3 are cause for concern. The value should be close to 2. The Durbin-Watson statistic = 0.05, which is cause for concern. See Table 11.

Table 11

Durbin-Watson Statistic for Suicidal Ideation[a]

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	$R^2 \Delta$	$F \Delta$	df1	df2	Sig. F Δ	Durbin-Watson
1	.412[a]	.170	.151	1.37	.170	9.19	2	90	.000	

2	.418[b]	.175	.147	1.38	.005	0.54	1	89	.464	.045

a. Predictors: (Constant), Social Media Use Centered, Belongingness Centered

b. Predictors: (Constant), Social Media Use Centered, Belongingness Centered, Social Media Use Belongingness Interaction

c. Dependent Variable: Suicidal Ideation

The regression model was statistically significant at Step 1, $F(2, 90) = 9.19$, $p <$ .001; $R^2 = .17$. The regression model was also statistically significant at Step 2, $F(3, 89) = 6.27$, $p = .001$; $R^2 = .18$. There was a significant, negative relationship between feelings of belongingness and suicidal ideation ($\beta = -.29$, $t = -2.92$, $p = .004$). As feelings of belongingness increased by one standard deviation, suicidal ideation decreased by 0.29 standard deviations. There was a significant, positive relationship between social media use and suicidal ideation ($\beta = .22$, $t = 2.25$, $p = 0.27$). As social media use increased by one standard deviation, suicidal ideation increased by 0.22 standard deviations. However, the interaction was not statistically significant ($\beta = -.07$, $t = -0.74$, $p = .464$). Therefore, there was no significant F-change from Step 1 to Step 2 of the regression model, $F\Delta$ (1, 89) = 0.54, $p = .464$. This means that social media did not moderate the relationship between feelings of belongingness and suicidal ideation. Regression coefficients are presented in Table 12.

Table 12

Regression Coefficients

	Variable	*B*	SE *B*	β	*t*	*p*	R^2	ΔR^2
1	(Constant)	4.68	0.14		32.77	.000	.17	.17***
	Belongingness**	-0.59	0.20	-.30	-3.03	.003		
	Social Media Use*	0.38	0.17	.22	2.27	.026		
2	(Constant)	4.65	0.15		31.45	.000	.18	.01
	Belongingness**	-0.58	0.20	-.29	-2.92	.004		
	Social Media Use*	0.38	0.17	.22	2.25	.027		
	Interaction	-0.18	0.24	-.07	-0.74	.464		

Note. Dependent variable = Suicidal ideation, ***$p < .001$, **$p < .01$, *$p < .05$.

The null hypothesis stated that social media use does not moderate the relationship between feelings of belongingness and suicidal ideation among adult women over age 21. Social media use did not moderate the relationship between feelings of belongingness and suicidal ideation ($\beta = -.07$, $t = -0.74$, $p = .464$). Therefore, the null hypothesis was not rejected. The lack of an interaction is illustrated in Figure 4, which was produced by running the SPSS syntax generated from the PROCESS macro.

Figure 4

Relationship Between Social Media Use, Feelings of Belongingness, and Suicidal Ideation
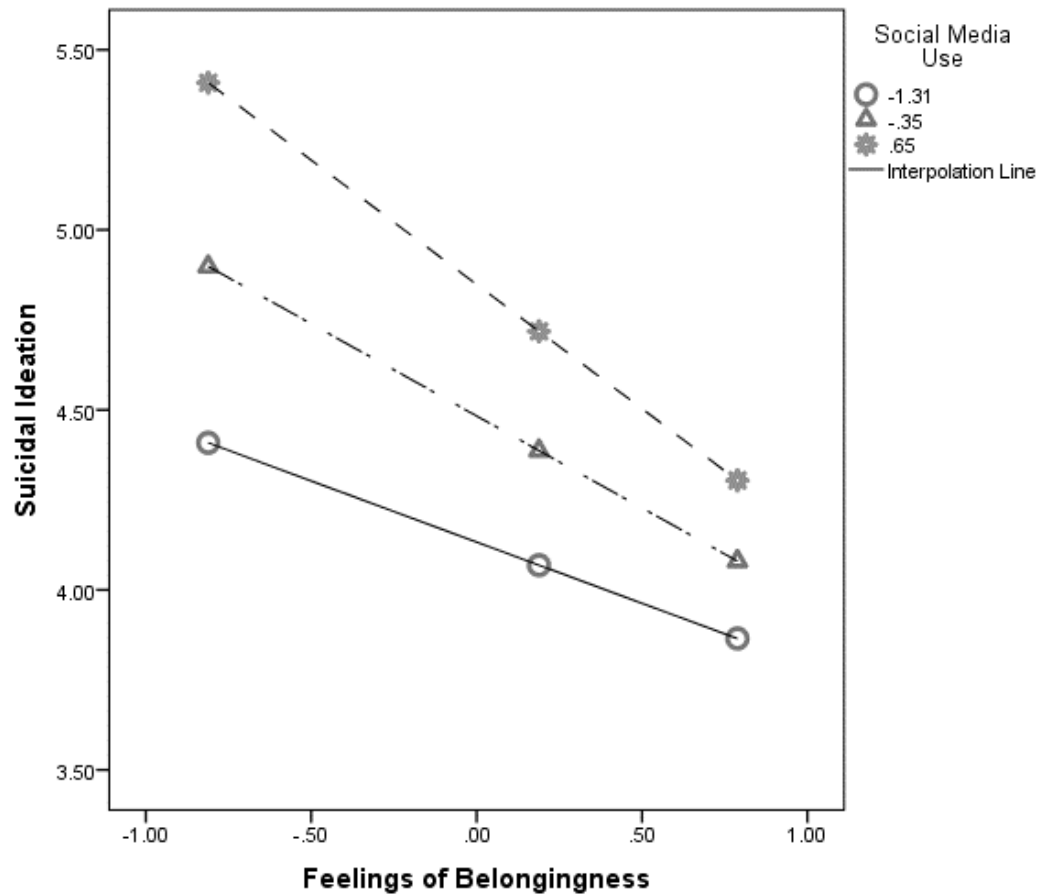
To determine the effect size for the coefficient of determination (R^2), the following formula was used; $f2 = \dfrac{R2}{1-R2} = \dfrac{.18}{1-.18} = .22$. This is a medium effect size.

Summary

One research question and one associated hypothesis were formulated for investigation. It was determined that social media use did not moderate the relationship

between feelings of belongingness and suicidal ideation. However, there was a

significant, negative relationship between feelings of belongingness and suicidal ideation.

There was a significant, positive relationship between social media use and suicidal

ideation. The regression model explained 18% of the variance in suicidal ideation. This is

a medium effect size. Results should be interpreted with caution as two assumptions of

multiple linear regression were not met. Implications of the findings and

recommendations will be discussed in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative nonexperimental, correlational study was to evaluate the association between social media use, feelings of belongingness, and suicidal ideation among adult women. My intent was to address the suicide rate among women in the United States, which increased by 50% between the years 2000 and 2016 (CDC, 2019). The intent of the study was to highlight and address the psychosocial stressors associated with female suicidal ideation that, when combined with the existing body of literature, might aid in the development of platforms that support gender-specific suicide prevention efforts.

I considered social media use as a moderator of the known relationship between feelings of belongingness and suicidal ideation. Ryan (2017) explained that the moderator variable aids in determining the strength or weakness of the association between the independent and dependent variable. As such, I determined if social media use strengthened or weakened the association between feelings of belongingness and suicidal ideation. I found that social media use did not moderate the relationship between feelings of belongingness and suicidal ideation. However, study results indicated additional correlations that prove noteworthy and serve as a foundation for additional research as well as prevention programming and policy development. Specifically, findings from the current study included a negative relationship between feelings of belongingness and suicidal ideation, yet identified a significant positive relationship between social media use and suicidal ideation. The findings indicated that although social media use did not

moderate the relationship between feelings of belongingness and suicidal ideation, social media use plays a substantial role in the overall suicidal behavior patterns of women. This chapter includes an interpretation of the findings, study limitations and recommendations, as well as implications for social change.

Interpretation of the Findings

Although researchers have investigated the relationship of belongingness and suicidal ideation, there is a gap in the literature that explores the role of social media use in the context of suicidal behavior patterns among women. This study extended the published research (Terry et al., 2018), by considering social media use as a moderator of the relationship between feelings of belongingness and suicidal ideation among women. From a theoretical lens, challenges occur when women are unable to connect in productive ways via social media and community integration is thwarted or denied for extended periods of time (Durkheim, 1951; Joiner, 2005). The results from the current study identified factors associated with the theory of suicide and the interpersonal theory of suicide that explain increased suicidal patterns based upon the inability of an individual to integrate into a community coupled with a prolonged sense of not belonging. To directly address the research question, I found that social media use did not moderate the identified relationship between feelings of belongingness and suicidal ideation. However, results pinpointed additional study correlations that add to the totality of the discussion of suicidal behavior patterns among women.

Social Media Use and Feelings of Belongingness

Findings of the current study confirmed the literature regarding the relationship

behaviors and social media use patterns of women (Burrow and Rainone, 2017; Chopik,

2017; Krasnova et al., 2017). Based upon the hours of social media use identified in the

study, participants reported a moderate use of social media, while continuing to

experience a high degree of belongingness. Participants noted that shared interests,

coupled with connection to friends and family were the primary reasons for engagement

on social networking sites. The measurement of social media use ranged from less than 1

hour of use per day to 5+ hours. The majority of participants (74.5 %) noted that they

used social media 4 hours or less per day, with 94% of participants reporting that they felt

that they belonged in community and had a strong social support network made up of

people they could call on in a time of need. Additionally, over 90% of participants noted

that they experienced at least one satisfying interaction daily and believed that other

people generally cared about them. This finding confirms the literature that positive

feelings of belongingness and healthy social bonds, even in a virtual format, serve as a

protective factor and buffers against suicidality through community connection (Chu et

al., Lew et al., 2019).

Social Media Use and Suicidal Ideation

In addition to the correlation between social media use and feelings of

belongingness, the current study explored the relationship between social media use and

suicidal ideation. Current study results confirmed the literature (Kircaburun et al., 2018;

Utz & Breuer, 2017), highlighting a significantly positive relationship between social

media use and suicidal ideation. The study results showed that an increase in social media use led to an increase in suicidal ideation. Specifically, the results showed that regardless of the base level of social media use (ranging from less than 1 hour to 5+ hours per day), as social media use increased by one standard deviation, suicidal ideation increased by 0.22 standard deviations. In addition, it bears noting that although 93% of participants acknowledged that they had not experienced suicidal ideation within the last month, five percent of participants identified that within the last month, they had experienced suicidal thoughts that interfered with aspects of daily functioning and a minor subset of those individuals reported that they had come close to making a suicide attempt. This finding confirms the literature explained by Marchant et al. (2018) that identified increased social media use as a risk factor for increased suicidality among women and indicates that gender-specific suicide prevention programming may be beneficial in addressing suicidal behavior patterns of this demographic.

Limitations of the Study

Limitations to this study were found in the multiple regression analysis of the data. Two assumptions were not met in the data analysis, which indicates that the results should be interpreted with caution. A further limitation to this study was sample bias. I collected study data via a convenience sample on social media and recruited participants from personal pages and groups. As such, the sample may have been biased in the responses based upon an overrepresentation of race, education level, and income. For example, the demographics of African American women (43%) may be considered an overrepresentation of this group when compared to the national average of African

American women at 12.9% (Census.gov, 2019). Internal validity would be increased for this study with a more specific and targeted demographic selection. Additionally, self-report bias may have contributed to the findings. Self-assessed behavior disclosures may be influenced by a variety of factors, especially when participants are aware that the results are being reviewed (Brenner & DeLameter, 2016). Given that the amount of social media use was self-reported by participants, bias may exist in the accuracy of reported hours of social media use. Further, the use of quantitative analysis does not allow the researcher to interview participants, which may provide subjective data regarding feelings, emotions, and personal experiences surrounding feelings of belongingness and suicidal ideation.

Recommendations

The current study identified suicide behavior patterns of women. Findings indicated that the existing relationship between feelings of belongingness and suicidal ideation was not moderated by social media use. However, increased social media use was found to increase suicidal ideation in women. Given the limitations of this study, including sample bias with participant recruitment, it would be important to replicate this study with a different recruitment process. Specifically, researchers might consider a larger sample size including a broader recruitment audience. Purchasing participants from a survey platform would ensure representation across a broader demographic pool. There is need for further exploration that focuses on suicidal behaviors of women within specific racial and economic groups. Therefore, to increase internal validity, it is recommended that researchers narrow demographic category choices to possibly one

race, socioeconomic level or education level. Additionally, a qualitative or mixed methods research methodology would afford opportunities for subjective data not addressed in the current study.

Implications for Social Change

When exploring the suicide behavior patterns of women, it is important to consider the way that women interact and connect within community and relationships. While women may function in large groups, the literature highlighted the preference of women to connect in more intimate relationships with a few people (Chopik, 2017). The literature is also clear that women access social media as a mechanism for social support and often maintain close and distant connections (Keating et al., 2016).

The current study results highlighted that women primarily access social media as a means to connect with friends and family. However, as noted in the literature, while online, women may engage in behaviors that lend to increased suicidal risk. Although additional research is needed, the current study provides a foundation that will impact micro, meso, and macro societal levels. The results provide valuable information that may advise gender-specific prevention programming strategies that target healthy social media use and behavior among women as well as mental health care and awareness. Additionally, this information aids mental health practitioners in developing intervention strategies and treatments that focus on the psychosocial factors of women presenting with increased suicidal ideation.

Conclusion

Suicide has been the focus of numerous studies from a variety of perspectives. Previously, suicide was primarily attributed to adult, White men. However, recent years have highlighted an increase in suicide across several demographics. Specific to this study, the vast increase in suicide among women mandates the need to take a closer look at risk factors and vulnerabilities associated with this population. This study highlighted the psychosocial factors associated with female suicide, namely the way that women connect in relationships and community in a virtual environment. Although study findings are clear that social media use does not moderate the known relationship between feelings of belongingness and suicidal ideation, study findings illuminated the duality with social media use and women. Positively, women are able to connect via social media, increasing their support networks and connecting with other women based on shared values and beliefs. Yet, conversely, the study highlighted that there is a thin line between social media use that is considered excessive and opens women up to vulnerabilities that lead directly to increased suicidal behaviors.

The findings of this study illuminate a need to not only examine the advantages and disadvantages to social media use, but to also consider the external risk factors that are paramount in suicide among women. While the findings of this study are specific to a subset of the population, the results yield insights that are applicable to aiding in the reduction of suicide on a global scale.

References

Adom, D., Hussein, E., & Agyem, J.A. (2018). Theoretical and conceptual framework: Mandatory ingredients of a quality research. *International Journal of Scientific Research, 7*(1). 438-441. doi:10.36106/ijsr

Andreassen, C.S., Pallesen, S., Griffiths, M.D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors, 64*, 287-293. https://doi.org/10.1177/0894439316660340

Antonucci, T. & Ajrouch, K. & Manalel, J. (2017). Social relations and technology: Continuity, context, and change. *Innovation in Aging*, 1 (3), 1-9. doi:10.1093/geroni/igx029.

Asanan, Z., Hussain, I., & Laidey, N. (2017). A study on cyberbullying: Its forms, awareness andmoral reasoning among youth. *International Journal of Information and Communication Sciences, 2*(58), 54-58. https://doi.org/10.11648/j.ijics.20170205.11

Bailey, E., Rice, S., Robinson, J., Nedeljikovic, M., & Alvarez-Jimenez, M. (2018). Theoretical and empirical foundations of a novel online social networking intervention for youthsuicide prevention: A theoretical review. *Journal of Affective Disorders*, 1(238), 499-505. doi:10.1016/j.jad.2018.06.028

Batty, G. D., Gale, C. R., Tanji, F., Gunnell, D., Kivimäki, M., Tsuji, I., & Jokela, M. (2018). Personality traits and risk of suicide mortality: findings from a multi-

cohort study in the general population. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA), 17*(3), 371–372. https://doi.org/10.1002/wps.20575

Bergagna, E., & Tartaglia, S. (2018). Self-Esteem, Social Comparison, and Facebook Use. *Europe's Journal of Psychology*, *14*(4), 831–845. https://doi.org/10.5964/ejop.v14i4.1592

Brenner, P. S., & DeLamater, J. (2016). Lies, damned lies, and survey self-reports? Identity as a cause of measurement bias. *Social Psychology Quarterly, 79*(4), 333–354. https://doi.org/10.1177/0190272516628298

Burrow, A., & Rainone, N., (2017). How many likes did I get?: Purpose moderates links between positive social media feedback and self-esteem. *Journal of Experimental Social Psychology, 69*, 232-236. https://doi.org/10.1016/j.jesp.2016.09.005

Butler, A. (2018). Quiltmaking among African-American women as a pedagogy of care, empowerment, and sisterhood. *Gender and Education, 31*(5), 590-603, https://doi.org/10.1080/09540253.2019.1594708

Center for Disease Control and Prevention (CDC). National Center of Health Statistics. (2019, April 14). https://www.cdc.gov/nchs/fastats/suicide.html

Center for Disease Control and Prevention. Violence Prevention (CDC). (2019, Nov 30). *Applying Science. Advancing Practice*. https://www.cdc.gov/violenceprevention/pdf/ASAP_Issue-a.pdf

Center for Disease Control and Prevention (CDC).Violence Prevention. (2019, April 14).

    Suicide: Risk and Protective Factors.

    https://www.cdc.gov/violenceprevention/suicide/riskprotectivefactors.html

Chopik, W. (2017). Associations among relational values, support, health and well-being

    across the adult lifespan. *Personal Relationships, 24*(2), 408-422.

    https://doi.org/10.1111/pere.12187

Christensen, H., Cuijpers, P., & Reynolds, C.F. (2016). Changing the direction of suicide

    prevention research: A necessity for true population impact. *JAMA Psychiatry*,

    73(5), 435–436. doi:10.1001/jamapsychiatry.2016.000

Chu, C., Buchman-Schmitt, J. M., Hom, M. A., Stanley, I. H., & Joiner, T. E., Jr. (2016).

    A test of the interpersonal theory of suicide in a large sample of current

    firefighters. *Psychiatry Research*, *240*, 26–33.

    https://doi.org/10.1016/j.psychres.2016.03.041

Chu, C., Buchman-Schmitt, J. M., Stanley, I. H., Hom, M. A., Tucker, R. P., Hagan, C.

    R., & Joiner, T. E. (2017). The interpersonal theory of suicide: A systematic

    review and meta-analysis of a decade of cross-national research. *Psychological*

    Bulletin, *143*(12), 1313–1345. doi:10.1037/bul0000123

Chu, C., Buchman-Schmitt, J.M., Moberg, F.B. (2016). Thwarted belongingness

    mediates the relationship between fear of negative evaluation and suicidal

    ideation. *Cognitive Therapy & Research 40*, 31–37.

    https://doi.org/10.1007/s10608-015-9715-3

Chu, C., Hom, M. A., Stanley, I. H., Gai, A. R., Nock, M. K., Gutierrez, P. M., & Joiner, T. E. (2018). Non-suicidal self-injury and suicidal thoughts and behaviors: A study of the explanatory roles of the interpersonal theory variables among military service members and veterans. *Journal of Consulting and Clinical Psychology, 86*(1), 56–68. https://doi.org/10.1037/ccp0000262

Chu, C., Hom, M., Rogers, M., Stanley, I., Ringer-Moberg, F., Podlogar, M. Hirsch, J. & Joiner, T. (2017). Insomnia and suicide related behaviors: A multi-study investigation of thwarted belongingness as a distinct exploratory factor. *Journal of Affective Disorders, 208*, 153-162. doi:10.1016/j.jad.2016.08.065

Clement, J. (2019). Number of monthly active Facebook users as of 4th Quarter 2019 (in millions). *Facebook Statistics*. https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide

Curtis, E. A., Comiskey, C., & Dempsey, O. (2016). Importance and use of correlational research. *Nurse Researcher*, *23*(6), 20-25. doi:10.7748/nr.2016.e1382

David-Barrett, T., Rotkirch, A., Carney, J., Behncke, I., Krems, J.A., Townley, D., McDaniell, E., Byrne-Smith, A., & Dunbar, R.I. (2015). Women favour dyadic relationships, but men prefer clubs: cross-cultural evidence from social networking. *PloS one*, *10*(3), https://doi.org/10.1371/journal.pone.0118329

De Vries, D., Möller, A., Wieringa, M., Eigenraam, A., & Hamelink, K. (2018). Social comparison as the thief of joy: Emotional consequences of viewing

strangers' Instagram posts. *Media Psychology, 21*(2), 222-245. doi:

10.1080/15213269.2016.1267647

Department of Veterans Affairs. (2019 March 1). *Postpartum Depression*.

https://www.womenshealth.va.gov/womenshealth/OutreachMaterials/Reproductiv

eHealth/PostpartumDepression.asp

Department of Veterans Affairs. (2019 March 1). *Suicide prevention*.

https://www.mentalhealth.va.gov/suicide_prevention/veterans.asp

Durkheim, E. (1951). *Suicide: A Study in Sociology (2nd edition)*. Free Press.

https://doi.org/10.4324/9780203994320

Dyson, M., Hartling, L., Shulhan, J., Chisholm, A., Milne, A., Sundar, P., Scott, S., &

Newton, A. (2016). A systematic review of social media use to discuss and view

deliberate self-harm acts. *PLOS One, 11*(5).

https://doi.org/10.1371/journal.pone.0155813

Eisenbruch, A., & Roney, J. (2020) Social Taste Buds: Evidence of evolved same-sex

friend preferences from a policy-capturing Study. *Evolutionary Psychological

Science,6*, 195–206. https://doi.org/10.1007/s40806-019-00218-9

Elliman, T., Shannahoff, M., Metzler, J., & Toblin, R. (2018). Prevalence of bystander

intervention opportunities and behaviors among *US Army soldiers. Health

Education and Behavior, 45*(5), 741-747. doi: 10.1177/1090198117752788

Festinger L. A Theory of Social Comparison Processes. (1954). *Human Relations,

7*(2):117-140. doi:10.1177/001872675400700202

Fisher, L., Overholser, J., Ridley, J., Braden, A., & Rosoff, C. (2015). From the outside looking in: Sense of belonging, depression, and suicide risk. *Psychiatry Interpersonal and Biological Processes, 78*(1), 29-41. doi:10.1080/00332747.2015.1015867

Frankfort-Nachmias & Leon-Guerrero. (2015). *Social Statistics for a Diverse Society (7th ed)*. Sage Publications. doi: 10.2307/3211436

Gao, W., Liu, Z., & Li, J. (2017). How does social presence influence SNS addiction? A belongingness theory perspective. *Computers in Human Behavior, 77*, 347-355. doi: 10.1016/j.chb.2017.09.002

Gashi, L., & Knautz, K. (2016). Unfriending and Becoming Unfriended on Facebook: Use and Users in K. Knautz & K. Baran (Eds.), *Facets of Facebook: Use and Users* (pp.1-44). De Gruyter Saur. https://doi.org/10.1515/9783110418163

Gibbs, A., Dunkle, K., & Jewkes, R. (2018). Emotional and economic intimate partner violence as key drivers of depression and suicidal ideation: A cross-sectional study among young women in informal settlements in South Africa. *PloS One, 13*(4). doi:10.1371/journal.pone.0194885

Guyer, Joshua & Vaughan-Johnston, Thomas. (2018). Upward and downward social comparisons: A brief historical overview in V. Ziegler-Hill & T.K. Shackelford (Eds.) *Encyclopedia of Personality and Individual Differences*. Springer. doi:10.1007/978-3-319-28099-8_1912-1.

Han, B. (2016). Social media burnout: Definition, measurement instrument, and why we care. *Journal of Computer Information Systems, 58*(2), 122-130. doi: 10.1080/08874417.2016.1208064

Hart, S. (2020 January 13). Jealousy: Emotion in childhood social and complex emotions, and related experiences and processes in *The Encyclopedia of Child and Adolescent Development*. https://doi.org/10.1002/9781119171492.wecad162

Haynes, T. (2018). Dopamine, Smartphones & You: A battle for your time. *Harvard University*.

http://sitn.hms.harvard.edu/flash/2018/dopaminesmartphonesbattletime/

Hill, R., Rey, Y., Marin, C., Sharp, C., Green, K., & Pettit, J. (2015). Evaluating the Interpersonal Needs Questionnaire: Comparison of the Reliability, Factor Structure, and Predictive Validity across Five Versions. *Suicide and Life-Threatening Behavior, 45*(3), 302-314. doi:10.1111/sltb.12129.

Jeong, M., Zo, H., Lee, C.H., & Ceran, Y. (2019). Feeling displeasure from online social media postings: A study using cognitive dissonance theory, *Computers in Human Behavior*, *97*, 231-240. https://doi.org/10.1016/j.chb.2019.02.021

Joiner, T. (2005). *Why People Die by Suicide*. Harvard University Press.

Kania, R., & Cale, J. (2018). Preventing sexual violence through bystander intervention: Attitudes, behaviors, missed opportunities, and barriers to intervention among Australian university students. *Journal of Interpersonal Violence, 36*(5-6),2816-2840. doi:10.1177/0886260518764395

Keating, R., Hendy, H., & Can, S. (2016). Demographic and psychosocial variables associated with the good and bad perceptions of social media use. *Computers in Behavior, 57,* 93-98. https://doi.org/10.1016/j.chb.2015.12.002

Kegler, S., Stone D., & Holland, K. (2017). Trends in suicide by level of urbanization — United States, 1999–2015. *Morbidity and Mortality Weekly Report, 66*(10), 270–273. doi: http://dx.doi.org/10.15585/mmwr.mm6610a2External

Khalifeh, H., Hunt, I.M., Appleby, L., Howard, L.M. (2016). Suicide in perinatal and non-perinatal women in contact with psychiatric services: 15 year findings from a UK national inquiry. *Lancet Psychiatry, 3*(3),233-242. doi: 10.1016/S2215-0366(16)00003-1.

Kim, J., Walsh, E., Pike, K., & Thompson, EA. (2019). Cyberbullying and victimization and youth suicide risk: The buffering effects of school connectedness. *Journal of School Nursing, 36*(4), 251-257. doi:10.1177/1059840518824395

Kircaburun, K., & Griffiths, M. D. (2018). Instagram addiction and the big five of personality: The mediating role of self-liking, *Journal of Behavioral Addictions*, *7*(1), 158-170. doi: 10.1556/2006.7.2018.15

Krasnova, H., Veltri, N., Eling, N., & Bruxmann, P. (2017). Why men and women continue to use social networking sites: The role of gender differences. *Journal of Strategic Information Systems, 26*(4), 261-284. doi: 10.1016/j.jsis.2017.01.004

Lee, E., Daugherty, J., Eskierka, K., Hamelin, K. (2018). Compassion fatigue and burnout, one institution's interventions. *Journal of PeriAnesthesia Nursing, 34*(4):767-773. doi: 10.1016/j.jopan.2018.11.003.

Lew, B., Chistopolskaya, K., Liu, Y., Talib, M. A., Mitina, O., & Zhang, J. (2019).

   Testing the strain theory of suicide – The moderating role of social support.

   Journal of Crisis Intervention and Suicide Prevention, 41(2), 82-88.

   http://dx.doi.org/10.1027/0227-5910/a000604

Liu, C. & Ma, J. (2018). Social media addiction and burnout: The mediating roles of

   envy and social media use anxiety. *Current Psychology, 39*, 1883-1891.

   https://doi.org/10.1007/s12144-018-9998-0

Llorent, V. J., Ortega-Ruiz, R., & Zych, I. (2016). Bullying and cyberbullying in

   minorities: Are they more vulnerable than the majority group*? Frontiers in

   Psychology, 7*, 1507. https://doi.org/10.3389/fpsyg.2016.01507

Lung, F.W., Liao, S.C., Wu, C.Y., & Lee, M.B. (2017). The effectiveness of suicide

   prevention programmes: urban and gender disparity in age-specific suicide rates

   in a Taiwanese population. *Public Health, 147*, 136-143.

   doi:10.1016/j.puhe.2017.01.030

Ma, J., Batterham, P.J., Calear, A.L., Sunderland, M. (2019). The development and

   validation of the Thwarted Belongingness Scale (TBS) for interpersonal suicide

   risk. *Journal of Psychopathology & Behavioral Assessment, (41),* 456-469.

   https://doi.org/10.1007/s10862-019-09721-6

MacIsaac, M., Bugeja, L. & Jelinek, G. (2016). The association between exposure to

   interpersonal violence and suicide among women: A systematic review.

   Australian and New Zealand Journal of Public Health, *41*(1),61-69. doi:

   10.1111/1753-6405.12594.

Macit, H., Macit, G. & Güngör, O. (2018). A research on social media addiction and dopamine driven feedback. *Journal of Mehmet Akif Ersoy University Economics & Administrative Sciences Faculty,5*(3), 882-897. doi: 10.30798/makuiibf.435845

Malinen, S., Koivula, A., Keipi, T. & Koiranen, I. (2018). Exploring selective exposure and selective avoidance behavior in social media in *Proceedings of the 9th International Conference on Social Media & Society*, *SMSociety*, pp. 350-354, ACM. doi: 10.1145/3217804.3217943

Mallon, S., Galway, K., Hughes, L., Rondón-Sulbarán, J., Leavey, G. (2016). An exploration of integrated data on the social dynamics of suicide among women. *Sociology of Health Illness*, *38*(4), 662-75. doi: 10.1111/1467-9566.12399.

Mandracchia, J. T., Sunderland, M. N., & To, Y. M. (2019). Evaluating the role of interpersonal hopelessness in the interpersonal theory of suicide. *Death Studies*, 1–5. https://doi-org/10.1080/07481187.2019.1671549

Marchant, A., Hawton, K., Stewart, A., Montgomery, P., Singaravelu, V., Lloyd, K. & John, A. (2018). Correction: A systematic review of the relationship between internet use, self-harm, and suicidal behaviour in young people: The good, the bad and the unknown. *PloS One*, *13*(3), doi:10.1371/journal.pone.0193937

McLeod, S. A. (2018 August 5). *Abnormal psychology*. Simply Psychology. www.simplypsychology.org/abnormal-psychology.html

Milner, A., Witt, K., Pirkis, J., Hetrick, S., Robinson, J., Currier, D., Spittal, M., Page, A., & Carter, G. (2017). The effectiveness of suicide prevention delivered by GPs: A

systematic review and meta-analysis. *Journal of Affective Disorders, 210*, 294 –

302. doi: 10.1016/j.jad.2016.12.035

Moore, F., Taylor, S., Beaumont, J., Gibson, R., & Starkey, C. (2018). The gender

suicide paradox under gender role reversal during industrialisation. Pl*oS One,

13*(8). doi:10.1371/journal.pone.0202487

O'Connor, R. C., & Portzky, G. (2018). Looking to the future: A synthesis of new

developments and challenges in suicide research and prevention. *Frontiers in

Psychology, 9*, 2139. doi:10.3389/fpsyg.2018.02139

Olié, E., Jollant, F., Deverdun, J., Menjot de Champfleur, N., Cyprien, F., Le Bars, E.

Mura, T., Bonafé, A. & Courtet, P. (2017). The experience of social exclusion in

women with a history of suicidal acts: a neuroimaging study. *Scientific Reports, 7*,

89. https://doi.org/10.1038/s41598-017-00211-x

Omair A. (2015). Selecting the appropriate study design for your research: Descriptive

study designs. *Journal of Health Specialties*, *3*(3), 153-156. doi:10.4103/1658-

600X.159892

Perrin, A., & Anderson, M. (2019 April 10). *Share of US adults using social media

including Facebook, is mostly unchanged since 2018*. Pew Research Center.

https://www.pewresearch.org/fact-tank/2019/04/10/share-of-u-s-adults-using-

social-media-including-facebook-is-mostly-unchanged-since-2018/

Picco, L., Subramaniam, M., Abdin, E., Vaingankar, J. A., & Chong, S. A. (2017).

Gender differences in major depressive disorder: findings from the Singapore

Mental Health Study. *Singapore Medical Journal, 58*(11), 649–655.

https://doi.org/10.11622/smedj.2016144

Pirkis, J., Too, L.S., Spittal, M., Krysinska, K., Robinson, J., & Cheung, Y.T.D. (2015). Interventions to reduce suicides at suicide hotspots: a systematic review and meta-analysis. *Lancet Psychiatry, 2*(11), 994-1001. doi: 10.1016/S2215-0366(15)00266-7

Rand, D. G., Brescoll, V. L., Everett, J. A. C., Capraro, V., & Barcelo, H. (2016). Social heuristics and social roles: Intuition favors altruism for women but not for men. *Journal of Experimental Psychology*: *General*, *145*(4*),* 389–396.

https://doi.org/10.1037/xge0000154

Rice, S., Robinson, J., Bendall, S., Hetrick, S., Cox, G., Bailey, E. & Alvarez-Jimenez, M. (2016). Online and social media suicide prevention interventions for young people: A focus on implementation and moderation. *Journal of the Canadian Academy of Child and Adolescent Psychiatry, 25*(2), 80–86. doi: PMC4879947

Ridings, C. & Gefen, D. (2017). Virtual community attraction: Why people hang out online, *Journal of Computer-Mediated Communication*, *10*(1).

https://doi.org/10.1111/j.1083-6101.2004.tb00229.x

Robinson, J., Cox, G., Bailey, E., Hetrick, S., Rodrigues, M., Fisher, S., Herrman, H. (2016). Social media and suicide prevention: a systematic review. *Early Intervention in Psychiatry*, *10*(2), 103-121. doi: 10.1111/eip.12229.

Ryan, T., Allen, K. A., Gray, D. L., & McInerney, D. M. (2017). How social are social

    media? A review of online social behaviour and connectedness. *Journal of*

    Relationships Research, 8. https://doi.org/10.1017/jrr.2017.13

Šedivy, N., Podlogar, T., Kerr, D., De Leo, D. (2017). Community social support as a

    protective factor against suicide: A gender-specific ecological study of 75 regions

    of 23 European countries, *Health & Place*, *48*, 40-46

    https://doi.org/10.1016/j.healthplace.2017.09.004

Sedgwick, R., Epstein, S., Dutta, R., & Ougrin, D. (2019). Social media use, internet use

    and suicide attempts in adolescents. *Current Opinion in Psychiatry, 32*(6), 534-

    541. doi: 10.1097/YCO.000000000000547

Seeman, N., Reilly, D., & Fogler, S. (2017). Suicide risk factors in U.S. college students:

    Perceptions differ in men and women. *Suicidology Online, 8*, 24-30.

    http://suicidology-online.com/pdf/SOL-2017-8-3.pdf

Sinclair, T. J., & Grieve, R. (2017). Facebook as a source of social connectedness in older

    adults. *Computers in Human Behavior, 66*, 363–369.

    https://doi.org/10.1016/j.chb.2016.10.003

Siddiqui, S., & Singh, T. (2016). Social media it's impact with positive and negative

    aspects. *International Journal of Computer Applications Technology &*

    Research, 5(2), 71-75. doi:10.7753/IJCATR0502.1006

Stanley, I., Hom, M., Rogers, M., Hagan, C., & Joiner, T. (2016). Understanding suicide

    among older adults: A review of psychological and sociological theories of

suicide. *Aging & Mental Health. 20*(2). 113-122.

doi:10.1080/13607863.2015.1012045.

Substance Abuse and Mental Health Services Administration (SAMHSA). (2018). Key

substance use and mental health indicators in the United States: Results from the

2017 National Survey on Drug Use and Health (HHS Publication No. SMA 18-

5068, NSDUH Series H-53). Rockville, MD: Center for Behavioral Health

Statistics and Quality, Substance Abuse and Mental Health Services

Administration. https://www.samhsa.gov/data/

Teo, D., Suárez, L. & Oei, T. P. (2018). Validation of the interpersonal needs

questionnaire of young male adults in Singapore. *PLOS One, 13*(6).

doi:10.1371/journal.pone.0198839.

Terry, R., Townley, G., Brusilovskiy, E., Salzer, M.S. (2018). The influence of sense of

community on the relationship between community participation and mental

health for individuals with serious mental illnesses. *Journal of Community

Psychology*,*47*(1), 163-175. doi: 10.1002/jcop.22115.

Tsai, A. C., Lucas, M., & Kawachi, I. (2015). Association between social integration and

suicide among women in the United States. *JAMA Psychiatry*, *72*(10), 987–993.

doi:10.1001/jamapsychiatry.2015.1002

Turecki, G., & Brent, D. A. (2016). Suicide and suicidal behaviour. *Lancet, 387*(10024),

1227–1239. https://doi.org/10.1016/S0140-6736(15)00234-2

United States Census Bureau. (2021 January 15). *Quick Facts United States*.

https://www.census.gov/quickfacts/fact/table/US/LFE046219

Utz, S., & Breuer, J. (2017). The relationship between use of social network sites, online social support, and well-being: Results from a six-wave longitudinal study. *Journal of Media Psychology: Theories, Methods, and Applications, 29*(3), 115-125. http://dx.doi.org/10.1027/1864-1105/a000222

Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner, T. E., Jr. (2010). The interpersonal theory of suicide. *Psychological Review, 117*(2), 575-600. doi:10.1037/a0018697

Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner, T. E., Jr. (2012). Thwarted belongingness and perceived burdensomeness: Construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological Assessment, 24*(1), 197-215. http://dx.doi.org/10.1037/a0025358

Van Spijker, B.A.J., Batterham, P.J., Calear, A.L., Farrer, L., Christensen, H., Reynolds, J. & Kerkhof, AJFM (2014). The Suicidal Ideation Attributes Scale (SIDAS): Community-based validation study of a new scale for the measurement of suicidal ideation. *Suicide and Life-Threatening Behavior, 44*(4), 408-419. doi:10.1111/sltb.12084

Velupillai, S., Hadlaczky, G., Baca-Garcia, E., Gorrell, GM., Werbeloff N., Nguyen, D., Patel, R., Leightley, D., Downs, J., Hotopf, M. & Dutta R. (2019). Risk assessment tools and data-driven approaches for predicting and preventing suicidal behavior. *Frontiers in Psychiatry*, *10*, 36. doi:10.3389/fpsyt.2019.00036

Verswijvel K., Heirman, W., Hardies, K., Walrave, M. (2018). Adolescents' Reasons to
Unfriend on Facebook. *Cyberpsychology Behavior & Social Networking,*
21(10):603-610. doi: 10.1089/cyber.2018.0243. PMID: 30334656.

Wang, J. L., Wang, H. Z., Gaskin, J., & Hawk, S. (2017). The mediating roles of upward
social comparison and self-esteem and the moderating role of social comparison
orientation in the association between social networking site usage and Subjective
well-being. *Frontiers in Psychology, 8*, 771. doi:10.3389/fpsyg.2017.00771

Weinstein, E. (2018). The social media see-saw: Positive and negative influences on
adolescents' affective well-being. *News Media & Society, 20*(10), 3597-3623.
doi: 10.1177/1461444818755634

Williams, K.D. & Nida, S.A. (2016). *Ostracism, Exclusion, and Rejection (1ˢᵗ ed).*
Routledge. doi: 10.4324/9781315308470.

World Health Organization. (2018 March 30). *Mental health: Strengthening our*
response. https://www.who.int/

Zalsman, G., Hawton K, Wasserman D, van Heeringen CK, Arensman E, Sarchiapone M,
Carli V, Höschl C, Barzilay R, Balazs J, Purebl G, Kahn JP, Sáiz PA, Lipsicas
CB, Bobes J, Cozman D, Hegerl U, Zohar J. (2016). Suicide prevention strategies
revisited: 10-year systematic review. *Lancet Psychiatry, 3(7),* 646-659. doi:
10.1016/S2215-0366(16)30030-X

Appendix A: Research Study Survey and Recruitment Flyer

Demographic Information

The following questions will inform demographic information of study participants.

2. What is your age?

- 21-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

3. What is your ethnicity?

- White or Caucasian
- Black or African American
- Hispanic or Latino
- Asian or Asian American
- American Indian or Alaska Native
- Native Hawaiian or other Pacific Islander
- Multiple race

4. What is your education level?

- Some high school
- High school graduate
- Bachelor's degree
- Master's degree
- Ph.D. or higher
- Trade school

5. What is your relationship status?

- Single
- Married
- Divorced
- Separated
- Widowed

6. What is your annual income level?

- Between $15,000 and $29,999
- Between $30,000 and $49,999
- Between $50,000 and $74,999
- Between $75,000 and $99,999
- Between $100,000 and $150,000
- Over $150,000

7. What is your religious affiliation?

- Christianity/Catholicism
- Judaism
- Islam
- Hinduism
- Buddhism
- No religious affiliation

Social Media Use

The following questions will inform your level of social media use.

8. Do you access social media or social networking sites?

- ○ Yes

- ○ No

9. How many hours per day do you access social media or social networking sites?

- ○ less than 1 hour per day

- ○ 1-2 hours per day

- ○ 3-4 hours per day

- ○ 5+ hours per day

10. What is your primary reason for accessing social media or social networking sites?

- ○ Connect with family and/or friends

- ○ Business, education

- ○ News, community updates

- ○ Information sharing, interest group

Belongingness and Suicidal Ideation

The questions on this page are from the Interpersonal Needs Questionnaire (INQ-15) and the Suicidal Ideation Attributes Scale (SIDAS).

The questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you've been feeling recently. Use the rating scale to find the number that best matches how you feel and circle that number. There are no right or wrong answers.

Please answer according to how you think and feel.

<u>**Remember that your responses are anonymous.**</u>

11. These days, the people in my life would be better off if I were gone.

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

12. These days, the people in my life would be happier without me

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

13. These days, I think I am a burden on society

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

14. These days, I think my death would be a relief to the people in my life

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

15. These days, I think the people in my life wish they could be rid of me

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

16. These days, I think I make things worse for the people in my life

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

17. These days, other people care about me

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

18. These days, I feel like I belong

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

19. These days, I rarely interact with people who care about me

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

20. These days, I am fortunate to have many caring and supportive friends

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

21. These days, I feel disconnected from other people

Not at all true for me			Somewhat true for me			Very true for me
○	○	○	○	○	○	○

22. These days, I often feel like an outsider in social gatherings

Not at all true for me   Somewhat true for me   Very true for me

○ ○ ○ ○ ○ ○ ○

23. These days, I feel that there are people I can turn to in times of need

Not at all true for me   Somewhat true for me   Very true for me

○ ○ ○ ○ ○ ○ ○

24. These days, I am close to other people

Not at all true for me   Somewhat true for me   Very true for me

○ ○ ○ ○ ○ ○ ○

25. These days, I have at least one satisfying interaction every day

Not at all true for me   Somewhat true for me   Very true for me

○ ○ ○ ○ ○ ○ ○

26. In the past month, how often have you had thoughts about suicide? (0 = Never, 10 = Always)

0 = Never   10 = Always

27. In the past month, how much control have you had over these thoughts? (0 = No control, 10 = Full control)

0 = No control   10 = Full control

28. In the past month, how close have you come to making a suicide attempt? (0 = Not close at all, 10 = Made an attempt)

0 = Not close at all   10 = Made an attempt

29. In the past month, to what extent have you felt tormented by thoughts about suicide? (0 = Not at all, 10 = Extremely)

0 = Not at all   10 = Extremely

30. In the past month, how much have thoughts about suicide interfered with your ability to carry out daily activities, such as work, household tasks or social activities? (0 = Not at all, 10 = Extremely)

0 = Not at all   10 = Extremely

Thank you

Thank you for participating in this study.

Please find resource information below for support and crisis intervention services. If you require immediate emergency assistance, please call 9-1-1.

• Suicide Prevention Lifeline -- 1-800-273-TALK (8255)
The Lifeline provides 24/7, free and confidential support for people in distress, prevention and crisis resources.

• Crisis Text Line -- Text HOME to 741741
Text HOME to 741741 from anywhere in the United States, anytime. A live, trained Crisis Counselor receives the text and responds, all from our secure online platform.

• IMAlive -- online crisis chat (www.imalive.org)
IMAlive is a live online network that uses instant messaging to respond to people in crisis.

• National Alliance on Mental Illness (NAMI) - 1-800-950-NAMI (6264), www.nami.org

• National Institute of Mental Health NIMH - 1-866-615-6464, www.nimh.nih.gov

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Van Spijker, B.A.J., Batterham, P.J., Calear, A.L., Farrer, L., Christensen, H., Reynolds, J. & Kerkhof, A.J.F.M. (2014). The Suicidal Ideation Attributes Scale (SIDAS): Community-based validation study of a new scale for the measurement of suicidal ideation. Suicide and Life-Threatening Behavior, 44 (4), 408-419.

Research Study Participation

Women and Suicide

https://www.surveymonkey.de/r/DavidsonResearchSurvey

Are you a woman age 21 or over?

If you are a woman age 21 or over, you are invited to participate in a study that considers the relationship between social media use, feelings of belongingness, and suicidal ideation among women.

About the study:

- Completed online
- Anonymous
- Takes 5-10 minutes
- Help inform suicidal behavior patterns of women

Survey Access

Snap a picture of this code with your smartphone to begin the survey or enter the link above in your web browser.

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