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The Relationship Between Internet Livestream Religious Engagement and Social Support and Health-Related Quality of Life

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Abstract

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by

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MA, MA, Kaplan University, 2008

BS, Kaplan University, 2013

Dissertation Submitted in Partial Fulfillment

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Abstract

Religious engagement is essential in terms of offering protective factors for mental and physical health. However, religious engagement has changed, and religious affiliation has decreased over the last decade. This change in religious practice is represented by a decline in religious engagement via disaffiliation of traditional brick and mortar forms of religious activity, with an emerging phenomenon of religious engagement on the Internet. This engagement leads to a gap within the literature regarding Internet-centric religious behaviors. The study aimed to fill this gap by increasing societal understanding of religious engagement behaviors on the Internet. Social support was used to explain Internet livestream religious engagement as a predictive variable with direct and indirect effects on subjective mental and physical health. A quantitative design survey methodology was used with Pearson's correlation to statistically analyze data to resolve the identified research question exploring the relationship between Internet livestream religious engagement and social support and health-related quality of life. Respondents were recruited and screened to participate in an online survey. The study found a significant relationship between Internet religious engagement with online social support and no significant relationship with health-related quality of life. This study has implications for positive social impact in terms of understanding the probability of internet religious engagement providing online social support with indirect effects on the self-appraisal of mental and physical health. Internet livestream religious engagement as a possible alternative to traditional means of religious practice for social support and health-related quality of life.

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Dedication

This work is dedicated to God who gave me the strength and stamina to complete this work. My husband, Alonzo McCowan. I will always be grateful for all the ways you provided love, support, and patience through this process. Thank you for being my partner in life and pushing me to live life to the fullest and birth my dreams. It is a huge source of comfort to know that I have someone like you to do life.

My sisters, Tammy, Tracy, Nicole, and my brother Dewayne. Having sisters and a brother is a priceless gift, and I feel fortunate to have such a strong safety net. Thank you for your encouragement and supportive words.

To my family, Shon, Lashai, Robert, Lonnie Jr, Kirstyn, and my grandchildren. Thank you for your love and patience. Thank you, Keleiah, for the joy you bring to my life with the hugs and kisses; you have been a refreshing and energy source during this tedious process. To the beautiful tribe of grandchildren, you are a blessing, and I pray this work is a testament to my entire family to pursue your highest dreams and goals.

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Chapter 1: Introduction to the Study

Introduction

Religion in the United States (US) is a multifaceted construct that has played a fundamental role in sociocultural development. Religious behaviors are slowly changing in the US, with increased disaffiliation in brick-and-mortar face-to-face gatherings and decline in religious service attendance (Lipka, 2015). Changes in religious behaviors present a concern in terms of the future of society's health and wellbeing since religious practice is a factor associated with positive health outcomes (Brink, 2017; Bruce et al., 2017; Fagan, 2002). With the changing landscape of religious practice in America and advances in computer technologies, adopting religious practices on the Internet is an emerging trend that warrants further investigation.

This study involved investigating religious engagement behaviors via religious services on the Internet. Minimal research has been conducted examining Internet livestream religious behaviors and their role in society, which leaves a gap within the literature. This study aims to fill the literature gap by examining time spent watching Internet livestream services, comments made through chat boxes, and financial contributions. These behaviors were measured as Internet religious engagement and examined in terms of the relationship between social support and health-related quality of life. This study contributes to positive social change by filling the literature gap involving Internet religious engagement. Research findings may offer Internet religious practice as a possible alternative means compared to traditional brick-and-mortar settings where face-to-face gatherings are declining.

Background of Problem

Religious practice is an essential factor for addressing many social problems, including individuals' physical and psychological wellbeing. The practice of religion involves networks of people who unite in reverence of a spiritual dimension of existence, measured through religious feelings, beliefs, and levels of engagement (Brink, 2017).

Fagan (2006) said religious behaviors positively impact society in terms of deterred crime delinquency, family stability, marital satisfaction, and improved emotional and physical health. Coruh et al. (2005) said higher levels of religious engagement improved health outcomes in terms of shorter hospital stays, quicker recovery from fever in septic patients, increased immune system functioning, decreased symptoms in rheumatoid arthritis, and reduced anxiety. Lunn (2009) said religiosity had an integral role in society's future advancement. Religious beliefs, rituals, and behaviors are positively associated with coping with chronic illness, degree of optimism, and improved wellbeing and happiness (Koenig, 2012). Religious belief and practice are essential for addressing social problems, with religion identified as a positive social network essential for society's health and wellbeing.

Although there is a preponderance of evidence that religious practice has an essential role in society's structure, religious practice has changed over the past 2 decades, with a decline in affiliation behaviors in traditional brick-and-mortar settings (Knight et al., 2019). Hayward et al. (2016) reported a 23% decrease in religious affiliation from 2007 to 2014, with 37% practicing their faith in other ways, and 23% reported not finding a church they like (Pew Research Center [PRC], 2018). While

religious practice through affiliation in traditional brick-and-mortar face-to-face gatherings has changed, Internet forms of religious practice are on an upward trend (Knight et al., 2019; McClure, 2017). three in 10 Americans shared their faith online, and six in 10 non-Christians experienced someone sharing their faith through Facebook (Barna Research, 2020).

According to Newport (2020), the most recent factor influencing Internet religious practice was the Coronavirus pandemic that required temporary cessation of face-to-face religious gatherings in traditional brick-and-mortar church settings. The Centers for Disease Control and Prevention (CDC) provided interim social distancing recommendations for faith communities gathering in brick-and-mortar settings. CDC recommendations included avoiding social gatherings with people of different households and communities of faith. These CDC recommended guidelines for religious practice on the Internet provided an alternative means for religious practice. Additionally, social distancing during the Coronavirus pandemic disrupted face-to-face religious gatherings. Religious practice in brick-and-mortar settings declined while religious engagement on the Internet grew (Barna Research, 2020; Hayward et al., 2016; Knight et al., 2019; PRC, 2018). This change in religious practice creates a literature gap that warranted further attention for understanding Internet religious engagement in society.

Problem Statement

In prior research, the social network of religious practice was identified as a social determinant and an essential variable for positive health outcomes (Bruce et al., 2017; Coruh et al., 2005; Fagan, 1995). Positive health outcomes were associated with social

connections through participation in religious service attendance (Shor & Roelfs, 2013). Nonchurch attendees had a significantly higher allostatic load as a measure of stress compared to churchgoers (Bruce et al., 2017). The research problem is that the social network for religious practice through face-to-face gatherings in traditional church settings declined. There is an emerging trend of religious practice on the Internet with little information. Previous research examined religious engagement behaviors in traditional brick-and-mortar religious settings associated with positive outcomes; however, there is little published research on Internet religious engagement. With the growing phenomenon of Internet religious practice, Internet religious engagement warrants further investigation. This study fills the literature gap by examining Internet religious engagement.

Purpose of the Study

This quantitative study involved examining the relationship between Internet religious engagement with online social support and health-related quality of life. Specifically, Internet religious engagement was investigated via livestream participation on social media platforms with religious services. Specifically, I focused on the livestream aspect of Internet religious engagement.

I examined religious engagement on the Internet, defined as traditional religious practice in an online setting. Measurements of internet religious engagement were time spent watching livestreams, how often comments were made in livestream chat boxes, and financial contributions. Prior studies have examined religious practice in traditional brick-and-mortar religious settings and used religious service attendance, participation in

activities with a religious group, and financial contributions. Measures used for Internet religious engagement are discussed in Chapters 2 and 3.

Dependent variables were online social support and health-related quality of life. Social support was measured via the Online Social Support Scale (OSSS). Health-related quality of life was measured using the SF-12 Health Survey to measure subjective health. Composite scores from survey tools were used as measures for each variable. This study was conducted through an Internet survey using an online host. Pearson's correlation was used to analyze the relationship between Internet livestream religious engagement and social support and health-related quality of life. My overall objective was to quantify the relationship between Internet religious engagement and the dependent variables of online social support and health-related quality of life.

Research Questions and Hypotheses

RQ1: Is there a relationship between Internet livestream religious engagement and online social support?

$H_0$1: There is no relationship between Internet livestream religious engagement and online social support.

H_a1: There is a relationship between Internet livestream religious engagement and online social support.

RQ2: Is there a relationship between Internet livestream religious engagement and health-related quality of life?

$H_0$2: There is no relationship between Internet livestream religious engagement and health-related quality of life.

H_a2: There is a relationship between Internet livestream religious engagement and health-related quality of life.

Conceptual Framework

I applied the Stress-buffering hypothesis to explain the relationship between Internet livestream religious engagement and online social support and health-related quality of life. In health psychology, the social support model involves online social support as influencing physiological and subjective physical and mental health (Feeny & Collins, 2015). The Stress-buffering hypothesis is that social support is an essential component of health for meaningful social experiences that influence physical and mental health through a direct effect and indirect buffering effect (Cohen, 1985; Glanz et al., 2015). Additionally, the buffering hypothesis functioned as a protective factor in the stress appraisal response that demonstrated a causal link between stress and physiological processes for mental and physical wellbeing.

In this study, the stress-buffering hypothesis was applied to explain Internet livestream religious engagement as a construct that offers both a direct and buffering effect in terms of social support and health-related quality of life. Given the salience of religious practice, Internet livestream religious engagement may be beneficial as a coping strategy to mitigate the effects of stress on mental and physical wellbeing. When a person engages in religious activity through Internet livestream religious services, exchanging information within a social network positively affects the user. Stress- buffering hypothesis explains Internet livestream religious engagement as yielding positive experiences the lead to a sense of wellbeing that serves as a protective factor against

stress. Buffering reduced physiological responses related to stress that have a causal link to health-related quality of life (Uchino et al., 2018).

Nature of the Study

I used a quantitative research design to examine the relationship between Internet livestream religious engagement, social support, and health-related quality of life. According to Creswell and Creswell (2018), a quantitative research approach involves examining relationships among variables using instruments to analyze data. The quantitative research design was used to collect and quantify data from respondents regarding engagement with Internet livestream religious services measured as time spent watching, how often comments were made in the chatbox, and financial contributions. Dependent variables in this study were social support and health-related quality of life. A quantitative design was used to analyze numerical data from respondents' composite scores involving online social support and health-related quality of life to measure Internet livestream religious engagement. Specifically, Pearson's correlation was used to analyze Internet livestream religious engagement and the relationship between online social support and health-related quality of life. According to Warner (2013), Pearson's correlation is a statistical analysis that involves measuring relationships between two continuous variables. Composite scores from dependent variables were totaled and measured as continuous variables. Data collection involved an Internet survey methodology using an online host to a target population of individual 18 and older who engaged in Internet religious behaviors through livestream religious services on Facebook, Instagram, and YouTube. According to Vogels (202), approximately 32% of

U.S. adults reported participating in online streaming. Internet livestreaming is a growing trend, and Facebook, YouTube, and Instagram are commonly used social media platforms for online streaming (Shearer & Matsa, 2018). I used an empirical approach for understanding the phenomenon of iInternet livestream religious engagement and social support and health-related quality of life.

Definitions

Health-Related Quality of Life: The subjective evaluation of physical and mental health (CDC, 2018).

Internet Livestream Religious Engagement: Koenig et al. (2015) operationalized religious involvement with a comprehensive tool called Belief Into Scale that converted religious beliefs into engagement behaviors in time spent attending church and church participation and giving financial contributions. The term internet livestream religious engagement refers to the livestream of time spent watching internet live stream service, how often comments were made in the chatbox, and financial contributions. *Quality of Life:* Individual subjective evaluation of life, including cultural influences and value systems (Weber et al., 2015).

Religiosity: Adherence to a religious institution's practices and beliefs through ritualistic behaviors; this is demonstrated through religious service attendance and worship experiences that involve a faith community (Holdcroft, 2006).

Religious Disaffiliation: Leaving one's religious tradition or lack of attendance in face-to-face religious services (Fenlon & Danielson, 2016).

Social Support: According to the Encyclopedia of Behavioral Medicine, social support is defined as religious social support received through affiliation to a religious network that fosters the perception of belonging to one or more groups (Barrett, 2013).

Assumptions, Limitations, and Delimitations

This study was conducted with several basic assumptions. Additionally, limitations related to design and methodology were recognized. The study also includes inclusion and exclusion criteria.

Assumptions

First, I assumed participants could recall and approximate social support occurrences involving Internet livestream religious engagement on social media platforms. Second, I assumed that selection of variables was logical and sound. Third, I assumed that participants responded truthfully to survey questions; I avoided sensitive questions and used anonymous data collection processes. Fourth, I assumed the sample represented the population of interest.

Limitations

According to Theofanidis and Fountouki (2018), study limitations are potential weaknesses that the researcher cannot control. I used a nonprobability data collection technique from a nonrandomized convenience sample and did not give every member of the population a chance to participate. A limitation of the nonprobability sampling design is lack of generalizability. Given limitations in this study, the sample population is not generalizable to the population at large.

Delimitations

Study delimitations involve boundaries and limitations made by the researcher based on study aims and objectives (Theofanidis & Fountouki, 2018). I used a convenience sampling technique to survey a target population who engage in Internet religious livestream services. According to Creswell and Creswell (2018), a convenience sample is less desirable but is commonly used because of convenience and availability. I used an online survey for data collection that targeted a population on social media platforms who engaged in livestream religious services through the Internet.

Delimitations are criteria for selecting participants (Creswell & Creswell, 2018). Respondents were 18 and engaged with Internet livestreams on Facebook, YouTube, or Instagram. Additionally, survey respondents were required to meet eligibility criteria.

Significance of the Study and Implications for Social Change

With recent advances in digital technology, religious behaviors on the Internet are rapidly growing (Knight et al., 2019). This study will fill a literature gap by providing data regarding religious practice on the Internet and the relationship between social support and health-related quality of life.

Social networks on the Internet negatively influence mental health (Negriff, 2019; Pantic, 2014; Stockdale & Coyne, 2020). Pantic (2014) said the increase of Internet social networking negatively influenced society and was associated with poor mental health. Online social networking is linked to depressive feelings of sadness due to poor online friendship formation, frequency of Internet use stemming from the need for social connection, and problems on social network sites related to anxiety (Negriff, 2019;

Stockdale & Coyne, 2020). There is limited research regarding subjective mental and physical wellbeing who participate in livestreamed religious services. I examined Internet religious practice and its effect on social support and health-related quality of life. This study contributes to previous knowledge by filling the literature gap regarding religious behaviors specific to the Internet during a social climate where face-to-face gatherings are declining. If research findings show online religious engagement predicts social support and health-related quality of life, Internet religious practice may be a safe means for congregants who may have health risks or may not have the ability to attend face-to-face gatherings.

Summary

The landscape of religious practice has changed in America with a decrease in religious engagement in terms of traditional face-to-face brick-and-mortar gatherings (McClure, 2017). Religious practice in brick-and-mortar settings is changing. There is little research available that has examined the implications of online religious engagement.

Chapter 1 included an overview of previous research related to this subject that suggested religious practice was an essential variable in society. This chapter also included current findings that suggest Internet religious engagement is growing and possibly changing the practice of religious practice in society. I also discussed CDC recommendations for social distancing in brick-and-mortar religious settings during the Coronavirus pandemic. Lastly, I identified the gap within the literature regarding online religious engagement.

Chapter 2 includes an extensive review of literature pertinent to this topic. Chapter 3 includes the methodology used to conduct this proposed study. This chapter also includes population sample details, optimal sample size needed for study validity, survey instrumentation, and variables. Chapter 4 includes the studs findings based on hypotheses and descriptive information regarding the population participating in this study. Chapter 5 includes a discussion of research findings from Chapter 4, with the Stress-buffering hypothesis as a conceptual framework. Chapter 5 includes my conclusions in order to offer future research suggestions that may positively impact social change.

Chapter 2: Literature Review

Introduction

I examined the relationship between online religious engagement, social support, and health-related quality of life. While religious practice is essential in society fin terms of subjective physical and mental wellbeing, there is a decline in in traditional face-to-face brick-and-mortar religious gatherings (Bruce et al., 2017; Knight et al., 2017). This decline existed before the pandemic (CDC, 2020; McClure 2017; PRC, 2018). Online forms of religious practice are on an upward trend (Knight et al., 2019; McLure, 2017). Little research is available on Internet religious practice.

There is limited research involving online religious engagement behaviors and the relationship between health-related quality of life and social support. I examined the relationship between online livestream religious engagement, social support, and health-related quality of life. To accomplish this, I provided a review and synthesis of literature.

I examined current findings from peer-reviewed articles regarding quality of life and social support and identified the gap in research. I discussed quality of life, focusing on mental and physical health domains. Next, I discuss variables associated with mediating and predictor effects. I addressed social support and health-related quality of life.

Literature Search Strategy

A literature search was conducted using the following search terms: *church attendance, cyber church, Internet church, religiosity, religious engagement,* and *religious affiliation*. Literature was limited to electronic full-text and peer-reviewed

studies drawn from the Walden University Library. Articles were published between 2015 and 2020, thereby ensuring up-to-date literature. Older sources were limited to primary sources involving health science. Materials for this literature review were selected from the following academic databases: CINAHL, EBSCOHost, MEDLINE, and ProQuest.

Theoretical Foundation

The stress-buffering hypothesis served as the theoretical foundation for explaining online religious engagement as a social network system in terms of social support and health-related quality of life. The buffering hypothesis for social support was used to provide a broad contextual basis with sociological underpinnings involving positive social experiences that directly and indirectly influence social behavior. This served as a framework to study online religious engagement and whether it serves as a protective factor against the harmful effects of stress.

Perceived stress and quality of life are moderated by social support (Gellert et al., 2018). When other researchers evaluated the buffering hypothesis of social support with inflammation markers in cardiovascular disease, they reported a buffering effect on stress and inflammation markers in middle-aged women associated with social support (Mezuk et al., 2010). Additionally, in a cross-sectional study examining women and the buffering effect on self-perceived stress in women with alcohol use, social support was found to buffer stress and alcohol usage (de Souza et al., 2019). Social connection functions as a form of social support that directly and indirectly influences mental and physical wellbeing.

Other theories that stress-buffering hypothesis were considered for this study were the tend and befriend theory and Bowlby's attachment theory. The tend and befriend theory involves a biological basis for social connection regulated by neural circuitry triggered by environmental demands that modulate stress (Taylor, 2012). Social connection fosters social support in terms of subjective mental and physical wellbeing across the lifespan (Doyle & Cicchetti, 2017).

I applied the social support buffering hypothesis to explain online religious engagement as a social network with informational, instrumental, and emotional support. Specifically, online religious engagement was the independent variable directly affecting online social support with an indirect buffering effect due to positive experiences that buffer subjective mental and physical stress. Additionally, this model was used to explain online religious engagement as supporting coping, which serves as a means of social support that indirectly affects subjective mental and physical wellbeing.

Literature Review Related to Key Variables

The WHO defined quality of life as an individual self-evaluation or assessment of wellbeing influenced by a value system in a cultural context (Kumar, 2012). Quality of life is a broad concept in the field of health psychology. It involves physical health, psychological wellbeing, and social relationships (Marks et al., 2015). It is influenced by subjective perceptions and socioeconomic factors.

Social support can be divided into two categories: structure and function. Functional social support directly affects subjective mental and physical health indicators that moderate stress and depression and mediate depressive symptoms in specific

populations (Storm et al., 2018; Wang et al., 2020). Aspects of social support functioned as a buffer associated with positive health outcomes that, in turn, functioned as a mediator between stress and subjective mental and physical wellbeingonzalez-Saenz de Tejada et al., 2015; Merluzzi et al., 2016; Ozdemir & Tas Arslan, 2018.

Quality of Life

Demographics

Quality of life is many different variables that influence individual experiences related to subjective mental and physical well-being. In general, quality of life of individuals is associated with various demographics. I discussed the gap in prior research involving online religious engagement as a sociodemographic variable and its relationship with health-related quality of life. Since traditional church attendance improved overall subjective mental and physical wellbeing (Marks et al., 2015), understanding quality of life among individuals who engage in online religious behaviors warrants further investigation.

Age

Individual quality of life is associated with different ages predicted by social support (Villas-Boas et al., 2018). For example, in a correlational study, quality of life was predicted by social support and was mediated by income and marital status in different age groups (Villas-Boas et al., 2018). Another study reported that quality of life and age had the most substantial negative effect in older age groups with low levels of depression controlled by education, social support, and physical health (Weber et al., 2015). Conversely, in a systematic review of 10 peer-reviewed studies of older patients

with epilepsy, findings showed no differences in quality of life in participants greater than 60 years of age and no differences between older and younger groups with seizure frequency; however, there was a lower quality of life in older adults predicted by physical and psychosocial well-being (Baranowski, 2018). Two other longitudinal studies showed similar findings with age and quality of life associated with socioeconomic factors of physical activity, functional capacity, and psychosocial well-being in an older Chinese population (Garcia & Navarro, 2018; Wang et al., 2018).

Overall, the literature suggests associations between age and quality of life dimensions are influenced by physical factors, psychosocial well-being, and subjective health (Chung et al., 2012; Kim et al., 2015; Lu et al., 2019; Tzeng et al., 2012). The literature demonstrates a gap in understanding the relationship between quality of life in different age groups with Internet livestream religious engagement behaviors. The current data shows that 90% of the U.S. population has internet usage; within this faction, 90% of internet users are 18 to 49 years old, and 70% are 50 years old and older (Clement, 2019). As shown by the data, there is a phenomenon of religious behavior on the internet that warranted further examination to understand the relationship between internet livestream religious engagement and the quality of life in different age groups.

Gender

While empirical evidence showed associations between age and quality of life, other literature reported associations between gender and life quality. For example, Tobiasz-Adamczyk et al. (2017) reported that quality of life was influenced by gender differences and was associated with various social determinants, including social

networking, social support, loneliness, social engagement, and trust. When comparing gender differences and the quality of life with psychosocial work stress, the findings demonstrated a higher quality of life in females associated with life satisfaction, subjective social well-being, and social network associations; there were no gender differences in a population of participants with the mean age of 55.6 years (Lu et al., 2019). Similar findings of gender differences and quality of life were reported from a cross-sectional study that found women in the workplace at the mean age of 35 had lower physical and psychological scores for quality of life (Tzeng et al., 2012). The age differences between the two mentioned studies may be related to the group participants' mean ages of 35 years compared with 55.61; the older group experienced advanced coping skills than the younger group (Lu et al., 2019; Tzeng et al., 2012).

Other literature findings showed gender differences associated with quality of life mediated by health status (Hajian-Tilaki et al., 2017; Kim et al., 2015; Tobiasz-Adamszyk et al., 2017). For example, in a cross-sectional study, women had lower scores than men for health-related quality of life, even after adjusting for age, education, and health status (Hajian-Tilaki et al., 2017). Moreover, in another cross-sectional study examining gender differences in people with severe mental illness and health-related quality of life, the health-related quality of life scores was lower in women with severe mental illness associated with psychosocial needs (Colillas-Malet et al., 2020). Tobiasz-Adamszyk et al. (2017) reported similar gender differences with lower quality of life in women with chronic diseases associated with various social determinants and not gender alone.

In general, the literature findings suggested that gender differences and quality of life between men and women are associated with health status, psychosocial factors, and various social determinants that include social support and social networks (Hajian-Tilaki et al., 2017; Kim et al., 2015; Tobiasz-Adamszyk et al., 2017). Given these literature findings and the advancements in computer technology for social networking, there is limited literature that examined gender differences and health-related quality of life in participants that engage in internet religious practice.

Socioeconomic Status

While the literature findings have suggested associations between gender and quality of life (Hajian-Tilaki et al., 2017; Kim et al., 2015; Tobiasz-Adamszyk et al., 2017), other literature findings showed associations between socioeconomic status with quality of life related to sociodemographic variables (Kim & Park, 2015; Klien et al., 2016; Xiang et al., 2019). Kim and Park (2015) reported quality of life associated with income, education, and subjective social status with lower socioeconomic and individual social status associated with the highest probability of low life quality (Kim & Park, 2015). Similar findings from a different longitudinal study of postoperative participants reported that quality of life and socioeconomic status were associated with health issues mediated by economic status and occupation; there were significantly lower scores for health-related quality of life six months after surgery (Klein et al., 2016). These findings correlate with another study that reported associations of quality of life and socioeconomic status in younger age groups (Xiang et al., 2019). In a cross-sectional study in children (N = 2023) ages 2-12 with health issues, the author reported quality of

life mean scores significantly lower in the low socioeconomic groups than the mean scores of higher socioeconomic groups (Xiang et al., 2019).

While the literature suggested the quality of life associated with sociodemographic variables, there is a literature gap for internet livestream religious engagement as a social demographic variable that may predict the health-related quality of life. Because internet access has been identified as a social determinant of health, there was a gap in the literature for understanding internet religious behaviors as a possible social determinant for health-related quality of life (Clement, 2019; Berg et al., 2018).

Religiosity

There is an assortment of quantitative studies on religiosity and spirituality with findings demonstrating associations between religiosity and quality of life (Abu et al., 2018; Bruce et al., 2016; Panzini et al., 2017; & Tobin & Slatcher, 2016). In a systematic review of 87 quantitative studies from 2006 to 2017, authors reported similar findings of positive associations between religiosity and health-related quality of life in patients with cardiovascular disease associated with religion and spirituality (Abu et al., 2018; Panzini et al., 2017). In two separate quantitative studies, findings showed religious behaviors associated with health-related quality of life; religious behaviors served as a means of social support that affected the inflammation process in health through the buffering effect of stress self-appraisal (Bruce et al., 2016; Tobin & Slatcher, 2016).

The overall literature suggested positive associations between religiosity and health-related quality of life. However, another study found religious practice to have negative associations with physiological dysfunction and mortality related to

discontentment with self, others, and a higher power (Holt et al., 2014). This study fills the literature gap by examining internet religious behaviors and health-related quality of life.

Religious Affiliation

lower psychosocial well-being in non-affiliated groups, such as atheists and agnostics, than religious affiliates. Other studies that have examined subjective health and well-being in religious and non-affiliated groups reported religious affiliation findings to predict self-reported health and subjective well-being (Current Science, 2018; Fenelon & Danielson, 2016). However, Petrinic et al (2020) said health-related quality of life had a negative influence on elderly religious women that was associated with frailty, resilience, and fear of falling: however, this negative influence on health-related quality of life was not related to religious behaviors or beliefs.

The findings suggest that religious affiliation is associated with the quality-of-life domains controlled by sociodemographic variables and a means of support for subjective mental and physical health (Hayward 2016 et al.; Kate et al., 2017). However, there is a literature gap for understanding religious affiliation through a social network of a faith-based community of Internet livestream religious engagement. Given the prior evidence that found religious affiliation through traditional brick-and-mortar, face-to-face religious gatherings were associated with mental and psychosocial well-being (Bruce et al., 2017; Koenig, 2012), the investigation is warranted to examine the relationship between Internet livestream religious engagement and health-related quality of life.

Prayer

In addition to the findings that reported the religious behaviors associated with quality of life, other literature found the quality of life associated with prayer. For example, research findings demonstrated that prayer was associated with physical and mental well-being (Rainville, 2017; Simao et al., 2016). Specifically, a literature review of 12 empirical studies assessing all types of prayer and health outcomes found in seven articles that prayer was a positive factor for health, reduced anxiety in specific groups, decreased worry, and improved physical functioning (Simao et al., 2016). In another integrative review of 20 peer-reviewed articles, prayer had positive associations with quality of life in 75% of the studies (Counted et al., 2018). When the role of prayer was investigated in a cardiac disease population (N = 1,039), the findings showed that prayer was associated with an increase in health-related quality of life with higher scores after acute coronary syndrome six months after hospital discharge (Abu et al., 2018). Similar findings were reported from a randomized clinical trial that examined the relationship between prayer and migraine intensity (Tajadini et al., 2017). The authors reported that prayer decreased pain intensity in participants with chronic migraines in three months when combined with the pharmaceutical intervention compared to other groups that excluded prayer.

The overall literature findings suggested prayer is associated with health-related quality of life. However, there is a literature gap for understanding religious behaviors and health-related quality of life in individuals with Internet livestream religious engagement. This study reduces the identified research gap by understanding the

religious behaviors of internet livestream religious engagement and health-related quality of life.

Cognitive Function

According to the literature, cognitive functioning and quality of life are associated with physical domains of health-related quality of life; this suggests that chronic disease's physiological factors are associated with cognitive functioning and quality of life (Klemp et al., 2018; Meulen et al., 2018). For example, a comprehensive review of 42 peer-reviewed articles on lymphoma cancer patients found that quality of life was associated with cognitive functioning, the effects of chemotherapy, and tumor physiology (Muelen et al., 2018). The authors reported health-related quality of life was higher at the induction of chemotherapy or radiation therapy, which decreased in longer cancer treatments. Similar findings of health-related quality of life and cognitive function in breast cancer patients undergoing chemotherapy showed a decrease in cognitive functioning; chemotherapy was not associated with quality of life alone but with the indirect symptoms of fatigue and depression (Klemp et al., 2018).

The literature suggested that cognitive decline was associated with physical health (Koenig, 2012). Moreover, other quantitative studies reported similar findings of a low quality of life associated with a cognitive functioning decline in disease conditions of multiple sclerosis, stroke, and traumatic brain injury patients (Cardoso et al., 2019; Chow et al., 2018; Katona et al., 2015). The findings presented a literature gap for understanding the mental well-being of health-related quality of life in individuals that practice religious behaviors on the internet. This study examined the behavior of Internet

livestream religious engagement and the relationship between individuals' mental well-being from the health-related quality of life scale.

Physical Function

Physical function is a widely studied domain for health-related quality of life that has been examined for associations in impaired physical function (Dharma et al., 2018; Katona et al., 2015; Lam et al., 2018). For example, in a longitudinal study of stroke survivors 2.5 years after discharge with inpatient neurological rehabilitation, participants noted a significant mediating effect from empowerment programs for functional capacity on quality of life (Dharma et al., 2018). Additionally, in another longitudinal study from a participant pool of stroke survivors (N =152), health-related quality of life was associated with inpatient rehabilitation and physical functioning, which decreased the risk of falls (Katona et al., 2015). Moreover, in a comparison study, the quality of life in a population with rheumatoid arthritis (N = 308) was associated with physical function and disease remission (Lam et al., 2018). Furthermore, a meta-analysis of randomized controlled trials corroborated that exercise activity's physical function was associated with self-reported quality of life (Sweegers et al., 2018). Finally, a population-based study of women (N = 3,028) with vertebral fractures showed a lower score for health-related quality of life up to 18.9 years after the fracture's onset than women without a vertebral fracture (Johansson et al., 2019). The literature findings suggested that physical function and health-related quality of life be mediated by disease activity and physical function in various populations (Dharma et al., 2018; Katona et al., 2015; Lam et al., 2018).

Studies in religion date back over a decade that suggests associations with religious practice and mental and physical status, with current literature providing supporting evidence (Bruce et al., 2017; Fagan, 1995). While the literature suggested the quality of life was mediated by physical function, the literature gap exists in understanding the physical domain of health-related quality of life in individuals with Internet livestream religious engagement. Given the salience of the prior evidence on religious practice associated with physical health, further investigation was warranted to fill the literature gap for understanding the relationship between internet livestream religious engagement and the physical domain of health-related quality of life.

Social Support

While empirical evidence suggested various variables associated with quality of life, other evidence showed that social support mediated or moderated life quality. For example, a quantitative study found social support mediated quality of life and depression in older Chinese adults with chronic disease (Kong et al., 2019). Moreover, another study reported perceived social support and perceived stress mediated the variables of emotional intelligence and mental intelligence in a population of male athletes (N = 398) (Malinauskas & Malinauskiene, 2018). Again, findings reported a mediating effect between social support of online support on individuals' subjective well-being of cancer patients (Xavier & Wesley, 2018). With attention to perceived physical health, a longitudinal study reported that social support mediated habits for physical activity and depressive symptoms – in an at-risk population for cardiovascular health (Storm et al., 2018).

In addition to the evidence that showed a mediating effect of social support on subjective health and psychological well-being, social support had a predictive role in healthcare outcomes (Choi et al., 2017; Costa et al., 2017; Liao & Brunner, 2016; Yang et al., 2016). In a cross-sectional study, colorectal cancer patients and social support predicted lower stress levels and a higher quality of life (Costa et al., 2017). Moreover, in another cross-sectional study, similar findings reported a predicting effect of perceived social support on physical symptoms and loneliness controlled by age (Choi et al., 2018). A longitudinal study found that social connectedness was associated with physical functioning and the risk of physical disorders; this suggests that social support within relationships may predict physical health and longevity (Yang et al., 2016). Finally, when social support's structural and physical measures were examined in a chronic disease population, positive associations between structural and physical support correlated to the quality of life five years later (Liao & Brunner, 2016).

However, there was a literature gap for understanding online social support dependent on internet livestream religious engagement. This study applied the buffering hypothesis of social support as a framework to examine the social network of internet religious behaviors as a means of online social support through the dimensions of emotional, social companionship, and informational support (Glanz et al., 2016).

Summary and Conclusion

This literature review includes a discussion of relevant studies related to the variables quality of life and social support. Quality of life is associated with health outcomes and sociodemographic factors including age, education, gender, and

socioeconomic status. I also discussed mediating roles and predictor effects of social support and quality of life in terms of subjective mental and physical wellbeing.

Quality of life and social support are associated with various variables that influence mental and physical wellbeing. I examined online religious engagement and social support and health-related quality of life. This study was designed to fill the literature gap involving religious practicetand the variables of social support and health-related quality of life. This research is needed because little research has examined implications of religious behavior on online religious engagement.

Chapter 3 includes research questions and hypotheses as well as the research design and rationale. Population and sample strategies, instrumentation, data collection, and data analysis methods for the study are presented in Chapter 3.

Chapter 3: Research Method

Introduction

Traditional religious practice has declined in face-to-face brick-and-mortar locations as online religious engagement emerges (Knight et al., 2019; McLure, 2017). There is little research that examined Internet religious practice. This quantitative study involved examining the relationship between online religious engagement, social support, and health-related quality of life. A quantitative research design was selected because it allows a scientific inquiry to observe a sample population of internet livestream religious engagement to measure the relationship with other variables; social support and health-related quality of life (Allen, 2017). Data were collected via an online survey of adults 18 years and older who engage in online religious practice via livestreaming. An online survey was selected for this study because of the ease, convenience, and minimal costs. There is a literature gap in terms of understanding the relationship between online religious engagement and the dependent variables social support and health-related quality of life. This chapter includes the methodology of the proposed study, including the research design, rationale of the study, population, sample strategy, instrumentation, data collection, data analysis, research questions, and hypotheses.

Research Questions and Hypotheses

RQ1: Is there a relationship between Internet livestream religious engagement and online social support?

$H_0$1: There is no relationship between Internet livestream religious engagement and online social support.

H_a1: There is a relationship between Internet livestream religious engagement and online social support.

RQ2: Is there a relationship between Internet livestream religious engagement and health-related quality of life?

$H_0 2$: There is no relationship between Internet livestream religious engagement and health-related quality of life.

$H_a 2$: There is a relationship between Internet livestream religious engagement and health-related quality of life.

Research Design and Rationale

I used a quantitative research design to examine the relationship between online religious engagement and social support and health-related quality of life. I measured this as time spent watching live streams, how often comments were made in the livestream chat box, and financial contributions. The dependent variables in this study were social support and health-related quality of life. I used Pearson's correlation to analyze the relationship between online religious engagement and health-related quality of life and social support. Pearson's correlation was the best choice to use because it involves measuring the relationship between two continuous variables. This allowed numerical data to be quantified using a correlational analysis to test null hypotheses.

Data collection involved an online survey questionnaire using an Internet host. Because the purpose of this study was to examine the relationship between online religious engagement and social support and health-related quality of life, an online survey method was appropriate for collecting data. Additionally, using an online survey

method for this study involved low costs compared to face-to-face interviews, as well as rapid turnaround time in the data collection, and took less effort to administer. Other forms of data collection were contemplated, but considering the COVID-19 pandemic, an online data collection method was the safest means for participants and myself when social distancing guidelines were in place.

Methodology

Target Population

The target population included individuals 18 and older who engaged in online religious behaviors, namely watching livestreamed religious services on Facebook, Instagram, or YouTube.

Sample Strategy

I used a nonprobability sampling method of convenience sampling that relies on subjects' availability. In quantitative research, probability sampling is the most appropriate sampling method for generalizing a population. Since there are no national databases with email addresses or telephone numbers of those who engage in online religious services, there was no systematic way to collect a traditional probability sample where participants can be randomized to represent a general population. A common criticism of convenience sampling is sampling biases and the threat to external validity (Warner, 2013). The Threats to internal validity include sample bias related to increased Internet usage for religious activity during the COVID pandemic, which could affect results. Since random selection is not possible, this is a threat to internal validity as the

study sample does not represent the population. Validity threats were avoided in this study by not extrapolating findings as representative results.

A convenience sample was collected using SurveyMonkey. Specifically, participants were recruited via SurveyMonkey through a participant pool. The SurveyMonkey pool consists of social media and Facebook Messenger users from the general population.

SurveyMonkey sent invitations to participants that met the inclusion criteria 18 years and older with internet religious engagement on livestream services via Facebook, YouTube, or Instagram. SurveyMonkey was selected because of the convenience, faster distributions, cost savings, and the ability to collect data for research purposes from an extensive database from geographically dispersed populations.

Power analysis for a sample size involved G*Power under Z-test normal distribution to determine the power of rejecting the null hypotheses; there is no relationship between internet livestream religious engagement and social support and health-related quality-of-life. The power analyses for sample size were determined through G*Power calculation for a dichotomous dependent variable and continuous independent variable with two-tailed tests at 0.80 power, 0.050 significance level, with an effect size of 0.2. The G*Power, a priori sample size with a power rating of 0.80, required 191 participants.

Participants who met the study criteria received access to the survey questionnaire with informed consent; if they consented to the informed consent, the survey question page appeared to take the online survey.

Instrumentation

This study's data collection involved two instruments: The OSSS that operationalized social support for a population with internet religious engagement and the Short Form SF12 that operationalized health-related domains of subjective quality of life (Nick et al., 2018; Yin et al., 2016). In addition, Internet livestream religious engagement was operationalized through three formulated questions based on previous peer-reviewed studies' religious involvement measures.

The authors for the OSSS survey provide written permission to reproduce the scale for non-commercial research and educational purposes. An email was sent to the Health-Related Quality of Life Scale authors requesting permission to use the scale for educational purposes. A copy of the email with the author's response is included in the appendices.

In this study, data were collected using three subscales of the OSSS for Esteem/Emotional Support, Social Companionship, and Informational Support to answer the research question regarding the relationship between internet livestream religious engagement and online social support. The OSSS is a 10-item multidimensional psychometric tool that measures four social support subscales. The measurement includes a well-validated five-point Likert scale (Nick et al., 2018). The coefficient alphas for each 10-point subscale measured .95 for Esteem/Emotional Support, .94 for Social Companionship, .95 for Informational Support, and .95 for Instrumental Support, with composite scores generating reliability scores for convergent validity (Nick et al., 2018). The authors found the OSSS a measurement scale with a factor structure that augments

social support in an online environment like face-to-face social support networks. In the psychometric properties of the OSSS validation, the exploratory factor analysis provides statistical evidence with cross-loadings of each subscale validated with questions specific to the subscale. Since the psychometric properties validated the subscales were independent and did not change the scale's psychometric properties, the Instrumental Support subscale was omitted (Nick, Cho, & Zelkowski, 2018).

The Short Form SF12 is a psychometric tool that measures health-related quality of life in five domains: 1) physical wellness, 2) mental wellness, 3) relationships with people in the community, 4) fulfillment, and 5) socialization (Huo et al., 2018). The measurement included a three to five-point Likert scale of 12-items that demonstrated a high internal consistency of a Cronbach's alpha of Mosier's alpha > 0.8 in adults with non-cancer pain (Hayes et al., 2017). Additionally, when the scale was used in a Wellness Incentive Study of a Medicaid population of 1,587 participants with physical and mental conditions, the scale demonstrated reliability and internal consistency (Huo et al., 2018). Thus, the Short Form SF12 was used to answer the research question regarding the relationship between internet livestream religious engagement and health-related quality of life by operationalizing health-related quality of life for measurement.

At the time of this study, a psychometric tool to measure internet livestream religious engagement was not available. Internet livestream religious engagement was operationalized with three formulated questions based on previous peer-reviewed studies with religious engagement measures. For example, in a study that examined health status and religious practice, the measure for religious engagement was religious service

attendance (Bruce et al., 2017). In a similar study that examined religious participation and cortisol levels, religious participation was measured by how often participants attended religious services and participated in religious groups' social gatherings (Tobin & Slatcher, 2016). Finally, when Pew Research surveyed the changing landscape of religiosity in the U.S., religious practice was measured by sharing faith with others and religious service attendance (Lipka, 2015).

Other supporting evidence that operationalized internet religious engagement measures come from the Belief into Action Scale (BIAC). The BIAC is a 10-item psychometric tool developed to refine religious beliefs and behaviors into religious involvement measures that include giving financial contributions and spending time in religious activities (Koenig et al., 2015). For example, in a study where the BIAC assessed female caregivers' stress and religious involvement, the internal reliability test showed a Cronbach's alpha coefficient of 0.89 (Koenig et al., 2015).

When researchers conducted a study that found religious involvement as a protective factor in an African American Caribbean population, the construct for religious involvement was measured through formulated questions of religious service attendance and participation (Butler-Barnes et al., 2018). Even though the authors discussed the potential biases in measurement errors for reliability, numerous studies have utilized item questions to operationalize religious involvement (Bruce et al., 2017; Butler-Barnes et al., 2018; Pew Research, 2015; Tobin & Slatcher, 2016).

In this study, internet religious engagement was operationalized through formulated questions on the frequency of watching Internet livestream religious services,

how often comments were made through the livestream chatbox, and the frequency of giving financial contributions.Specifically, internet religious engagement was measured with the following questions:

1) How many times per month do you spend watching Internet livestream religious services on Facebook, YouTube, or Instagram?

2) How many times per month did you offer comments through chatbox while watching internet livestream services on Facebook, YouTube, or Instagram?

3) How many times per month did you give financial contributions while watching internet livestream services on Facebook, YouTube, or Instagram?

Each survey question included four frequencies for internet livestream religious engagement. The minimum response was once per month, indicating a low level of engagement. The moderate level of engagement was two to three times per month. The high level of engagement was four to six times a month, with a maximum greater than six times a month, which indicated a very high level of engagement. Escher et al. (2019) conducted a study to assess religious involvement levels in older sexual and gender minority adults with depression and loneliness and created a four-item questionnaire to measure the construct for religious engagement. The authors operationalized religious engagement using questions about religious activities engaged in by the participant. Low mean scores represented low religious engagement levels and high mean scores to indicate high religious engagement levels. Another study examined depressive disorder and religious engagement in an older population; the construct for religious engagement was measured by asking the participants questions that assessed religious affiliation and

religious activity (Strinnholm et al., 2019). The authors used low and high engagement levels to explain the construct of religious engagement in older adults with a depressive disorder. Lastly, when Pew Research surveyed church involvement among U.S. Christians, high, medium, and low scale measures were used because they represented broad categories for religious engagement involvement (Sandstrom, 2015).

Data Collection

After obtaining the Walden University Institutional Review Board (IRB) approval, I entered the questions from the survey instruments with the inclusion criteria to Survey Monkey. SurveyMonkey was used to distribute the online survey to U.S. panelists in the participant pool who met study criteria. Eligible participants were sent a survey invitation providing a brief description of the survey with consent to read their rights as a participant and the researcher's responsibility. After proper consent was obtained, the participant received access to the survey questionnaire. If they choose not to participate, they can close the invitation link, and no further information was sent to them regarding this study. A thank you letter was sent to participants who declined participation in the study or did not meet inclusion criteria restating the participation requirements and the researcher's contact information.

All items were classified as voluntary within the administrative platform, meaning that a participant could skip a question. It was anticipated that participants would complete the full instrument in an approximate time of 10 minutes. If participants decided not to complete the survey, they could advance and close out the survey link without further questions. Incomplete surveys were discarded, and there was no penalty

to the participant for choosing to leave the study. Participants received a "Thank You" with the researcher's contact information for comments or questions when the survey was completed.

Data Analysis

The collected survey data was entered into Statistical Package for Social Services (SPSS) Version 24 for a preliminary screening analysis for missing data and the underlying assumptions. Before data for health-related quality of life was entered into SPSS, the data was entered into ProCore Software Management to compute mental composite score (MSC) and physical component score (PSC) for health-related quality of life. Descriptive statistics analyzed the characteristics of the sample population (Creswell & Creswell, 2018). The frequencies measures for internet religious engagement were computed as a total score and measured as a continuous independent variable. Pearson's correlation coefficient was used to measure the relationship between internet religious engagement and the two independent variables: health-related quality of life and online social support.

Pearson's correlation coefficient was the most appropriate data analysis for this study. It involves measuring two continuous variables that analyze the relationship between internet religious engagement and online social support (Creswell & Creswell, 2018). Pearson's correlation was used to measure the relationship between livestream religious engagement and each dependent variable; social support and health-related quality of life.

Ethical Considerations

Ethical considerations for this study involved ethical principles set by Walden IRB as sound research practices before data collection. Informed consent forms were sent in understandable language specifying the research purpose, risks, benefits of participation, confidentiality practices with the researcher's responsibilities, and contact information. The informed consent form included ethical principles of confidentiality, goodwill, and (respect for autonomy. The contact information for Walden University participant advocacy was included in the consent. If there were questions about the rights as a participant, the researcher's contact information was provided on the information link. There were no participant identifiers linked to the data. All data will be kept secure with a password and encryption that the researcher can only access and store for five years after final publication before being securely erased.

Summary

I examined the relationship between online religious engagement, social support, and health-related quality of life. I used a quantitative design with a target population of individuals who were 18 and older who participated in online religious services on Facebook, Instagram, or YouTube. I excluded individuals younger than 18. Data collection involved an Internet survey delivered via SurveyMonkey. The two data collection instruments were the OSSS for social support and Short Form SF12 to measure health-related quality of life; both instruments have demonstrated reliability and validity. Pearson’s correlation was used to quantify data to answer the research questions statistically. Chapter 4 includes a detailed discussion of study results and data analysis.

Chapter 4: Results

Introduction

I examined the relationship between online religious engagement, social support, and health-related quality of life. This research was conducted via SurveyMonkey and involved using two survey instruments. The Short Form SF12 was used to survey participants' subjective mental and physical health to address the relationship between online religious engagement and health-related quality of life. The OSSS was used to measure the relationship between online religious engagement and social support.

Scores pertaining to the questions about internet religious engagement were combined for a composite score reflecting online religious engagement. This chapter includes research questions, null and alternative hypotheses, data collection methods, data analysis findings with tables, and results.

Research Questions

I used a quantitative design with an online survey via SurveyMonkey to answer two research questions:

RQ1: Is there a relationship between Internet livestream religious engagement and online social support?

$H_0 1$: There is no relationship between Internet livestream religious engagement and online social support.

$H_a 1$: There is a relationship between Internet livestream religious engagement and online social support.

RQ2: Is there a relationship between Internet livestream religious engagement and health-related quality of life?

H_02: There is no relationship between Internet livestream religious engagement and health-related quality of life.

H_a2: There is a relationship between Internet livestream religious engagement and health-related quality of life.

Data Collection Methods

The study included data collected via SurveyMonkey. IRB approval was obtained before collecting the data; the IRB approval number was 07-27-21-0659612. After IRB approval was obtained, the survey was launched via SurveyMonkey. I emailed surveys to the participant pool that met study inclusion criteria. Data collection took one day. 378 participants provided consent, and 272 participants completed the survey. There were 271 participants with completed surveys data downloaded into SPSS Version 24 for data analysis.

Preliminary Data Management

There were 106 incomplete surveys I removed from analysis because of missing data. An additional response was eliminated because the participant was under 18. The final research sample for this study involved 271 respondents with completed online survey questionnaires. Data from the OSSS and SF12 instruments were transferred from the survey and entered into SPSS version 24 for analysis. Before data for the SF12 could be analyzed, it was transferred into ProCore to compute scores. The OSSS had three subscales of 10 items, each measured using a five-point Likert scale that was recoded

from 1 (never) to 5 (a lot). SPSS Syntax editor combined the three subscales of OSS for analysis as a continuous dependent variable.

Respondent scores were computed in SPSS as a combined score and measured as an independent variable for online religious engagement. Health-related quality of life scores were combined for a composite score. .

Data Analysis

Descriptive Statistics

Descriptive statistics were used to describe characteristics of the data set. Age and gender demographics were collected from the data sample. The data set included 271 participants; five respondents did not report their gender (see Table 1).

Table 1

Participant Sample

Variable	N	Missing
Gender	266	5
Age	271	0

Descriptive statistics included univariate analyses to describe participants' gender and age in this study. Participants consisted of 151 (56.8%) female respondents and 115 (43.2%) male respondents (N = 271). Gender frequencies and percentages are presented in Table 2. Average age of respondents was 45-54 years old (29.5%). Age frequencies and percentages are presented in Table 3.

Table 2

Frequency Distribution of Gender

Variable	*N*	%
Female	151	56.8%
Male	115	43,2%
Missing	5	100
Total	271	

Table 3

Frequency Distribution for Age

		Frequency	%
Ages	18-24	30	11.1
	25-34	52	19.2
	35-44	39	14.4
	45-54	80	29.5
	55-64	44	16.2
	65+	26	9.6
	Total	271	100.0

Study Results

Internal Reliability of Scales

Cronbach's alpha test was used to test the internal consistency of the items on the OSS questionnaire for reliability. Since the OSS involved three subscales, Cronbach's alpha was used to measure the reliability of a composite score. Ten questions or items in each subscale were measured from a Likert scale and combined for a composite score. In the 10-item scales, the correlation was positive for an internal consistency relevant to a composite score for online social support. Cronbach's Alpha test for subscale reliability for each subscale is as follows: Esteem/Emotional Support was .937, Social Companionship was .936, and Informational Support .908. The scale reliability for the

combined 30 items was .966 and is presented in Table 4. Cronbach's Alpha test results fall between .90 and 1.00, indicating high internal consistency for the OSS scaled items.

Table 4

OSS Scale Reliability

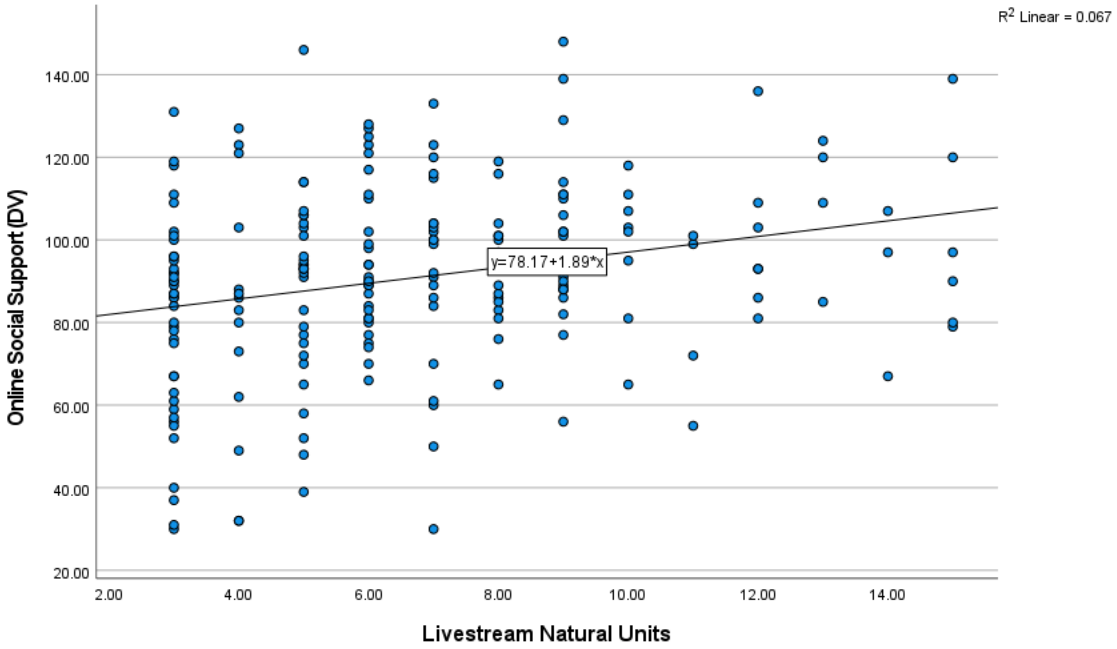
Cronbach's Alpha	# Of items
.966	30

Assumptions Testing

The assumptions of Pearson's correlation in this study included continuous variables of online social support, health-related quality of life, and live stream internet religious engagement. Before I conducted the data analysis, the assumptions were tested for homoscedasticity, the results demonstrated no specific outliers, and the assumption for homoscedasticity was met. Additionally, the assumptions for regression were met with a linear relationship between the variables Internet livestream religious engagement and online social support that were normally distributed and demonstrate a linear relationship (see Table 5).

Table 5

Scatterplot Assumption



Univariate Analysis

Dependent variables used to test the hypotheses were health-related quality of life (*M* = 83.2, *SD* = 11.87) and online social support (*M* = 90.5, *SD* = 23.1). The independent variable in this study was Internet livestream religious engagement (*M* = 6.68, *SD* = 3.06). The mean and standard deviation for the study variable is presented in Table 6.

Table 6

Mean and Standard Deviation for the Study Variables

Variable	*N*	*Min*	*Max*	*M*	*SD*
HRQL	263	50.59	105.37	83.1603	11.87981
Online Social Support	208	30.00	148.00	90.5625	23.17703
Livestream Natural	266	3.00	15.00	6.6842	3.06869

RQ1

RQ1: Is there a relationship between internet livestream religious engagement and online social support?

$H_0$1: There is no relationship between internet livestream religious engagement and online social support.

H_a1: There is a relationship between internet livestream religious engagement and online social support.

I used Pearson's correlation to test hypotheses for RQ1. The *r* was used to determine sufficient evidence that there is a positive correlation between internet livestream religious engagement and online social support, $r\ (204) = 0.26$, $p < .001$; therefore, the null hypothesis was rejected (see Table 7).

RQ2

RQ2: What is the relationship between internet livestream religious engagement and health-related quality of life?

$H_0$2: There is no relationship between internet livestream religious engagement and health-related quality of life.

H_a2: There is a relationship between internet livestream religious engagement and health-related quality of life

Pearson's correlation was also used to test the hypotheses for research question 2. The findings showed no significant correlation between the two variables; therefore, the study failed to reject the null hypothesis, $r\ (258) = 0.01$, $p > .001$. The Pearson's correlation is presented in Table 7.

Table 7

Pearson's Correlation for Dependent Variables

		Online Social Support	HRQL
Livestream	Pearson Correlation	.259**	.014
	N	204	258

To further examine the positive relationship between Internet livestream religious engagement and online social support, I used linear regression to analyze the predictive value between Internet livestream religious engagement and online social support. The model summary demonstrated Internet livestream religious engagement predicts online social support, F (1, 202) = 14.58, p =.000. The overall model fit is R^2 is 0.067, which explains 6.7% of the variation in online social support. The model summary is presented in Table 8. Linear regression showed Livestream is a significant predictor of online social support, t (202) = 3.818, p < .001. The model predicts that online social support increased by 1.889 units for every unit increase in Livestream, which indicates a predictive relationship between the two variables. In this study, the null hypothesis there is no relationship between Livestream religious engagement and online social support is rejected. The coefficient table is presented in Table 9.

Table 8

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.259[a]	.067	.063	22.09492

Note. Predictor: Livestream Natural Units

Table 9

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	78.173	3.647		21.433
	Livestream Natural Units	1.889	.495	.259	3.818

Study Validity

The objective of this study was to examine the relationship between Internet livestream religious engagement and health-related quality of life and online social support. The doctoral study involved a non-experimental design, and threats to internal validity do not apply (Warner, 2013).

The correlation analysis demonstrated external validity because the results reflected relationships in an online population, and there was no manipulation or control applied to the data. Since this doctoral study examined naturally occurring events and behaviors, it would be considered good external validity (Warner, 2013). Additionally, external validity threats were addressed with adequate sample size and instrument reliability.

Summary

I examined the relationship between online religious engagement and online social support and health-related quality of life. I addressed preliminary data collection methods and descriptive statistics of the study sample and variables. The data collection section included a discussion of the recruitment method, time frame of data collection, and response rate. With 378 surveys collected, 271 respondents' data were retained for analysis. I discussed the type of data used for this study procedure, how data were organized for analysis, and plans for secure storage. I presented demographic statistics for the study sample, including included age and gender.

I addressed assumptions and validity using Cronbach's alpha to measure the internal consistency of reliability of the HRQL and OSSS instruments. Additionally, mean scores and standard deviations were presented regarding online religious engagement, social support, and health-related quality of life. Lastly, I discussed research findings and provided tables showing study findings. Pearson's correlation was used to analyze the relationship between online religious engagement, online social support, and health-related quality of life. For RQ1, Pearson's correlation showed a positive linear relationship between online religious engagement and online social support; therefore, the null hypothesis was rejected, and the alternative hypothesis was accepted. To further analyze the relationship between online religious engagement and online social support, I used regression analyses to determine predictive values between the two variables. The predictor model showed online religious engagement was a predictor of online social support.

For RQ2, Pearson's correlation showed no significant correlation between online religious engagement and health-related quality of life; therefore, the null hypothesis was not rejected.

Chapter 5 includes research findings in context with literature and recommendations based on this study's findings, limitations, and implications for positive social impact.

Chapter 5: Discussion, Conclusions, and Recommendations

Discussion

In this quantitative study, I conducted a correlational analysis to examine the relationship between online livestream religious engagement and the dependent variables online social support and health-related quality of life. I collected online social support and health-related quality of life data using two validated instruments: OSSS and SF-12 scales. I used three subscales from the OSS: esteem/emotional support, social companionship, and informational support. Since each subscale represented an independent social support factor with a strong Cronbach's alpha for internal consistency, I omitted the instrumental support subscale since instrumental support measures tangible means of physical support and this was not central to this study during a time when social distancing guidelines were in place.

I aimed to address two research questions:

RQ1: Is there a relationship between Internet livestream religious engagement and online social support?

$H_0 1$: There is no relationship between Internet livestream religious engagement and online social support.

$H_a 1$: There is a relationship between Internet livestream religious engagement and online social support.

RQ2: Is there a relationship between Internet livestream religious engagement and health-related quality of life?

$H_0$2: There is no relationship between Internet livestream religious engagement and health-related quality of life.

H_a2: There is a relationship between Internet livestream religious engagement and health-related quality of life.

SPSS Version 24 was used to analyze data.

Data results showed that online religious engagement positively correlated with online social support; regression analysis showed a predictive relationship between the two variables. Findings also showed no significant correlation between online livestream religious engagement and health-related quality of life.

Chapter 5 includes interpretations of findings, study limitations, recommendations, implications, and a conclusion.

Interpretations of Findings

To examine the relationship between online livestream religious engagement and social support and health-related quality of life, I conducted a quantitative study using Pearson's correlation to answer the two research questions. The buffering hypothesis of social support was used to interpret findings.

RQ1

Results from Pearson's correlation showed a positive relationship between online religious engagement and online social support ($r = .259$, $n = 204$, $p < .001$). Linear regression showed online livestream religious engagement is a significant predictor of online social support (t (202) = 3.818, $p < .001$) with a model prediction for online social

support that increased by 1.889 units for every unit increase. Overall, research findings indicate a predictive relationship between online religious engagement and social support.

There is a literature gap involving social support as an outcome variable. This study fills the literature gap involving online religious engagement as a possible outcome variable for social support. Specifically, I examined social support in an online environment among participants who engage in livestreamed religious activities via the Internet. Findings in this study suggest online social support is a possible outcome of online religious engagement. Findings may also suggest that Internet religious engagement provides social support for parishioners who participate in religious activities on the Internet.

Additionally, it is reasonable to consider findings may have been influenced by the timing of the study during the COVID-19 pandemic. During this study, CDC guidelines recommended parishioners stay at home and engage in online religious services in place of face-to-face gatherings to mitigate the spread of the COVID-19 virus. Consequently, the COVID-19 pandemic disrupted social networks, including the traditional brick-and-mortar face-to-face settings, as parishioners moved to online platforms for religious engagement (Kovacs et al., 2021). Strong ties and connections are important for health outcomes for individuals (Glanz et al., 2015).

Moreover, the traditional brick-and-mortar church functioned as a social network that fostered social relationships within faith-based communities (Todd et al., 2016). Consequently, during the COVID-19 pandemic, when the traditional brick-and-mortar

faith-based community was disrupted, online livestreams may have functioned as a social network for religious communities in order to engage in online social relationships.

Specifically, online religious engagement provides a possible indirect buffering effect of stress self-appraisal associated with improved mental and physical wellbeing (Cohen, 1995; Uchino et al., 2018). The buffering hypothesis might explain online religious engagement and how it provides esteem and emotional support, informational support, and social companionship for parishioners in faith-based communities.

RQ2

Results from Pearson's correlation showed no significant correlation between online religious engagement and health-related quality of life (r (258) = 0.01, $p > .001$). There was no relationship between online religious engagement and health-related quality of life.

The null findings in this study indicating no relationship between Internet religious engagement and health-related quality of life were quite surprising and inconsistent with previous literature. Religious engagement behaviors were positively associated with health-related outcomes (Bruce et al., 2017; Hayward, 2016 et al.; Kate et al., 2017, Koenig, 2012). Specifically, the previous literature cited that engagement in religious behaviors through the social network of brick-and-mortar settings were positively associated with biological markers that were significant indicators of health status and overall wellbeing (Tobin, 2016).

However, the findings of this study showing no significant correlation between Internet livestream religious engagement and health-related quality of life may be

explained using the buffering hypothesis. The buffering hypothesis posits that the social network offers a means of support that has a buffering effect of stress self-appraisal associated with mental and physical health and would explain the pandemic to disrupt social support networks (Cohen, 1995). More specifically, Internet religious engagement served as the social network, and the SF-12 was utilized to measure perceived mental and physical health. The buffering hypothesis would explain the pandemic to disrupt the traditional brick-and-mortar social network for parishioners who previously engaged in religious behaviors in traditional brick-and-mortar settings before the COVID-19 pandemic. The global shutdown related to the pandemic may be reflected in the null findings in this study.

The COVID-19 pandemic negatively impacted stress levels related to social, financial, and psychological stress (Robillard et al., 2020). The COVID-19 pandemic negatively impacted mental health and physical well-being with reports of difficulty sleeping, worsening chronic disease, worry and anxiety about the coronavirus, and increased alcohol and substance use (KFF, 2021). While social support in traditional brick-and-mortar settings buffers the effects of stress (Uchino et al., 2018), Internet livestream religious engagement lacked positive experiences needed to buffer the self-appraisal of stress for health-related quality of life during the pandemic.

The COVID-19 pandemic was a public health crisis that resulted in a global shutdown that disrupted social networks and social interactions that are our society's fiber and may have been reflected in the study findings. The result findings in this study may support the importance of the social connection in the traditional brick-and-mortar

religious setting and the need to strengthen resources for parishioners with Internet livestream religious engagement.

This chapter provides a discussion on a summary of findings of the quantitative analysis presented in the previous chapter. This chapter also discusses study limitations, recommendations for future research, implications for positive social change, and the conclusion.

Limitations of the Study

The limitations of a research study are parameters in the study identified by the researcher. This study was limited to an internet population of 271 respondents recruited through a convenient sampling design through the SurveyMonkey participant pool. Convenience sampling is considered a non-random method and is widely used for the availability of participants (Creswell &Cresswell, 2018). It is reasonable to consider some individuals that engage in traditional face-to-face religious practice may use Internet religious engagement as an alternative option for religious practice that may give different survey responses. The limitation includes possible biases from respondents who participated in this study through self-selection based on interest in the research topic that may skew the research findings. The results of this study cannot be generalized outside the limits of this population, and the limitation may be addressed in future research using a larger sample size using various sample techniques.

Another limitation of this study involved a correlational design that explains the relationship between Internet livestream religious engagement and the dependent variables: online social support and health-related quality of life. In a correlation design,

cause and effect cannot be determined; therefore, no inferences can be made (Warner, 2013). Although inferences cannot be made, the study results can explain the phenomenon of Internet livestream religious engagement related to online social support and health-related quality of life for further exploration by future researchers.

Lastly, this researcher has identified a limitation related to the timing of this study. This study was conducted during the COVID-19 pandemic when CDC guidelines recommended staying at home. The stay-at-home recommendations may have impacted this study, given that social media experienced increased usage during the pandemic. Schumaker and Kent (2020) reported internet usage became prevalent and increased across the globe during the pandemic. The stay-at-home recommendations with CDC recommendations to engage in internet worship service during the pandemic may represent an extraneous variable for Internet religious engagement. Warner (2016) explained an extraneous variable as a variable that is not investigated but affects the dependent outcome variable. The COVID pandemic may be an extraneous variable that may have influenced the behavior of Internet religious engagement related to online social support.

Recommendations

This study may not represent all individuals with Internet livestream religious engagement; however, the recommendations made are based on the research findings suggesting a relationship between Internet livestream religious engagement and the dependent variables: online social support and health-related quality of life.

Diverse Sampling Strategies

Since the research findings showed a positive relationship between Internet livestream religious engagement, this researcher recommends diverse sample strategies as a representative population for Internet livestream religious engagement. The sampling method used in this study involved convenience sampling from a Survey Monkey participant pool since there was no general list of the population for a random sample (Warner, 2013). Since there was no way to collect a random sample for Internet livestream religious engagement to generalize about the population, non-random samples may be collected using purposive and convenience sample techniques (Creswell & Creswell, 2018). It is recommended for future research that diverse sampling techniques be used, such as church email contact lists, telephone surveys, and onsite convivence sampling at faith-based organizations.

Control for Extraneous Variables

This research was conducted during the COVID-19 pandemic when CDC guidelines for social distancing were implemented. Extraneous variables may have influenced the results of these findings during the COVID-19 pandemic that may have influenced the relationship between the independent and dependent variables. Warner (2013) explains extraneous variables as factors that influence correlations between the independent and dependent variables. Specifically, the increase in internet usage related to social distancing during the pandemic may have presented as an extraneous variable for Internet livestream religious engagement. During the COVID-19, surveys showed an increase in internet usage, with 90% of adults indicating internet usage was essential and

72% of adults reported watching religious services (McClain et al., 2021; Pew Research Center, 2020). Subsequently, it is recommended that future researchers repeat the study while controlling for extraneous variables surveying participants' religious behaviors of engagement before the COVID-19 pandemic. Controlling the extraneous variables might enhance the study's internal validity, suggesting a predictive relationship between Internet religious engagement and online social support.

Mixed Methods Design

It is recommended that a mixed-method design be used for future research to examine the phenomenon of Internet livestream religious engagement. According to Creswell and Creswell (2018), a mixed-method design provides quantitative numerical data with qualitative textual data that would provide a deeper understanding of the topic of interest. Conducting a mixed-method would offer a more in-depth understanding that would allow purposeful data integration on the phenomenon of Internet livestream engagement. Shorten, and Smith (2017) explained purposeful data integration as an opportunity for researchers to gain a panoramic view of the phenomena through a diverse lens. It is recommended that future research on Internet religious engagement include a qualitative approach that would elicit stories about participants' experiences, understandings, or meanings of the phenomenon of livestream religious engagement that would provide an in-depth understanding of religious behaviors on the internet.

Implications of the Study

The research findings in this study suggest a positive correlation between Internet livestream religious engagement and online social support. In addition, the

findings indicated Internet livestream religious engagement was a significant predictor of online social support. The findings from this quantitative correlational study have implications for positive social change for individuals, faith-based organizational leadership, and policyholders.

Implications for Individuals

The implication of this study is Internet religious engagement may be considered a social network for online social support for parishioners participating in religious activities on the internet. Holt et al. (2018) reported findings from a longitudinal study that the social network of religious engagement functioned as positive social support that influenced mental wellbeing. Additionally, when the social network analysis was used to examine relationships in a religious social setting, researchers reported relational patterns in religious congregations were linked to religious engagement (Todd, Blevens, & Yi, 2020). The authors discussed religious engagement linked to a sense of community, spiritual satisfaction, and support. Moreover, the research found the church's social network increased compassion, forgiveness, and meaning of life from spiritual support they received from other church members (Krause, Hill, & Ironson, 2019). The authors discussed that the church's social network gave the meaning of life with social virtues important to overall well-being.

Based on the empirical evidence presented from prior research, the findings from this study suggest that Internet livestream religious engagement may be an alternative social network as the landscape of traditional brick-and-mortar church attendance is changing (Jones, 2021). Internet religious engagement may also serve as a social network

for online social support for individuals in rural areas with limited access to support in brick-and-mortar settings and an alternative safe means for the sick and vulnerable shut-in populations.

Implications for Faith-Based Organizational Leadership

The landscape of the traditional brick-and-mortar church is changing; the research findings have implications for faith-based organizational leadership to expand the view of parishioners to include online populations. As mentioned previously, Pew Research Center reported a drop in brick-and-mortar church affiliation over the last decade (2019). Additionally, a Gallup survey reported a change in the church landscape, with a downward trend in brick-and-mortar church attendance to 50% over the last eight decades (Jones, 2021). Conversely, while findings demonstrated affiliation through church attendance has significantly dropped, religious practice on the internet has increased.

Researchers surveyed individuals who participated in religious services on the internet, indicating that religious activities were easier online, and since that time, Internet usage has rapidly increased (Pew Research, 2001). For example, the researchers reported 64% found study materials easier online, and 44% found prayer and devotional material easier online. In 2004, researchers reported 64% of U.S. adults accessed the internet for religious purposes (Pew Research Center, 2004). Since then, internet usage has increased, with 98% of U.S. adults reporting internet usage as essential (McClain et al., 2021). A more recent study showed that technology negatively influenced church attendance and affiliation, while internet religious behaviors have increased (McClure,

2017). In a recent meta-analysis, 81 studies were reviewed to identify social media usage during the pandemic that showed six themes: 1) information, 2) public attitudes, 3) mental health, 4) COVID cases prediction and detection, 5) government responses, and 6) education videos for prevention (Tsao et al., 2021). The research shows that before the COVID-19 pandemic, U.S. adults participated in religious activities on the internet (Pew Research, 2005: Mclure, 2017).

Due to the COVID19 pandemic and the CDC recommendations to practice worship services on the internet, parishioners were introduced to alternate forms of religious practice that may not have gained leadership's attention in brick-and-mortar faith-based settings. The implications are faith-based organization leadership to consider expanding traditional services to target the needs of parishioners participating in services through the Internet. Faith-based leaders may need to consider expanding the infrastructure of the traditional face-to-face church activities to forums where parishioners can participate in religious activities, such as online prayer, counseling, and support groups, to improve the measures for online support. Expanding the infrastructure of the traditional church for online services would foster a positive social change in offering a social network to individuals and parishioners in rural areas with access issues to brick-and-mortar religious services or parishioners that opt to continue internet religious engagement as a result of the pandemic.

Implications for Policy Holders

The implication of this study for policyholders is an increase of funding for resources to faith-based organizations to serve as a social network for online social

support for communities. Specifically, a subscale of the Online Social Support Survey includes a measure for instrumental support that was not surveyed in this study due to guidelines of social distancing, making the measure not central to this study. Several government programs have partnered with faith-based organizations and provided instrument support to families in need through brick-and-mortar onsite locations (HHS, 2021). For example, government programs provide incentive nutrition programs through faith-based community programs to promote health for needy families (USDA, 2021). With increased Internet religious behaviors, funding would be needed to expand these programs to needy families in rural areas with limited access to faith-based facilities. Expanded instrumental support through Internet programs would foster positive social change in society by reaching needy families in areas lacking access to support resources.

Conclusions

There is well-established research with evidence that religious behaviors have an essential role in positively impacting society. Although the empiric research has provided evidence that religious practice is an integral part of society's structure, religious behaviors have changed with a decline in affiliation in traditional brick-and-mortar settings and an increase in religious behaviors on the internet. This study examined the relationship between Internet livestream religious behavior and the dependent variables: online social support and health-related quality of life. The buffering hypothesis of social support was used to approach Internet livestream religious engagement as a social network that may directly influence online social support with an indirect buffering effect for health-related quality of life.

The sample size included 271 participants recruited through Survey Monkey. A quantitative design was used to conduct descriptive and inferential statistics presented in Chapter 4. The findings showed that Internet religious engagement negatively correlated with health-related quality of life but positively correlated with online social support. Further analysis showed a linear relationship that indicated internet livestream religious engagement predicted online social support. Null findings for RQ2 were not consistent with the previous literature reviewed in Chapter 2 that associated religious engagement with mental and physical wellbeing.

Although this study found a significant relationship between Internet religious engagement with online social support and no significant relationship with health-related quality of life, generalizations cannot be made about the results due to the nature of this study being a nonexperimental design. However, the findings of this study are paramount to future researchers examining the phenomenon of Internet religious engagement.

The landscape of the traditional brick-and-mortar church has changed, with religious activities increasing on the internet. This study fills the gap in research in demonstrating Internet religious engagement as a growing phenomenon and a quantifiable variable that may increase online social support and foster positive change in society. As the landscape of religious practice changes in society, future research may demonstrate Internet religious engagement to be an important social network that provides online social support as an alternative means for religious practice that fosters positive social change including physical and psychological wellbeing .

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Appendix A: Online Social Support Scale

PsycTESTS Citation:
Nick, E. A., Cole, D. A., Cho, S.-J., Smith, D. K., Carter, T. G., & Zelkowitz, R. L. (2018). Online Social Support Scale
[Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t67447-000

Instrument Type:
Inventory/Question
naire

Test Format:
This instrument consists of 40 items and four subscales. The items are rated on a 5-point response scale: 0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Pretty Often, 4 = A Lot.

Source:
Nick, Elizabeth A., Cole, David A., Cho, Sun-Joo, Smith, Darcy K., Carter, T. Grace, & Zelkowitz, Rachel L. (May 17, 2018). The Online Social Support Scale: Measure development and validation. Psychological Assessment, np. doi: https://dx.doi.org/10.1037/pas0000558

OSSS

Now, think about the online spaces you use above. Rate **how often** the following things have happened for you **while you interacted with others** online over the last two months. Use the following scale:

0 = Never 1 = Rarely 2 = Sometimes 3 = Pretty Often 4 = A Lot					
1. People show that they care about me online.	0	1	2	3	4
2. Online, people say or do things that make me feel good about myself.	0	1	2	3	4
3. People encourage me when I'm online.	0	1	2	3	4
4. People pay attention to me online.	0	1	2	3	4
5. I get likes, favorites, upvotes, views, etc. online.	0	1	2	3	4
6. I get positive comments online.	0	1	2	3	4
7. When I'm online, people tell me they like the things I say or do.	0	1	2	3	4
8. Online, people are interested in me as a person.	0	1	2	3	4
9. People support me online.	0	1	2	3	4
10. When I'm online, people make me feel good about myself.	0	1	2	3	4
11. When I'm online, I talk or do things with other people.	0	1	2	3	4
12. People spend time with me online.	0	1	2	3	4
13. People hang out and do fun things with me online.	0	1	2	3	4
14. Online, I belong to groups of people with similar interests.	0	1	2	3	4
15. People talk with me online about things we have in common.	0	1	2	3	4
16. Online, I connect with people who like the same things I do.	0	1	2	3	4
17. I am part of groups online.	0	1	2	3	4
18. When I'm online, people joke and kid around with me.	0	1	2	3	4
19. People relate to me through things I say or do online.	0	1	2	3	4
20. Online, people make me feel like I belong.	0	1	2	3	4
21. When I'm online, people give me useful advice.	0	1	2	3	4
22. Online, people provide me with helpful information.	0	1	2	3	4
23. If I had a problem, people would help me online by saying what they would do.	0	1	2	3	4
24. Online, people would tell me where to find help if I needed it.	0	1	2	3	4
25. People help me learn new things when I'm online.	0	1	2	3	4
26. People offer suggestions to me online.	0	1	2	3	4
27. People tell me things I want to know online.	0	1	2	3	4
28. When I'm online, people help me understand my situation better.	0	1	2	3	4
29. If I had a problem, people would share their point of view online.	0	1	2	3	4
30. People help me see things in new ways when I'm online.	0	1	2	3	4
31. People online would help me with money or other things if I needed it.	0	1	2	3	4
32. When I'm online, people help me with school or work.	0	1	2	3	4
33. Online, people help me get things done.	0	1	2	3	4
34. If I needed a hand doing something, I go online to find people who will help out.	0	1	2	3	4
35. Online, people offer to do things for me.	0	1	2	3	4
36. Online, people help me with causes or events that I think are important.	0	1	2	3	4
37. When I'm online, people have offered me things I need.	0	1	2	3	4
38. When I need something, I go online to find someone who might lend it to me.	0	1	2	3	4
39. When I need a hand with school or work things, I get help from others online.	0	1	2	3	4
40. I contact people online to get help or raise money for things I think are important.	0	1	2	3	4

Appendix B: SF-12 Health Survey License Agreement

QualityMetric
We measure health.

NON-COMMERCIAL LICENSE AGREEMENT
Office of Grants and Scholarly Research (OGSR)

License Number: QM055766

Licensee Name: Walden University

Licensee Address: 2327 Nicklaus,Oxnard 93036 CA

Approved Purpose: The Relationship Between Livestream Religious Engagement, Health-Related Quality of life, and Social Support

Study Type: Non-commercial academic research and/or thesis:

Therapeutic Area: Wellness & Lifestyle

A. Effective Date: This Non-Commercial License Agreement (the "Agreement") from the Office of Grants and Scholarly Research (OGSR) is made by and between QualityMetric Incorporated, LLC, a Delaware limited liability company, with offices at 1301 Atwood Avenue, Suite 216E, Johnston, RI 02919 dba QualityMetric ("QualityMetric") and Licensee. This Agreement is entered into as of the date of last signature below and is effective for the Study Term set forth on Appendix B.

B. Appendices: Capitalized terms used in this Agreement shall have the meanings assigned to them in Appendix A, Appendix B and Appendix D. Licensee agrees the study information completed on Appendix D – Project details form (Questionnaire) is for non-commercial use. The appendices attached hereto are incorporated into and made a part of this Agreement for all purposes.

C. Grant of License: Subject to the terms of this Agreement: (a) QualityMetric Incorporated, LLC grants to Licensee a non-exclusive, non-transferable, non-sublicensable worldwide license to use, solely for the Approved Purpose and during the Study Term, the Licensed Surveys, Software, SMS Scoring Solution, and all intellectual property rights related thereto ("Survey Materials"), in the authorized Data Collection Method, Modes of Administration, and Approved Languages indicated on Appendix B; and to administer the Licensed Surveys only up to the total number of Administrations (and to make up to such number of exact reproductions of the Licensed Surveys necessary to support such Administrations) in any combination of the specific Licensed Surveys and Approved Languages, Data Collection Method, and Modes of Administration; (b) Licensee agrees to purchase the Services described in Appendix B (if applicable); and (c) Licensee agrees to pay QualityMetric Incorporated, LLC the fees on Appendix B ("Fees") in accordance with the invoice to be provided.

D. Electronic Signature: The parties agree that execution of this Agreement by e-Signatures (as defined below) shall have the same legal force and effect as the exchange of original signatures.
Pursuant to this Agreement, e-Signatures shall mean a signature that consists of one or more letters, characters, numbers or other symbols in digital form incorporated in, attached to or associated with the electronic document, that (a)is unique to the person making the signature; (b) the technology or process used to make the signature is under the sole control of the person making the signature; (c) the technology or process can be used to identify the person using the technology or process; and (d) the electronic signature can be linked with an electronic document in such a way that it can be used to determine whether the electronic document has been changed since the electronic signature was incorporated in, attached to or associated with the electronic document.

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EXECUTED by the duly authorized representatives as set forth below.

QualityMetric Incorporated, LLC	**Walden University**
Signature: Michelle White	Signature: Kimberly A McCowan
Name: Michelle White	Name: Kimberly A McCowan
Title: Vice President	Title: Doctoral Student
Date: 04- Jun -2021	Date: 6/1/2021

Electronically signed by: Michelle White
Reason: I have reviewed this document and, to the best of my knowledge, it is complete and accurate
Date: Jun 4, 2021, 12:56 EDT

Appendix C: SF-12 Health Survey

SF-12 Health Survey

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. **Answer each question by choosing just one answer**. If you are unsure how to answer a question, please give the best answer you can.

1. **In general, would you say your health is**:

☐₁ Excellent ☐₂ Very good ☐₃ Good ☐₄ Fair ☐₅ Poor

The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

	YES, limited a lot	YES, limited a little	NO, not limited at all
2. **Moderate activities** such as moving a table, pushing a vacuum cleaner, bowling, or playing golf.	☐₁	☐₂	☐₃
3. Climbing **several** flights of stairs.	☐₁	☐₂	☐₃

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	YES	NO
4. **Accomplished less** than you would like.	☐₁	☐₂
5. Were limited in the **kind** of work or other activities.	☐₁	☐₂

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	YES	NO
6. **Accomplished less** than you would like.	☐₁	☐₂
7. Did work or activities **less carefully than usual**.	☐₁	☐₂

8. **During the past 4 weeks, how much did pain interfere with your normal work (including work outside the home and housework)?**

☐₁ Not at all ☐₂ A little bit ☐₃ Moderately ☐₄ Quite a bit ☐₅ Extremely

These questions are about how you have been feeling during the past 4 weeks.
For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks…

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
9. Have you felt calm & peaceful?	☐₁	☐₂	☐₃	☐₄	☐₅	☐₆
10. Did you have a lot of energy?	☐₁	☐₂	☐₃	☐₄	☐₅	☐₆
11. Have you felt down-hearted and blue?	☐₁	☐₂	☐₃	☐₄	☐₅	☐₆

12. **During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?**

☐₁ All of the time ☐₂ Most of the time ☐₃ Some of the time ☐₄ A little of the time ☐₅ None of the time

Patient name: Date: PCS: MCS:

Visit type (circle one)
Preop 6 week 3 month 6 month 12 month 24 month Other:_____