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Investigating Group Differences Of Mental Health Service Use (Tele-mental Health, Face-to-face Counseling, And No Counseling) On Psychological Openness, Levels Of Computer Self-efficacy, And Coping Behavior In Young Adults During Covid-19

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INVESTIGATING GROUP DIFFERENCES OF MENTAL HEALTH SERVICE USE (TELE-MENTAL HEALTH, FACE-TO-FACE COUNSELING, AND NO COUNSELING) ON PSYCHOLOGICAL OPENNESS, LEVELS OF COMPUTER SELF-EFFICACY, AND COPING BEHAVIOR IN YOUNG ADULTS DURING COVID-19

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ABSTRACT

Given the severity and prevalence of mental health concerns among young adults, universities and community clinics have been increasingly invested in improving counseling utilization. In addition, the COVID-19 pandemic has forced the development of online therapies. Although the availability of online therapies has increased, the process outcomes of actual service users remain unclear. The Theory of Planned Behavior was used to guide the examination of young adults' use of mental health services, and explore group differences in psychological openness, coping, and computer efficacy based on counseling modality.

A total of 248 college-aged participants with three help seeking behaviors (tele-mental health counseling, face to face counseling and no counseling) were recruited. MANOVA analysis was used to determine how different service modalities (i.e., online counseling, face-to-face counseling, no counseling) may produce differences in psychological openness, coping, and computer efficacy. Results demonstrated statistically significant differences in coping across tele-mental health, face to face counseling and no counseling groups. However, follow up ANOVA testing revealed amongst the TMH group demographic variables of gender and ethnicity, there was no significant differences based on gender and ethnicity. Implications from the results of this study include (a) greater knowledge relating to the constructs of psychological openness, coping, and computer self-efficacy; (b) increased understanding of the contribution of college students' comparative outcomes within tele-mental health counseling, face to face counseling, and no counseling; and (c) more evidence of impact of clinical tele-mental health counseling on young adults. Furthermore, counselor educators can use the findings to inform counseling programming, particularly tele-mental health training and education. Specific counseling practice, and research recommendations are included.

Keywords: tele-counseling, help-seeking, telehealth, counselor education, young adults, COVID

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CSE	Computer self-efficacy is defined as a telehealth user's judgment and confidence related to telehealth computing capability (Hook et al., 2013). For the purposes of this study, CSE will signify computer self-efficacy.
F2F	Face-to-face counseling is defined as the provision of mental health services through the in- person or in-office setting psychotherapy session (Bird et al., 2020). For the purposes of this study, F2F will signify face to face counseling.
TMH	Tele-mental health counseling is defined as "the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration" (HRSA,2020, pg.4). Tele-mental health counseling is psychological service delivery via videoconferencing, telephone, or texting (Hilty et al., 2013; Jones et al., 2014), inclusive of functions related to mental illness assessment and diagnosis (Hilty et al., 2013). For the purposes of this study, TMH will signify tele-mental health counseling.

CHAPTER ONE: INTRODUCTION

This investigation contributes to the counseling literature's understanding of how technology-mediated therapeutic interventions can impact clients' coping behaviors, efficacy, and overall help-seeking behaviors. Professional counseling organizations (e.g., American Counseling Association, [ACA], 2014; Council for Accreditation of Counseling and Related Educational Programs [CACREP], 2016; and National Board for Certified Counselors, Inc. and Affiliates [NBCC], 2001) have welcomed resources and research related to "technology's impact on the profession" (CACREP, 2016, p. 10). During the COVID-19 pandemic, ACA (2020) established trainings and ethical resources for tele-mental health (TMH) counseling services for counselors and/or endorsed ethical as well as training standards for the integration of technology into counseling. Similar to ACA's initiatives, CACREP (2016) has also addressed the use of technology in counseling, stating that greater knowledge of factors that impact TMH users' help-seeking behaviors may aid counselors in developing "ethical and culturally relevant strategies for establishing and maintaining in-person and technology-assisted relationships" (CACREP, 2016, p. 10). Hypothesized group differences between online counseling (TMH) and face-to-face counseling (F2F) support accredited programs integrating tele-counseling research into relevant counseling and helping relationship courses (CACREP, 2016). Counselor educators who serve as supervisors can use the findings to supplement counselors-in-training knowledge of "the impact of technology on the counseling process" (CACREP, 2016, p. 10). Last, TMH services are important to counseling departments and counselor educators for competency, curriculum, and clinical development purposes. The following sections discuss known factors that may contribute to young adults' help-seeking and favored service modality.

Background of Study

Young adults aged 18–30 are vulnerable to developmental risk factors, such as increased risk-taking, isolation and oppression during their development of social identities, and the highest compulsive drug use rates (Arnett, 2001; Johnston et al., 2003). Adding to the vulnerability of young adults is research showing that the severity of disorders and recurrence of mental illness is associated with this age of onset (Patton et al., 2003). Clinical and epidemiological evidence reveals that half of all life-time mental disorders have developed by mid-adolescence, and three-fourths of all life-time mental disorders are diagnosed by age 29 (Gore et al., 2011; Kessler et al., 2007). Data further indicates that young adults within universities report the greatest prevalence of mental illness, with anxiety and depression rated as most common (Bird et al., 2020 Lipson et al., 2016).

Young adults suffering from severe and debilitating mental health difficulties have lower educational attainment rates, as well as higher rates of unemployment, unplanned pregnancy, substance use disorders, homelessness, and poverty (Moore, 2018). Such impairments can interrupt adulthood milestones and contribute to documented mental health help-seeking avoidance and treatment delay (Biddle et al., 2006). Due to the economic and societal cost of low mental health help-seeking in young adults (e.g., premature death, lower quality of life, and engaging in risky sexual behavior) (Anderson & Lowen 2010; Brindis et al., 2002; Laski, 2015), greater clinical attention towards help-seeking among young adults is imperative.

Undertreatment of young adults is a pressing concern, particularly as millennials and generation Z become the economic drivers of economies (Lawrence et al., 2015). While the prevalence of emotional distress is increasing in young people, many young adults lack engagement with professional services (Blanco et al., 2008; Gulliver et al., 2010). Barriers to services include low psychological openness (i.e., individual's willingness to acknowledge and

seek treatment for their psychological problems), beliefs related to mental health problems improving independently (Blanco et al., 2008; Gulliver et al., 2010), lack of recognition of symptoms, lack of computer self-efficacy, fears of unfriendly clinicians, and the fear of "stigmatizing" psychiatric diagnoses (Corry & Leavey 2017; Gulliver et al., 2010; Rickwood et al., 2007; Zachrisson et al., 2006). External barriers include affordability, the availability of appropriate services, and confidentiality concerns (Gulliver et al., 2010; Schuh, 2021). Furthermore, fear of negative judgment is heightened as a cultural barrier for many minoritized young adult populations (Chen et al., 2014).

Underutilization of mental health services becomes particularly problematic given the aforementioned mental health concerns of young adults. The Center for Collegiate Mental Health (2019) and Lipson and colleagues (2019) listed substance abuse, suicidality, relationship issues and depression as the major concerns for the general young adult population amidst critically low mental health service use. Despite the clear need for mental health services, even when campus counseling services are offered, under 40% of psychologically distressed university students engage in mental health care services, (ACHA, 2013; Eisenberg et al.,2013). While authors suggest that young adults are underutilizing care (Auerbach et al., 2016; Eisenberg et al.,2013), little is known about those currently utilizing mental health services, and how this information can be leveraged to inform counseling practice (Bathje et al., 2014; Cohen et al., 2020; Marsh & Wilcoxon, 2015).

Help-Seeking Behavior

The pursuit of counseling represents a problem-focused coping response, signaling healthy, formal help-seeking behavior (Kauer et al., 2017). Help-seeking represents affects and cognitions that encourage individuals to seek help from formal licensed health providers, such as licensed mental health counselors, physicians, nurses, and dentists (Rickwood & Thomas, 2012).

Help-seeking is particularly important for young adults who consistently have low rates of mental health utilization and high mental health onset rates (Kesler et al., 2015). Additionally, rates of utilization are more pronounced across ethnic and racial lines (Hunt et al., 2015; Marrast et al., 2016). Multicultural counseling literature has found that young adults from racial and ethnic minority backgrounds often cope with concerns beyond psychological symptoms, such as concerns related to systematic oppression, micro-aggressions, and stigma (Gomez et al., 2020). Therefore, Gomez and colleagues (2020) suggest counselors be more aware of racial and ethnic disparities related to accessibility and student help-seeking behaviors. To address unmet mental health needs of young adults, clinicians, universities, and policymakers have attempted to address lapses in help-seeking among young adults through anti-stigma campaigns, mental health literacy media awareness, motivational interviewing, and psycho-educational campaigns across college campuses and metropolitan areas (Eylem et al., 2020; Topkaya, 2015). These programs are designed to modify attitudinal barriers related to treatment barriers, as opposed to increasing access and coping deficits, self-efficacy, embarrassment, and openness to receiving help (Topkaya, 2015).

Further, evidence of help-seeking behaviors in young adult populations have tended to focus on appropriateness of services (e.g., Kauer et al., 2017), rather than examining how current users engage in care compared to non-users. For example, researchers have argued that the empirical focus on attitudinal intention, instead of actual help-seeking behavior, limits data from focusing on the facilitators and barriers to help-seeking, or mental health literacy (Lipson et al., 2019; Zorrilla et al., 2019). In addition, current conceptions of help-seeking tend to be limited to licensed provider experiences and short-term data (Barney et al., 2020). More research is needed to quantify young adult's experiences of TMH.

Tele-mental Health Counseling (TMH) and Face to Face Counseling (F2F)

As the COVID-19 pandemic continues to impact counseling delivery and young adults psychosocially (Son et al., 2020; Tasso et al., 2021), it is important to look at all possible avenues for supporting young adult help-seeking behaviors. Telehealth is one means to bridge the aforementioned service use gap. TMH, also commonly known as online counseling, refers to technology mediated mental health interventions through use of email, videoconferencing, text, and/or telephone (HRSA, 2020). TMH represents a subsector of telehealth, which involves using wireless videoconferencing and mobile phones as applied to mental health practice (ACA, 2020; Barnett & Kolmes, 2016). The interactive nature of online counseling enables various forms of output such as mobile interfaces or tele-conferencing websites. NBCC has endorsed that distance counseling falls into 5 modalities (i.e., email-based, video-based, and social network-based services, text-based, and telephone-based) (NBCC, 2016). Online mental health resources, such as mental health literacy campaigns and TMH, can promote help-seeking (Naslund et al., 2020). Within contemporary society lay various forms of evidenced based telehealth modalities, and young adults have been adjacent consumers to video-conferencing systems through distance education (e.g., Mupinga, 2005), TMH counseling (e.g., Bird et al., 2020), and social video conferencing for friends and family (i.e., Facetime, Snapchat; Sanchez et al., 2020).

Researchers have highlighted the benefits of online counseling through TMH for young adult populations such as greater anonymity, less time-cost related to commute affordability, and greater perceived confidentiality (Schuh, 2021; Wallin et al., 2018). Indeed, in young adult populations, Schuh (2021) reported that TMH offers reduced cost, increased confidentiality, and stable perceived effectiveness during the COVID-19 outbreak. In addition, the internet has become a judgment free tool for help-seeking and privacy (Pretorius et al., 2019).

Although research has historically revealed that young adults prefer face-to-face counseling to online counseling (Dunbar et al., 2018; Kauer, et al., 2014), recent literature highlights an increased preference for TMH services (Kern et al., 2018; Schuh, 2021). Online mental health resources offer young adults on-demand therapeutic opportunities to destigmatize mental health, gain beneficial information, and promote help-seeking (Naslund et al., 2020). The privacy offered by TMH has been documented as an asset by young adults in reducing treatment-seeking barriers such as stigma (Neal et al., 2011). For instance, Pretorius et al. (2019) suggests that online health-related services are increasing among young adult consumers; however, little is known about the impact of TMH on current service users. Researchers have found that the constraints for online help-seeking included lack of trust or openness towards providers and lack of awareness of online resources (Kauer et al., 2014; Pretorius et al., 2019).

Increased use of chat rooms, mental health applications, and TMH are avenues that have been increasing young adult engagement with online mental health sources as a form of help-seeking (Kauer et al., 2014; Rickwood et al., 2005). While some young adults reject traditional face-to-face mental health services, others have embraced the convenience of TMH counseling. Powell and colleagues (2017) reported an impressive 60% openness to TMH counseling in over 6,000 university students. In addition, young adults have reported a greater willingness to try telehealth overall, including TMH, as a cost-saving coping strategy (Casey et al., 2014). Convenience of scheduling, lower transportation costs, and reduced appointment wait times were qualitative benefits documented by TMH users (Dunbar et al., 2018). In addition, respondents receiving TMH counseling also reported high comfort levels in disclosure and rapport building with counseling providers (Dunbar et al., 2018).

TMH has been linked to adaptive coping, such as healthy self-disclosure and application of evidenced stress management interventions (Frazier et al., 2015), greater psychological openness when face-to-face counseling disclosure is perceived as stigmatized (Wallin et al., 2016), and improved computer self-efficacy reducing negative attitudes towards treatment (Carper et al., 2013). Research on TMH counseling for young adults specifically has consistently strong outcomes of greater self-reported mental health status, increased quality of life, and fewer depressive symptoms across several counseling studies (Kerns et al., 2018; Rogers et al., 2017).

However, TMH also poses disadvantages in the form of inequity of access (e.g., rural areas), limited crisis response protocols, limited verbal cues, and counselor concerns of confidentiality and technical competence (Bathje et al., 2014; Leibert et al., 2006; National Board of Certified Counselors, 2012). An oversight within the counseling research is the propensity to assess online counseling as a monolithic concept, as opposed to parsing out the specific sub modality (e.g., videoconferencing, text, phone) and the associated outcomes (Bathe et al., 2014; Bird et al., 2020). Young adults, often deemed digital natives, experience digital help-seeking in myriad of ways (email, text, videoconferencing), therefore, research that addresses the vagueness of umbrella of TMH can improve the field's understanding of the diversity of counseling mediums (Cohen et al., 2020; Kauer et al., 2014).

To accurately assess TMH and optimize mental health outcomes, researchers must also honor and continue to assess F2F counseling services. Face-to-face counseling refers to in-office psychotherapy in individual or group formats and often is referred to as F2F (Bird et al., 2018). Within the literature, young adults tend to be evaluated as consumers of university-based counseling centers, low-cost community-based counseling clinics, or private practices (Cohen et al., 2020; Schuh, 2021). F2F has been widely studied as a formal intervention in response to

mental health distress for mental health distress (Bird et al., 2020). In-person psychotherapeutic services have been cited to reduce maladaptive coping (e.g., substance misuse, violence, etc.), and influence greater occupation and academic performance (Bathje et al., 2014; Kauer et al., 2017; Wang et al., 2020), however, young adults are affected by long waitlists, affordability concerns, and limited hours of service (Cohen et al., 2020; Kauer et al., 2017; Wang et al., 2020).

The existential question concerning the effectiveness of TMH compared to F2F mental health services among young adults have been a source of curious and intense debate (Bathje et al., 2014; Barney et al., 2020; Bird et al., 2020; King et al., 2021), yet research has consistently shown equivalence of effectiveness and efficiency between the two modalities with appropriate nuances and caveats for crisis care or severe persistent psychiatric disorders. Simply speaking, TMH has shown to be equal in effectiveness to F2F modalities (Gros et al., 2013; Himle et al., 2012). More specifically, across videoconferencing and F2F comparison studies, TMH resulted in greater symptom reduction and lower attrition when compared with F2F modalities (Bouchard et al., 2004; Himle et al., 2006). Such evidence suggests that TMH may be an antidote for improved distress outcomes in young adult clients. However, to confirm, more information is needed on current TMH service users. This is particularly crucial as the COVID-19 pandemic has ignited a mass shift towards telehealth technologies, specifically in counseling and medicine (Schuh, 2021; Sons et al., 2021).

The relative findings of preferences are debated in the literature on addressing young adult underutilization. Earlier research on group differences among young adult TMH and F2F users has produced mixed results. First, some data concerning help-seeking reveals that young adults prefer face-to-face counseling (Rochlen et al., 2004; Wong et al., 2018); however, sometimes the preference is TMH (Bird et al., 2018; Rickwood et al., 2005). Second, many

studies examining young adults prior to the COVID-19 pandemic lacked surveys evaluating previous help-seeking and current help-seeking behaviors for each individual– signaling much of young adult help-seeking conception is attitudinal and limited by predominance of investigations measuring intentions as opposed to actual behaviors among service users (Cohen et al., 2020; Kauer et al., 2014).

Despite radical improvements in access and quality that underlies TMH technologies, such as faster internet connections and a COVID telehealth adoption surge, little is known about young adult's TMH experience (Montagni et al., 2020; Sheperis & Smith, 2021; Tasso et al., 2021). This highlights a knowledge gap between clinicians and young adult clients in understanding how telehealth help-seeking behavior and access to mental health care influences young adult help-seeking behaviors. Therefore, engaging in examination of the variables across counseling modality can be potentially informative for increasing counseling access and increasing the knowledge base of counselors' perceptions of young adult help seekers (Barney et al., 2020; Eisenberg et al., 2011; Tasso et al., 2021). By investigating the intersection of emerging adults and e-mental health, counselors can gain greater understanding related to openness, usage, cognitions, and behaviors from the current proposed study.

Given the influx of TMH during the COVID-19 pandemic and changes in counseling service use due to public health measures, it is important to acknowledge group differences in help-seeking constructs across counseling modalities. The data may enlighten counselors to become more aware of counseling modality, raise computer self-efficacy and proactive coping, thereby empowering young adult clients by providing greater motivations for care. In fact, researchers have theorized that the advent of COVID-19 has ushered in a revived interest in

TMH (Sheperis & Smith, 2021; Tasso et al., 2021) as counselors represent both frontline essential workers and professionals at the helm to transforming healthcare with technology.

Coping

Coping is defined as an emotional and cognitive response to unmanageable stressors and represents a crucial aspect of well-being at many developmental transition points (Lane, 2014). Young adult coping skills are warranted given this populations vulnerability to suicide (Center for Collegiate Mental Health, 2014), COVID-19 health anxiety (Madigan et al., 2021) and interpersonal difficulties (Kenny & Sirin, 2006). For example, one study tracked 612 university students' self-reported levels of depression, anxiety, stress, and coping strategies during the height of the COVID-19 pandemic and found negative behavioral and emotional reactions in the form of venting, denial, and substance use (El-Monshed et al., 2021). In addition, researchers using the Brief COPE scale (e.g., Carver, 1997) have found strong associations between adaptive coping, such as acceptance and cognitive reframing (Carver, 1997), and mental well-being (El-Monshed et al., 2021; Kim et al., 2022). Whereas individuals deeply entrenched in maladaptive coping, such as self-blame (Carver, 1997), demonstrated worse mental health outcomes and greater intensity of consequences than adaptive coping young adults. This suggests emerging adults tend to exhibit and over-rely on coping related to self-management, stifling improved distress via counseling (Lee et al., 2009; Narendorf et al., 2018). Findings emphasized how nuanced coping mechanisms can be for young adults, who are often engaged in positive and negative coping. Interestingly, the concept of help-negation, the refusal to seek treatment despite distress, in young adult populations has been positively correlated with maladaptive coping (Han et al., 2018; Hom et al., 2015). This finding further implicates the influence of coping skills on young adult help-seeking behavior and how it is essential for addressing unmet mental health needs.

Psychological Openness

Psychological openness refers to the perceived openness to acknowledging psychological distress (Mackenzie et al., 2004). Wallhed-Finn and colleagues (2014) found that low recognition of mental health distress was related to reduced pro-social behaviors, with several studies noting that a lack of perceived openness is an often-cited barrier to treatment (Wilson et al.,2011). Thus, data related to psychological openness may inform understanding of client perceptions about the value of counseling treatment and the mental health help-seeking process. For instance, poor psychological openness can act as a barrier to seeking mental health treatment, and therefore, unmet mental health needs among young people of color (Hunt et al., 2015). Therefore, when an individual cannot acknowledge present mental health concerns (i.e., low psychological openness), there is a decreased likelihood of seeking treatment (Lee et al., 2009; Narendorf et al., 2018). Further, psychological openness may have ties to coping, as individuals may be less open to acknowledging symptom distress due to mal-adaptive coping (e.g., substance use, isolation, and re-traumatization) (Wallhed-Finn et al., 2014).

Computer Self-Efficacy

Self-efficacy is the belief in one's capability to complete a task to help lessen avoidance (Bandura, 1994; 1997). Later, researcher's Compeau and Higgins (1995) would expand upon this conceptualization and introduce computer self-efficacy (CSE) as the belief in one's capability to use an information system. The construct of computer self-efficacy has received substantial theoretical support (Ajzen & Fishbein, l980; Pavlou & Fygenson, 2006) and has been shown to demonstrate strong associations with behavioral intentions and perceived ease of use related to the Technology Acceptance Model (TAM) (Ong, et al., 2004) and perceived behavioral control from the theory of planned behavior (TPB)(Taylor & Todd, 1995). However, much of the knowledge on computer self-efficacy is housed in the cannon of e-learning and higher education

research, where CSE shows strong associations with enhanced performance and lowered anxiety among university students (Burns & Birrell, 2014; Wu & Tsai, 2006). The variable remains under-addressed in counseling literature. While online counseling has often been perceived as adjunct to 'real' face to face counseling (Bird et al., 2020; Wong et al., 2018), it would be wise of counselors to understand computer self-efficacy in TMH and face to face counseling clients (Burns & Birrell, 2014). Therefore, it is crucial to determine levels of computer self-efficacy among young adults, a population already susceptible to low self-esteem and assumptions of social media competence translating to technical competence (Tasso et al., 2021). In addition, computer self-efficacy has been positively linked to increased technical competency (Wu & Tsai, 2006), and greater confidence related to managing mental health concerns for young adults (Burns & Birrell, 2014). These findings suggest that increased computer self-efficacy surrounding the use of telehealth technologies may ensure patients and clinicians will use these technologies.

Researchers are interested in leveraging assets of TMH to increase mental health services utilization and decrease stigma among underserved communities (Tasso et al., 2020; Wallin et al., 2018). By understanding service use variations in young adult clients, counselors can better leverage the assets of both F2F counseling and TMH to better serve and engage clients in their care. While recent data has provided counselors a starting point to consider barriers and facilitators of help-seeking, this study can contribute data in the context of the COVID-19 pandemic, into young adult help-seeking (i.e., TMH, F2F, and no counseling) and its relationship with coping, CSE, and psychological openness.

Problem Statement

Low utilization of psychotherapy is a critical public health problem (American College Health Association, 2019). Despite scholarly evidence surrounding mental health services helping young adults, low help-seeking rates continue to resurface in the literature (American College Health Association, 2019; Eisenberg et al., 2012). In a recent study of a worldwide sample of young adults, 20.3% reported experiencing a clinical psychiatric concern within the past year, however, a mere 16% within the cohort were engaged in counseling treatment (Auerbach et al., 2016). In the U.S. alone, only an estimated 25% of university adults with a mental health concern have sought help (Blanco et al., 2008).

Since the onset of the COVID-10 pandemic, there has been an increase help-seeking among young adults. In fact, the pandemic forced a massive shift in mental health care, with young adult clients switching to TMH counseling (Sheperis & Smith, 2021). TMH software, such as Zoom and Doxy.me saw increased use as COVID-19 kept Americans at home (Hacker et al., 2020; Zhou et al., 2020). The COVID-19 pandemic has challenged the counseling profession to rapidly address the public health concern of access to care and determine how to provide high-quality TMH counseling (Borgueta et al., 2011). Although digital mental health has gained a resurgence for mental health practice and research (Hollis et al., 2018), young adults' behaviors and attitudes around care, and their impact on help-seeking, is unknown. Current F2F and TMH counseling users and help-seeking considerations should be investigated to inform young adult care delivery and optimize TMH service delivery. Thus, the proposed study aims to study mental health help-seeking and its relationship with counseling modality, psychological openness, and CSE. Findings will bring clinical implications related to policies surrounding online mental health service delivery (Cohen et al., 2020; El-Monshed et al., 2021; Schuh, 2021; Tasso et al., 2021).

Significance of the Study

The significance of this study aimed to develop a more comprehensive understanding of young adult well-being and catalyzes to inform COVID-relief protocol and ignite telehealth sustainability research. Furthermore, findings may serve as contemporary data to influence telehealth implementation, technical competence, and encourage greater patient and provider acceptance. Young adult well-being represents a critical area of interest in counseling psychology and counselor education. Recent empirical literature has begun to examine young adult access disparities (Cadigan et al., 2018; Dong et al., 2020; Guarneri et al., 2019, Prescott et al., 2019). Examining TMH use through correlational analysis, with the oversampling of REM (Racial/Ethnic Minorities) is innovative to the counseling literature. Hence, the knowledge gained from this investigation can enhance future interventions specifically tailored to addressing the tele-mental health service gaps and inform the development of TMH training in counseling programs.

Significance for Counselors, Counselor Educators, and Institutions of Higher Education

Understanding the behaviors of TMH users offers several relevant implications for mental health counselors and counselor educators. First, understanding online counseling can enable mental health counselors to identify mental health literacy and preventive pathways to improve youth engagement in counseling within the counselors' local communities. Second, articulated in the American Telemedicine Association, expanding psychotherapy accessibility is inextricably associated with high quality mental healthcare (Toporek & Daniels, 2018). Third, while the onset of many mental health concerns in young adults occur in adolescence, these problems are severely undertreated among college-groups (Kesler et al., 2015). The proposed study may illustrate that young people using TMH technologies to may need greater support

related to computer self-efficacy, counselor educators can use such knowledge to support clinical engagement and enable patients and students alike to optimize the utility of TMH. Therefore, the acknowledgment of digital mental health becomes more relevant in the context of society still at social distance.

A second implication is the need for counselor educators to integrate help-seeking best practices and community mental health counseling. Because professional psychological help can be associated with negative cognitive abstractions and social shame (Vogel et al., 2013), counselor educators may need to centralize accessible mental health outreach efforts. Previous research emphasizes outreach as an effective means of systemic advocacy efforts by mental health professionals (Kozan & Blustein, 2018). Although psychoeducation and community outreach efforts can aid in familiarizing communities with valuable mental health care, the proposed findings can influence counselors and counselor educators to include psychological openness and computer self-efficacy assessments before telehealth use, community asset mapping and assessments of current help-seeking with neighboring with diverse organizations, community leaders, and primary health care services. In addition, despite successful expansion of TMH within the counseling profession (Cox et al., 2020), there is currently no specific TMH guidelines and data for young adults within counseling sections. While CACREP provides guidelines related to the impact of technology within counseling and on the process (i.e., CACREP Technology Standards 2.F.1.j. & 2.F.5.e.), counselors-in-training are not required to undergo tele-mental counseling training. While counselor educators and clinicians may use National Board for Certified Counselors telehealth guidelines and ACA (i.e., 2014 ACA Code of Ethics) and train pupils using CACREP guidelines, TMH resources are still in infancy (Borgueta et al., 2018; McCord & Saenz, 2015). Therefore, counselor educators can use comparative

modality data within their classrooms to contextualize help-seeking and plant the developmental ethos for TMH guidelines.

Lastly, social good institutions, such as universities and counseling centers, can act as allies to draw young adult populations to licensed mental health providers, and develop better telehealth protocol and implementation efforts. When institutions can garner a greater grasp on help-seeking, administrative leadership can work alongside help-seeking professionals, psychotherapists, nurses, physicians, and dentists to reduce treatment gaps and biopsychosocial stressors at the individual and community level (Cheng et al., 2015; Eisenberg et al., 2012; Francis & Horn, 2016). Online counseling has the potential to destigmatizes prevention and psychotherapy in minoritized communities by providing accessibility, stigma reduction, and practical cultural and contextual awareness (Campos-Castillo, & Anthony, 2021; Son et al., 2020; Wan, 2020). The proposed study seeks to contribute to the psychotherapy service use literature and empower counselors to be leaders in reclaiming the contemporary surge in TMH, and psychological help-seeking for diverse communities.

Theoretical Framework

Theoretical frameworks are crucial in helping researchers comprehend complex mechanisms and informing evidence based clinical interventions (Bilardi et al., 2009). The theory of planned behavior model (TPB; Ajzen, 1991) serves as the central theoretical foundation for the current investigation, examining constructs of coping, psychological openness, and computer self-efficacy. The TPB model (TPB; Ajzen, 1991) is based on four interactive components: (a) Attitude towards help-seeking (ATTHS), (b) Subjective norm (SN), (c) Perceived behavioral control (PBC), and (d) Help-seeking intention. Ajzen's TPB proposes that key antecedents to predict a patient's likelihood of actual behavior engagement, is guided by

perceived consequences, normative expectations, and intentions to engage in a behavior. This theory has received support for its function in predicting health behaviors and has been applied to behavioral predictions such as smoking cessation, blood donation, and physical activity (Ajzen, 1991; Armitage & Conner, 2001; Fishbein & Ajzen, 2010; Godin & Kok, 1996). Admittedly, the theory has been critiqued for contributing to the vagueness of help-seeking research (Kauer et al., 2017). TPB is not tethered to a specific health behavior and the constructs are broad (Kauer et al., 2017). Despite critiques, Ajzen's work has been readily used by researchers for its strengths related to high predictive power (i.e., through statistical explained variance or R2) when compared to adjacent theories such as the health belief model (Thornton & Calam, 2011).

In summary, the TPB will be used as the underlying theoretical framework of the proposal. Through the TPB model the researcher proposes testing the hypothesis that modality (as measured by participant status in treatment modality). influences group differences in the TPB variables - specifically levels of computer self-efficacy (as measured by the Computer Self Efficacy scale [Levar et al., 2012]), psychological openness (as measured by IASMHS subscale [Mackenzie et al., 2004]), adaptive and maladaptive coping (as measured by the Brief COPE [Carver, 1997]). Combining the notions of TPB and variables of interest, the measurements in this study which include psychological openness (IASMHS) will be equivalent to attitude (TPB), adaptive and maladaptive coping (as measured by the Brief COPE [Carver, 1997]) equals to Perceived behavioral control (TPB), and computer self-efficacy (Computer Self Efficacy scale [Levar et al., 2012]) equals subjective norm. Hence, the knowledge gained from this investigation can enhance future interventions specifically tailored to addressing the tele-mental health service gaps and inform the development of TMH training in counseling programs.

Dependent Variables

The following section will detail the instrumentation for the TBP constructs of interest. First, coping will be captured by the Brief COPE (Carver,1997). Specifically, the Brief COPE was selected as the most appropriate measurement of coping due to its long-term use in counseling literature, high reliability, and short item presence within survey. Questions include: "These items deal with ways you've been coping with stress in in your life....". Brief Cope has 28 items measuring 14 different coping strategies (i.e., self-distraction, active coping, denial, substance use, emotional support, instrumental support, behavioral disengagement, venting, positive reframing, planning humor, acceptance, religion, and self-blame). Subscale estimations are averaged into two subscales: adaptive coping and maladaptive coping. The Cronbach's alpha is .83 (Snell et al., 2011).

Secondly, Inventory of Attitude Toward Seeking Mental Health Services (IASMHS) (Mackenzie et al. 2004), specifically using the psychological openness subscale. The Cronbach's alpha values for the IASMHS are: Full-Scale (α = .87), Psychological Openness (α = .82), Help-Seeking Propensity (α = .76), and the Indifference to Stigma (α = .79) (Mackenzie et al., 2004). Additionally, test-retest reliability coefficients for the IASMHS were obtained: Full-Scale (r = .85), Psychological Openness (r = .86), Help-Seeking Propensity (r = .64), and the Indifference to Stigma (r = .91) (Mackenzie et al., 2004).

Lastly, computer self-efficacy Scale (CSES); In the proposed study, the assessment to be used to measure computer self-efficacy in patients is the Computer self-efficacy Scale (CSES; Laver et al., 2012) measured measures an individual's capability to perform specific computer-related tasks based on knowledge. The modified Computer Self Efficacy Scale (SSOSH; Vogel et al., 2006) was adopted from Dr. Compeau and Dr Higgins in 1995 and includes Likert responses ranging from 1 (low perceived confidence) to 10 (high perceive confidence). The

CSES was selected as the most appropriate measurement of computer efficacy due to its brevity and efficacy questions related to both computer use and social media help-seeking (12-items). The scale has strong documented use on young adult populations (Kass, 2014; Roney et al., 2017). Research has shown a positive association between computer self-efficacy and patients' willingness to accept telemedicine (Cimperman et al., 2013). When used with an emerging adult sample, the CSES has demonstrated internal consistency of strong internal consistency ($\alpha = 0.96$) (Durndell and Haag, 2002).

Purpose of the Study

The purpose of this study is three-fold: (a) to contribute to counseling literature related to TMH, (b) to survey young adult mental health users about psychological openness, coping, and CSE during the pandemic, and (c) to evaluate group differences between the emergent modality of TMH, F2F counseling, or no counseling at all. In addition, the researcher assessed potential attitudinal and behavioral differences (i.e., psychological openness, coping, and computer efficacy) in relation to these help-seeking modalities. Research to date has not shown whether there are significant treatment modality group differences in psychological openness, coping, CSE, and overall help-seeking attitudes. Information about these associations could assist university counselors and counselor educators in expanding access to psychotherapy services for underserved young adults and identifying obstacles to seeking help. This investigation has the potential to empower mental health practitioners better support young adult clients in the context of their help seeking. In closing, findings may contribute to the field's understanding of tele-counseling and how it relates to experience aspects of psychological openness, coping, and computer efficacy.

Research Questions

This study is designed to answer the following research questions:

Research Question 1: To what extent do group differences exist in coping behaviors (as measured by the Brief [COPE; Carver, 1997]), psychological openness (as measured by Inventory of Attitude Toward Seeking Mental Health Services [(IASMHS; Mackenzie et al., 2004]), and computer self-efficacy (as measured by Computer Self Efficacy scale [CSE; Levar et al., 2012]), among young adults engaged in one of the three help-seeking behaviors: tele-mental health [TMH] counseling, face to face counseling [F2F] or no counseling), during Covid-19?

- Primary Research Hypothesis 1: Based on the literature, I anticipate that young adult TMH users will score higher on higher on perceived coping (as measured by the as measured by the Brief COPE; Carver, 1997), psychological openness (as measured by IASMHS subscale; Mackenzie et al., 2004), and computer self-efficacy (as measured by Computer Self Efficacy scale [CSE; Levar et al., 2012]) than users engaged in face-to-face services).
    - H1a: It is expected that young adults TMH users will have significantly higher scores on coping (as measured by the Coping Orientation to Problems Experienced Scale; Brief COPE) than persons in either the no counseling or face-to-face counseling conditions.
    - H1b: It is expected that young adults TMH users will have significantly higher scores on psychological openness (as measured by the Inventory of Attitude Toward Seeking Mental Health Services Scale; IASMHS) than persons in either the no counseling or face-to-face counseling conditions.

- H1c: It is expected that young adults TMH users will have significantly higher scores on computer self-efficacy (as measured by the Computer Self Efficacy Scale [CSE]) than persons in either the no counseling or face-to-face counseling conditions.

Research Question 2: To what extent do demographic variables (e.g., gender, ethnicity) associated with counseling modality TMH, differ in scores of psychological openness, coping, and computer efficacy?

Methodology

This cross-sectional survey-based study used three empirical validated scales administered to young adults within the United States. The dependent variables examined include psychological openness, coping, and computer self-efficacy.The independent variable are group differences among three service use types (e.g., tele-counseling, face-to-face counseling, and no counseling services).

Applying a multivariate analysis of variance (MANOVA) data analysis through IBM SPSS (Version 22) would answer the research question, 'To what extent do exists group differences in coping behavior (as measured by the Brief [COPE; Carver, 1997]), psychological openness (as measured by Inventory of Attitude Toward Seeking Mental Health Services [IASMHS; Mackenzie et al., 2004]), and computer self-efficacy (as measured by Computer Self Efficacy scale [CSE; Levar et al., 2012]), among young adults engaged in one of the three help-seeking behavior (as measured by tele-mental health (TMH) counseling, face to face counseling or no counseling) during Covid-19?' Additionally, the MANOVA will answer the research sub-question exploring demographic differences between variables. The MANOVA was chosen as an

appropriate method for data analysis in order to investigate the independent variables of mean differences between service use modalities for the three dependent scales in the study of psychological openness, computer self-efficacy, and coping. The MANOVA was chosen as an appropriate method for data analysis in order to investigate the independent variables of mean differences between service use modalities for the three dependent scales in the study of psychological openness, computer self-efficacy, and coping (Laerd Statistics, 2013b).

A MANOVA was well suited for this investigation because the approach is based on comparing group differences from the counseling and non-counseling samples across the proposal dependent variable measures (Laerd Statistics, 2013b). Grounded on the positivist paradigm (Laerd Statistics, 2013b), this approach helps the researcher to evaluate group differences in attitudinal and behavioral constructs among three different service use types. The research questions were:

> (a) To what extent do group differences exist in coping behaviors (as measured by the Brief [COPE; Carver, 1997]), psychological openness (as measured by Inventory of Attitude Toward Seeking Mental Health Services [IASMHS; Mackenzie et al., 2004]), and computer self-efficacy (as measured by Computer Self Efficacy scale [CSE; Levar et al., 2012]), among young adults engaged in one of the three help-seeking behaviors: tele-mental health (TMH) counseling, face to face counseling ([F2F] or no counseling), during Covid-19?
>
> (b) Which demographic variables (demographic variables [e.g., age, gender, ethnicity]), are most associated with TMH use?

Sampling

The population of interest for this study will consist of young adults, aged 18-29, who have engaged in telemental health counseling, face to face counseling, or no counseling. Eligibility for participation will require respondents to identify as:(a) between 18-29 years of age, (b) have an adequate command of the English language, (c) confirm no counseling or attending at least two TMH or F2F counseling sessions between Mar 2021-Feb 2022 (e.g., similar method of Bird et al., 2020), and (d) agree to voluntary participation. Sample criteria was informed by prior literature demonstrating the service utilization gap of young adults (Barney et al., 2020; Schuh, 2021; Tasso et al., 2021). In addition, convenience and snowball sampling procedures will help acquire a sample that reflect young adult populations. The anticipated response rate of online collection was approximately 30%. Thus, to meet the minimum sample size of 171 participants, the researcher distributed invitations to an online survey of approximately 1,200 potential participants.

Procedures

An online cross-sectional self-report survey was distributed nationally across the United States, with a target sample size of N = 171 (G*Power). The University of Central Florida institutional review board approved all procedures and materials used in this proposed investigation. Each participant was required to provide informed consent prior to completing the study. The survey investigates sociodemographic characteristics, counseling service modality, help-seeking service use, psychological openness of mental illness, computer self-efficacy, coping behavior. Validated scales were used to capture the following dependent variables: psychological openness, computer self-efficacy, and coping behavior. For data collection, the survey was hosted, designed and disturbed on Qualtrics.com. In addition, potential associations

between these variables and help-seeking behavior (E.g., TMH, F2F) was examined using MANOVA.

Due to the interest in exploring the relationship among variables (e.g., Brief COPE, etc.), a MANOVA analysis was used to determine group differences between psychological openness of mental illness, computer self-efficacy, coping behavior, and help-seeking behaviors based on mental health service use modality. The three variables of (psychological openness of mental illness, computer self-efficacy, coping behavior) were entered as dependent variables in each analysis with group help-seeking differences (different service use groups) entered as independent variables. Demographic scores were analyzed to determine significant differences across variables and the extent to how hypotheses also varied by demographic variables such as gender and ethnicity.

Ethical Safeguards

The current investigation attained approval by the Institutional Review Board at the University of Central Florida. All research committee members and support members were CITI trained to work with human data and subjects, and all stipulations for conducting human behavioral research will be followed. The use of confidentiality was consistent throughout the research process to ensure participants' safety given the sensitivity of health information, specifically disclosure of psychotherapy use status, which could have negative social and legal ramifications. In addition, the researcher reviewed and implemented evidenced based guidelines from the American Association for Public Opinion Research (2014), which include (a) gaining IRB approval, (b) including informed consent, and (c) including a resource sheet for respondents overwhelmed post survey (i.e., resources will include the contact number of at least one qualified

national-level help line, such as that of the National Suicide Prevention Lifeline and SAMHSA's National Helpline).

Limitations

Although the strengths and practice implications of the proposed study appear optimistic, it is necessary to acknowledge several limitations of this proposal. First, it is important to note that young adults have an increased likelihood of relatively low reliability within survey research (Bird et al., 2020; Newman & McNeil, 1998). Second, due to the research relying on self-report, response biases and social desirability may be present, so the results are subject to false participant responses (Tabachnick & Fidell, 2019). Third, although the study includes a technology construct of computer self-efficacy, which is a powerful variable related to online mental health interventions (Burns & Birrell, 2014), the study lacks a measurement scale related to actual tele-counseling application proficiency. In addition, a theoretical limitation within the design is the lack of external factor variables such as healthcare costs, geographical access, and confidence in approaching a professional for help. Future studies can use the following variables to examine moderation effects influencing help-seeking intentions.

Despite the lack of a control group experimental design, potential results provide useful insights into young TMH users' perceived behaviors and self-efficacy. Anglemyer and colleagues (2014) in their systematic review of the literature on randomized control trials and observational studies in healthcare outcomes found little difference in results between traditional randomized controlled trials and observational studies. One of the strengths within the proposed design is that all tested hypotheses are based on the well-established framework of the TPB, which may help establish some bases of empirical grounding. Finally, the measurement of respondents' heterogeneity in regard to engaging in actual help-seeking behavior is considered

advantageous given the complex process of help-seeking – such comparative data enables TMH users to be compared against a no counseling control. In closing, the proposed study will use a correlational approach due to logistical concerns (i.e., participant buy-in), time-sensitive environmental factors (i.e., COVID-19), and ethical concerns (i.e., examining highly confidential perceptions related to young adult mental healthcare) – yet in spite of such constraints the proposal maintains assets such as use of validated scales, diverse sampling, and clear focus on the impact of optimized digital health within the urgent context of secondary health effects of COVID-19, and computer efficacy.

Chapter Summary

Finally, given the emergent data regarding TMH and help-seeking behavior, it may be advantageous to examine the help-seeking variables across TMH and face to face counseling to truly shed light on the unique data of young adults engaging in help-seeking. Preliminary evidence suggests that mental health counseling helped increase meaning-making for young adults and facilitate sustainability towards well-being (Strausset al., 2020). This is an important finding given emotional distress and preferences for self-management often accompanies millennials and generation Z individuals (Eisenberg et al., 2012; Wilson et al., 2011). In addition, data consistently demonstrates the underutilization of mental health and primary care services among college aged populations (Eisenberg et al., 2012; Zorrilla et al., 2017). Taken together, greater understanding of the ways in which young adults navigate their mental health service use experiences presents opportunities for more targeted health solutions.

While literature related to youth mental health and service use is illuminating, it is not clear how young adults in formal mental health experience while in care. Research into what contributes to telehealth outcomes and engagement is needed (Pretorius et al., 2019; Tsang et al.,

2020; Tasso et al., 2021). Therefore, the present study will facilitate greater understanding of young adults' mental health implications in research and provide counselors with ways to best recruit and retain young adults in care. In summary, quality research involves studies that are influenced by prior literature and questions that better facilitate the research process (Ritchie et al., 2018). The proposed study will be supported by existing research exploring tele-counseling and help-seeking, including service utility and young adult populations. The primary researcher seeks to use an existing framework to understand temporal interrelationships among the variables based on the theory of planned behavior (Ajzen, 1991). Study findings can provide licensed counseling practitioners and researchers with fresh evidence on what young adult level factors are linked with help-seeking behaviors and illustrate better understanding the perceived experience of receiving mental health support, facilitators to help-seeking, and preferences for support. among youth in the context of COVID-19. With greater knowledge of youth's active help-seeking behavior, counselors can develop effective strategies to support active help-seeking behavior and eliminate unsatisfactory access to mental health care.

CHAPTER TWO: LITERATURE REVIEW

In chapter two, the literature review begins with a discussion of the context for the topic and the population: the limited help seeking experiences of young adults, including effects on psychological openness, coping behavior and computer self-efficacy, as well as limitations in current research. Next, it follows with a discussion of the prevalence and symptom presentation of young adult counseling under-utilization and emergent tele-counseling research. Then, an overview of the primary constructs, help-seeking (TMH & F2F), psychological openness, coping behavior and computer self-efficacy, and relevant research related to each is reviewed. Finally, the chapter concludes with theoretical components of the theory of planned behavior and connect existing empirical work to substantiate the purpose of the present investigation.

The purpose of the current investigation was to examine group differences among young adults in tele-counseling, face-to-face counseling and no counseling and to identify strategies to improve tele-counseling for young adult populations for both clinicians and counselors in training. Young adults represent a population increasingly vulnerable to psychological distress, COVID psychosocial distress, and mental health navigation obstacles (Cheng et al., 2018; Pretorius et al., 2019; Tasso et al., 2021). Extant literature investigated help-seeking predictors, and facilitators and barriers experienced by young adults in need of counseling, yet few explore tele-counseling (e.g., Campos-Castillo & Anthony, 2021; Eisenberg et al., 2016) and no studies explore multiple counseling modality help seeking among young adults during COVID-19. In the current study, the researcher drew on the current research for young adult help seeking and tele-counseling (e.g., Bird et al., 2020; Schuh, 2020) and posit new ways tele-counseling can be compared to other forms of help seeking, such as face-to-face counseling. This study aimed to increase knowledge of young adult help seeking and tele-counseling during COVID that may aid

in future mental health intervention strategies for young adults in need of counseling. To advance the collective understanding of youth mental health behaviors, it is essential to examine strengths and weaknesses of literature.

Young Adults

The term young adult is commonly defined as individuals between the ages of 18–30 who are progressing through the developmental process from adolescence to adulthood (Arnett, 2001). During this time, young adults face the potential for many developmental pressures including the need to learn developmental milestones of responsibility, authentic identity formation, and generativity related to social and occupational impact on others and communities at large (Arnett, 2001; Lane, 2014).

Given the developmental pressures such persons may be experiencing, it is essential to explore the role of mental health within the lives of young adults. Within the developmental context, millennials and generation Z individuals represent a cohort, impacted by various forms of uncertainty, from unemployment to career building (Lowrey, 2020). Despite an increasing emphasis on the importance of mental health and wellness, only a small percentage of young adults seek care for mental health related concerns (Eisenberg et al., 2012; Joyce et al., 2009). As a result, millennial and generation Z individuals still face affordability as a barrier towards psychological help (Kauer et al., 2014), underscoring the pronounced urgency for mental health funding. Access to mental health care is further compounded by complexities in the mental healthcare industry within the United States, including access, stigma, high costs, funding, and transportation (Kauer et al., 2014).

Young Adults of Color

Within the age group of young adulthood and adolescence, coping resources and impairment disparities exist across ethnic and racial lines. Racial and ethnic minority young adults, often called (REM) in research, often lack access and cultural congruence with Western and Eurocentric mental healthcare systems. Multicultural counseling literature has found that REM individuals often face concerns beyond psychological symptoms, including systematic oppression, microaggressions, and stigma (Gomez et al., 2020). Gomez and colleagues (2020) suggest counselors should be more aware of racial and ethnic disparities and power and privilege.

Research on mental health disparities indicates even when psychological concerns are identified, young adults of color consistently report lower help-seeking rates than White young adults (Hunt et al., 2015; Marrast et al., 2016). In addition, while young adults of color report positive and protective factors related to greater social connection at the family level and appropriate religiosity coping (Broman, 2012), young adults of color are more likely to engage in self-management coping (Lee et al., 2009; Narendorf et al., 2018), elevated levels of stigma (Lipson et al., 2018; Vogel et al., 2017), and disproportionate levels of stress (Lipson et al., 2018). Therefore, culture may be a factor that enables or limits coping; for that reason, it is imperative that counselors continue to increase their understanding of the mental health needs of young adults of color.

To advance mental health utility and engagement, it is imperative for researchers interested in help-seeking to address previous sample methodological gaps. Comprehensive systematic reviews (Kauer et al., 2014; Pretorius et al., 2019) have critiqued the lack of diversity in young adult help-seeking research. Study participants have traditionally been overwhelmingly White, and samples were selected by the researcher or heavily derived from university settings.

Therefore, to provide diverse and generalizable research, efforts will be made to over sample (REM) racial ethnic minoritized populations. Such efforts align with mental health equity tenets related to inclusivity and connection (Kauer et al., 2014; Pretorius et al., 2019b).

Overall, the well-being of millennials and generation Z individuals encapsulates a greater priority as the age cohort garners an increasing influence within society. Specifically, young adults are both the emerging economic drivers of society as well as a cohort increasingly impacted by mental health impairments. In addition, nn estimated four in ten Latino, Black, or mixed-race individuals rate symptoms of anxiety or depression at above-average rates during COVID-19 (Teare & Haynes, 2020). While symptoms tripled in scale from April 2020 through June 2020 (Teare & Haynes, 2020), little is known about factors that influence treatment-seeking and engagement outside the dichotomy of barriers and facilitators (Eisenberg et al., 2007; Gulliver et al., 2012; Hunt et al., 2015).

Mental Health and Young Adults

Mental health is "a state of well-being in which an individual realizes [their] own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to [their] community" (WHO, 2018, para. 2). Counselors and helping professionals are particularly interested in how mental health contributes to individuals' personal and social functioning (Alexander et al., 2003). Conversely, mental wellness refers to " ... a means of living which is oriented toward optimal health and well-being; involves the integration of mind, body, and spirit; requires conscious choices to engage in healthful behaviors; and has a goal of helping you live your life more fully in all areas" (Myers & Sweeney, 2006, p. 3). Unfortunately, though mental health and wellness may be considered important by millennial individuals, only a small

percentage of young adults seek care for mental health related concerns (Eisenberg et al., 2012; Joyce et al., 2009).

Mental health impairments represent significant lifetime burden and most frequently cited source of disease burden in young adults (Eisenberg et al., 2012). However, statistically young adults remain severely untreated and consistently rated poor levels of professional help-seeking, such as therapy, medicine, and integrated care services (Cheng et al., 2015; Eisenberg et al., 2012). Such findings were confirmed by Pretorius and colleagues (2019), who found that young adults tend to hesitate to seek help from helping professionals. Mental health is a pervasive policy pressure in the United States for young adults, with an estimated one in six living with a diagnosable mental health condition (Center for Disease Control and Prevention, 2017). Undertreatment of young adults is pressing concern, particularly as the United States faced a rapidly aging population whose livelihood, relies on the mental and physical wellness of millennials and generation Z.

Young adults, millennials and generation Z individuals represent a cohort exposed to greater print and digital campaigns and health promotions (Hickie & McGorry, 2007). Although 2005-2015 saw 65% more young adults seeking care, 65% of young adults who help seek report lacking care that efficiently met their needs (Lawrence et al., 2015). Researchers Kauer et al., (2017) suggested further research to determine the effects of service use on help-seeking outcomes in young adults. Given early adolescence and young adulthood represent a critical period of mental health onset, young adult telehealth service use presents a unique opportunity to improve treatment seeking and target symptom distress in youth (Tasso et al., 2021; WHO, 2017). Advancing the knowledge of online counseling is particularly pertinent given the psychosocial impairments on young adults. For instance, Shanahan et al.'s (2020) research

highlighted higher levels of hopelessness, loss of employment/education, and lifestyle disruptions of young adults' during the COVID-19 pandemic. Further, young adult respondents rated elevated stress and anger levels during the pandemic. In addition, Shanahan et al. (2020) reported that individuals who were racial minorities or identified as females reported an increased risk for emotional distress. As COVID-19 relief imparts funding and awareness to increase access to tele-mental health services, service use in this age group could potentially reduce unemployment, poverty, and adverse outcome burdens on society.

The National College Counseling Association and National Institutes of Health have emphasized the importance of young adult mental health and capacity building (American College Health Association, 2015; Francis & Horn, 2016). It is important to note, that while utility of campus clinics have increased from an estimated 6.6% in 2007 to 11.8% in 2017 (Lipson et al., 2019), overall usage rates remain low. In addition, mental health services are not routinely practiced virtual modality where the services may have the potential to make a substantial impact. While many efforts were made within higher education institutions to provide mental health counseling that is both safe and high quality during COVID-10 (Cohen et al., 2020), student access was limited by over-stretched counseling clinics, long waitlists, and stigma (The Association for University and College Counseling Center Directors Annual Survey, 2018; Hersch et al., 2021), and thus reflect a significantly concern in treatment access among young adults in the United States. In a recent study by Hilliard and colleagues (2020), highlighted mental health of college athletes with mental health, authors made an urgent call for greater and diverse outreach programming on more university campus. Authors described the low use in counseling services for young adult students can also be attributed to lack of exposure to mental health content, and lack of peer representation within mental health outreach programming.

Outreach may have relevant implications concern mental health service capacity and enhancing the university mental health delivery model.

Among college students' avoidance of help-seeking has been quite a trend, more pronounced than among the general population (Blanco et al., 2008; Eisenberg et al., 2007). The range of utilization has been found to be influenced due to several predictors, such as the type of problem or disorder help is sought for (Eisenberg et al., 2007). For example, Buscemi and colleagues (2010) found less than 20% of college students struggling with alcohol-related problems engaged in any type of help-seeking. In another study, only 13.4% of college students who admitted to "seriously considering suicide" reported seeking formal psychology help (Kish et al., 2005).

Further, Eisenberg and colleagues (2011) sampled 26 universities in the U.S. and found only 36% of young adults obtained mental health services. A later more comprehensive report documented that over the course of seven years 10-15% of young adults reported as unchanged in seeking mental health services (Eisenberg et al., 2011; Francis & Horn, 2016). Both Francis and Horn (2016) and Eisenberg and colleagues (2011) acknowledged help-seeking varies widely across universities and that large young adult studies often lack representation from non-university populations. Moreover, it is important to understand the help-seeking behaviors of non-university enrolled populations and whether this population endorses higher levels of psychological openness and greater coping with online counseling.

Tele-Mental Health (TMH) – A Briefer

Impact of COVID-19

Telehealth videoconferencing systems have been prevalent for some time. First adopted in the 1950's, within the astronomical science industry to promote communicative interactions

between on the ground companies and distributed work, the trajectory of telehealth technologies would migrate from military purposes to behavioral healthcare (Sheperis & Smith, 2021). Tele-counseling is defined as "the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration" (HRSA, 2020, p. 4). Its use has shown advantages for patient groups suffering from anxiety and depression-related concerns (McKee et al., 2021). To that end, compounding the potential usage of tele-counseling, the COVID-19 pandemic impacted both virtual health delivery and virtual togetherness. More specifically, in the first quarter of 2020 alone, federal mandates for social distancing quickly transitioned mental healthcare delivery from traditional in-person therapy to TMH (Sammons et al., 2020). As a result, tele-counseling has expanded the remote capacities of counselors and provided means for ethical HIPAA-compliant videoconferencing through recent technological platforms such as Doxy.me, Zoom, or telephone.

Various telehealth technologies also include adaptive supporting hardware such as telehealth counseling platform Doxy.me. Doxy.me is a web-based counseling software, archived on https://doxy.me/en/, and this tele-counseling technology consists of multiple components including ease of use for clinicians and patients, availability, security/encryption, cost/license structure, and functions and interoperability (Tuerk et al., 2015). Most significantly, videoconferencing technologies greatly impacted the coverage and orientation of the healthcare marketplace. Tuerk and colleagues (2015) highlighted examples of TMH modalities and described how platforms like Doxy.me can provide confidential virtual waiting rooms, specific tools for treating mental health, and functionalize evidence-based interventions remotely. While valuable to the mental health marketplace, counselors and counseling programs must also

consider installing software, keeping up with consistent maintenance costs, transitioning standard charts to electronic, and training users (Carlisle et al., 2020).

The COVID-19 pandemic has had particular mental health implications on societies at large. For instance, a study by Son and colleagues (2020) highlighted the intersection of the COVID-19 pandemic and under-utilization mental health services. Researchers found within a sample of college students 71% of the sample indicated an association between the onset of the COVID-19 pandemic and elevated stress and anxiety. Unfortunately, out of the 70% sample of elevated stress, only 5% used mental health counseling. Given these estimations, it becomes particularly important to understand both the current digital treatment-seeking and the emerging the role of TMH in supporting previously apprehensive populations to engage in care (conversion rates). While these findings present stark concerns, it is important to address the nuance of disasters as individuals impacted by environmental or biological disasters may be less inclined to engage in care due to limited financial capacity and overwhelmed services (Campos-Castillo & Anthony, 2021; Son et al., 2020). Comparatively, during the advent of Hurricane Katrina estimates suggest a net loss of over 20% of patients with identified mental health concerns terminated or decreased mental health services (Wang et al., 2008). This statistic highlights the grey area of disaster recovery and coping options as well as center the importance of promoting and assessing tele-counseling patient reach and engagement during the COVID-19 pandemic.

In addition, the emergence of COVID-19 has forced strict limits on non-virtual physical and mental well-being services and increased reliance on telehealth. For instance, for persons impacted by severe-persistent mental illness, face-to-face counseling became reduced and impractical (Ghaddar et al., 2020; Miu et al., 2020). According to Medicare (2020), the pandemic

presented an expansion of tele-healthcare coverage in unprecedented ways, as evidenced by rare federal acceleration of telehealth remote services through the Center for Medicare & Medicaid Services (CMMS) resulting tele-counseling implementation (Medicare Telemedicine Health Care Provider Fact Sheet, 2020). Such expansion of care has been hailed a public health win (Ghaddar et al., 2020), an expansion especially needed to respond to secondary effects of the COVID-19 pandemic such as elevated levels of depression, posttraumatic stress disorder, substance abuse, and suicide in young adults and young adults of color (BIPOC) (Campos-Castillo & Anthony, 2021; Wan, 2020).

Tele-Counseling and COVID-19: A Flawed Great Equalizer

According to the 2019 National Survey on Drug Use and Public Health Use (Conroy et al., 2021), TMH provided a documented 20% of white Americans mental health services, but a marginal 10% of Black/African American, Hispanic/Latino, Asian or Pacific Islander individuals (Ducharme, 2021). Although therapists reported an estimated 85% TMH delivery (Pierce et al., 2020), low rates have occurred related to first-time therapy conversion rates (Ducharme, 2021). Importantly, mental health professionals, especially during the emergence of the COVID-19 pandemic, began to use virtual therapy as their primary modality of counseling, so much so utility increased from 2% to 85% before the pandemic to after pandemic (Ducharme, 2021). Due to limited training (Cooper et al., 2019) and the sudden demand for TMH, concerns regarding lack of training, ethics for emergencies, and legal stipulations have frightened many counselors from using TMH services. Despite virtual therapy guidelines and organizational expectations (e.g., APA, 2020; Sahebi, 2020), best practice guidelines and legal angles are still emerging. Given the expansion of TMH services, understanding the TMH patient data comparatively is a key factor in supporting young people in accessing and maintaining mental health care as well as supporting future tele-counseling guidelines for American Telemedicine Association, National

Board for Certified Counselors, the American Counseling Association, and the American Mental Health Counselors Association. Moreover, the role of TMH service delivery in reducing young adult populations help-seeking delays is still elusive (Son et al., 2021; Schuh, 2021). Schuh (2021) performed a quantitative investigation on young adult TMH preferences which revealed that most respondents preferred seeing their counseling provider if using TMH in the future. Schuh (2021) asserted more work is needed examining young adult TMH behavior to inform investments in mental health service delivery.

Barriers

At present, scholars have moderately investigated factors that contribute or dis-incentivize mental health tele-counseling. Scholars have found elevated levels of tele-counseling tend to be associated with: (a) e-Health literacy (Ghadder et al., 2020), (b) cost-effectiveness for patients and aid providers in reducing missed appointments and transportation barriers (American Academy of Child and Adolescent Psychiatry Committee on Telepsychiatry [AACAPCT], 2017), and (c) conveniences related to increases in access and connectivity (Brearly et al., 2017; Campos-Castillo & Anthony, 2021). Whereas barriers to telehealth use have derived from factors related to: (a) time-cost related to learning technology procedural knowledge (Miu et al., 2020; Torous & Keshavan, 2020), (b) distrust toward therapy utility (Dixon et al., 2016), (c) practical barriers of cost, transportation, and time (Dixon et al., 2016), and (d) lack of access to internet connectivity (Miu et al., 2020; Borzekowski et al., 2009). Unfortunately, racial and intersectional gaps still exist within tele-counseling inquiry related to feasibility and acceptability. Several studies suggest future research assessing telehealth innovations among communities of color impacted by the COVID-19 pandemic would be valuable (Bird et al., 2020; Campos-Castillo & Anthony, 2021, Ghadder et al., 2020; and Gutierrez et al., 2020).

Despite having greater mental health challenges, help-seeking behaviors are greatly augmented by attitudinal and structural barriers (Williamson et al., 2021; Woolf et al., 2015). Williamson et al. (2021) documents common constraints on seeking mental health services. First, the authors describe attitudinal barriers which represent an individual's sense of helpfulness derived from services, such as psychological openness or cognitions (Williamson et al., 2021). Next, individuals can experience structural barriers that represent contextual constraints including low mental health literacy, insurance status, access, or transportation (Williams et al., 2021). Uptake of mental health services can be a resource-intensive process that presents multiple barriers to entry, especially through traditional in-person methods. Tele-counseling or TMH offers innovative opportunities to reduce these barriers but is also a platform sensitive to both ethical critiques and disparities in mental health outcomes. Additional literature is needed to inform interdisciplinary collaboration between counseling communities and healthcare information technology better effectiveness of tele-counseling.

TMH and Young Adults

There has been emerging literature on telehealth, virtual counseling, and the internet in assisting the response to clinical distress for this population. More specifically, young adults that seek virtual therapy may experience less self-stigma (Bathje et al., 2014), a greater sense of non-judgement perceived by the helping professional, and a greater sense of safety compared to face-to-face therapy (Pretorius et al., 2019). While millennials and generation Z individuals represent a cohort highly exposed to technology and social media (D'Avanzo et al., 2012; Pretorius et al., 2019), research denotes that young people experience mistrust concerning privacy and confidentiality within online help-seeking, such as TMH (Pretorius et al., 2019).

However, findings concerning telehealth and young adults' preferences are conflicting. On one hand, Bird et al. (2020) found young adults prefer face-to-face help-seeking more readily

compared to virtual help-seeking, whereas Pretorius and colleagues (2019) found clear preference for virtual help-seeking as opposed to face-to-face help-seeking (Pretorius et al., 2019). Such findings highlight the need to investigate pathways related to factors that contribute to help-seeking service use, communication, and information.

Interplay Between TMH Counseling and Face-to-Face Counseling

Specific to response towards low help-seeking among young adults, researchers have been curious about the dichotomy of online counseling versus face-to-face counseling attitudes and behaviors of young adults. For example, Hilliard and colleagues' (2019) investigated group differences between non-athletes and student-athletes on their levels of self-stigma, public stigma, and attitudes toward counseling. Results indicated no differences between the groups on stigma or attitudes. Findings also found differences between attitude F (1, 333) = 4.06, $p < .004$) and public stigma F (1, 333) = 4.06, $p < .002$, however after adding covariates of gender and previous experiences, those differences disappeared. The study determined that non-athletes and student-athletes did not differ in their perceived levels of self-stigma, public stigma, and attitudes toward counseling. Then, researchers recommended exploration of additional variables such as coping and computer self-efficacy to better understand online counseling as both coping and help-seeking. Limitations of this study include a low response rate for student athletes (30%) and a limited racial and ethnic diversity of respondents (Hilliard et al., 2019). However, researchers succeeded in using psychometrically validated instrumentation such as Self-Stigma of Seeking Help scale (Vogel et al., 2006) and Attitudes Toward Seeking Professional Psychological Help - Short Form (Fischer & Farina, 1995) to confirm their findings.

Overall, empirical results have been lacking concerning contextualizing young adult TMH use. Importantly, this gap in our understanding may restrict the development of effective policies to expand telehealth practice in counseling as well as slow data acquisition with

potential to improve young adult formal help-seeking. Moreover, previous research (e.g., Kim & Park, 2009) have suggested inquiry into examining both help-seeking intention and usages, with researchers Yakunina and Weigold (2011) suggesting intention and usage may drastically improve understandings related to formal help-seeking. Notably, domestic university students' help-seeking is still under-researched in relation to telehealth counseling in spite of widespread utility within university counseling centers (Francis & Horn, 2016). In addition, there has been little comparison of help-seeking between these two service use sectors of traditional and virtual counseling in relation to patients, with most counseling research focusing on providers' data. Di Carlo and colleagues (2021) argue current research literature does not offer much on the influence of TMH on help-seeking behavior. Researchers call on future inquiry to consider this gap to enhance the healthcare system, and better processes related to TMH accessibility for patients in the future. It is paramount that young adults' service use is examined to inform robust intervention support and further clarify help-seeking promotion.

Comparison Across Help-Seeking Modalities

Counseling interventions, both face-to-face counseling and online counseling, have demonstrated improved well-being for young adults (King et al., 2020), yet other comparative outcome research are still few particularly at the behavioral level comparing online and face-to-face counseling (Kauer et al., 2014; Pretorius et al., 2019). Whereas the benefits of face-to-face counseling have been established through literature and by major accrediting bodies. Young adult patients tend to experience face-to-face counseling in university settings, often at their university counseling center, whereas young adults not enrolled in university tend to experience face-to-face counseling through community mental health offerings. Face-to-face counseling has been positively correlated with trust (Bird et al., 2020), as well as less stigma (Bathje et al., 2014). Whereas the benefits of tele-therapy have generally encompassed reducing time cost

barriers such as transportation (Mohr et al., 2013) and anonymity (Wallin et al., 2016). With an increase in demand of tele-counseling services (Hubley et al., 2016), there is still much work to be done. Access to tele-counseling is still highly dependent on internet broadband access, insurance coverage or discretionary income to pay for consistent therapy. Many articles have extolled great praise towards tele-counseling (Schuh, 2021), however authors such as Zhou et al. (2020) and Fejit et al. (2020) argue the pandemic has indeed resulted in great psychological and economic impact towards young adults, as such the enthusiasm of exploring tele-therapy should not be flatten as the COVID-19 shifts in intensity. The researchers argue that accessible delivery requires future exploration of structure, usage, and contexts to better serve more populations not readily service current non-online models of care. It is important to build upon strengths of face-to-face counseling, while also improving scalability of technology mediated counseling. These efforts require honoring the power of face-to-face counseling as a viable healthcare choice and conceptualizing while also testing technology mediated counseling interventions as a means of expanding options as opposed to replacing traditional models of care.

In a review of the literature on the technology mediated counseling within counselor education, Woo et al. (2020) noted that an increase in diverse and comprehensive client targeted research for technology-based counseling is needed. Further, although technology-enabled mental health services have garnered attention, clinicians and counseling researchers have few studies to draw upon related to the implementation of such services in communities, and non-experimental contexts (Lattie et al., 2020). Because there is a perceived need for comparing outcomes amongst current users of technology-enabled mental health services, the researcher will examine prior research comparing young adult users of face-to-face counseling and tele-

mental health counseling in community and university mental health settings (Bathje et al., 2014; Bird et al., 2020; King et al., 2020).

In a study by Bathje and colleagues (2014), the researchers examined a private university sample of Korean college students aged 18–30 years in 2014. An online survey was conducted examining whether self-concealment, psychological openness, loss of face, self-stigma, and disclosure expectations would predict attitude towards face-to-face and tele-mental health counseling among 228 participants. Young adults were asked to complete five empirical validated scales measuring self-concealment, psychological openness, loss of face, self-stigma and disclosure expectations, and attitudes towards counseling. Participants rated higher levels of positive attitudes toward face-to-face counseling, and self-stigma had a significant association of face-to-face counseling attitudes. Psychological openness also had a positive correlation with attitudes toward face-to-face and online counseling, and online counseling had a positive association with disclosure expectations and psychological openness. The findings from this study clearly demonstrated hesitancies towards tele-mental health counseling as mentioned in prior research (Rochlen et al., 2004); however, it is the finding regarding greater capacity of disclosure and psychological openness among online counseling attitudes. Although disclosure expectations had a positive correlation, the correlation was weak (r = .03), young people had other expectations impacting their attitudes towards online counseling such as therapist direction, tolerance and empathy might better account for variances in online counseling attitudes. Young people surveyed believed face-to-face counseling was associated with less security and confidentiality concerns compared to online counseling (Bathje et al., 2014; Rochlen et al. 2004). The attitudinal data presented implications for both expanding online counseling as well as honoring the benefits of face-to-face counseling for young adults. Authors suggest future

research is needed examining current users of online and face-to-face counseling to better understanding young adult decision making and outcomes relating to mental health help seeking.

A second study relating to outcome comparison amongst mental health service delivery found that young people engaged in brief alcohol interventions delivered through tele-mental health counseling, has similar positive outcomes to young adults engaged in the same intervention with a face-to-face counseling setting (King et al., 2020). The study employed 51 young adults engaged in moderate to severe levels of episodic alcohol comparison to participate in an intervention over the course of 3 months (King et al., 2020). Seven empirical validated scales were used to assess alcohol consumption severity, alcohol related impairments, drinking patterns, motivational interviewing, client satisfaction and social presence. Young people with the survey reported statistically equivalent levels of symptom reduction in both as demonstrated by no significant difference in AUDIT scores across baseline to one-month post-treatment, and three months post-treatment. Both young adults surveyed in the face-to-face counseling and tele-mental health conditions surveyed reported similar levels of therapeutic alliance, treatment satisfaction, and telepresence. The study illustrated that tele-mental health counseling proved high efficacy compared to face-to-face counseling mental health services and reduced mental health distress. In addition, compared to Bathje and colleagues (2014), King and colleagues (2020) found that when young adults are engaging in actual help seeking behaviors, care quality is not necessarily diminished by technology mediated support. The survey respondents were similar across key metrics. The paper argued that young people may benefit from both online and face-to-face counseling for alcohol use and offered treatment gains towards a population highly underutilizing counseling.

It is important to note that mental health concerns and technologies exist within the constraints of clinicians' readiness. Studies such as the one by Lattie and colleagues (2020) recruited 89 clinicians and supervisors at a mental health service organization and used a survey and focus groups to explore interest and attitudes towards technologies in counseling. It was determined providers often had needs surrounding confidential guidelines and determining goodness of fit between technology and client needs. Challenges were: (a) determining the scope of client's technology access (i.e., with social media access not always equating to consistent broadband access), (b) having only CBT technology tools - when clinician's theoretical orientation was different, (c) privacy concerns and (d) fears about billable. Whereas opportunities for digital adoption appeared to exist at expanding insurance coverage, not assuming mobile phone or internet access as well as technology savvy, such as computer self-efficacy among client populations and providing more resources of the cost-benefits analysis of technology-based counseling, for both practitioners and counselors-in-training, to incentive implementation of technology within counseling. The study reveals the clinicians' workflow processes of online and face-to-face counseling were quite different - face-to-face counseling often existed in context of accepted use in the mental healthcare system, was reflected in policy through insurance coverage, accreditation, and training guideline, and was compensated through funding through billable hours more readily than online counseling. Researchers recommended future adoption and scalability need greater surround at the policy and funding level and higher rates of implementation and outcome-centered research to better equip clinicians on enacting the 'how' segment of online counseling. Without understanding technology as well as human interaction processes, and without an understanding of the specific outcomes of current online

counseling users, the adoption and sustainability at the community mental health level is flatten (Lattie et al., 2020).

In a small, but growing, body of scholarship, researchers have begun to identify differences among face-to-face counseling and tele-mental health counseling within young adults. Bird and colleagues (2020), for example, surveyed 538 young adults from Southeastern university to assess public stigma, self-stigma, attitudes (value and discomfort), across online and face-to-face counseling attitudes. However, compared to the King and colleagues' study (2020) attributing similar value across tele-mental health and face-to-face, Bird and colleagues found tele-mental health counseling intentions to be negatively correlated with self-stigma and discomfort. So, although the studies by Bird and colleagues (2014) and Rochlen and colleagues (2004) were conducted years prior, findings were somewhat similar depicting positive associations between face-to- face counseling intention and value. What might explain the paradox in outcomes related to online counseling for young adults? Both studies highlighted that a lack of awareness and knowledge of online counseling had an influence on young adult hesitancies and low uptake of counseling (Bathje et al., 2014; Bird et al., 2020) - such insights creates an urgency to examine computer-self efficacy and psychological openness to shed light on young adults' understandings of online counseling. Within the study, gender was found to have an influence on help seeking - with males displaying lower rates of counseling but higher rates of familiarity and preferences of online counseling. It is notable as well that, despite the growing body of scholarship on comparing tele-mental health and face-to-face counseling, the counseling literature appears to be completely voided of scholarship on actual help seeking behavior among young adults, including young adults outside of the sampling scope of university

enrollment. This study represents an attempt to examine the impact of actual help seeking behavior of young adults both within and outside of university setting.

Limitations of Help-Seeking Modality Studies

Empirical results have been lacking concerning contextualizing young adult TMH use. Importantly, this gap in understanding may restrict the development of effective policies to expand telehealth practice in counseling as well as slow data acquisition with potential to improve young adult formal help-seeking. Moreover, previous researchers (e.g., Kim & Park, 2009) have suggested inquiry into examining both help-seeking intention and usages, with researchers Yakunina & Weigold (2011) suggesting intention and usage may drastically improve understandings related to formal help-seeking. Notably, domestic university students' help-seeking is still under-researched in relation to telehealth counseling in spite of widespread utility within university counseling centers (Francis & Horn, 2016). Moreover, there has been little comparison of help-seeking between these two service use sectors of traditional and virtual counseling in relation to patients, with most counseling research focusing on providers' data. Di Carlo and colleagues (2021) argue current research does not offer much on the influence of TMH on help-seeking behavior. Researchers call on future inquiry to consider this gap to enhance the healthcare system, and better processes related to TMH accessibility for patients in the future. It is paramount that young adults' service use is examined to inform robust intervention support and further clarify help-seeking promotion.

Help-seeking Behavior in Counseling

Conceptualizing Help-seeking

Help-seeking represents active utility of engagement in health behavior, both formal and informal. First, when an individual engages in treatment-seeking from a licensed healthcare

provider, such as a mental health counselor, physician, or psychiatrist, the individual has enacted formal help-seeking (Rickwood et al., 2005). Traditionally, help-seeking literature tends to highlight three themes including intention, attitude, and behavior (Pretorius et al., 2019). Specifically, help-seeking intention refers to an individual's propensity to seek help if emotionally distressed. Attitude refers to cognitions or affects related to help-seeking, while behavior refers to the multitude of behaviors related to health services engagements. However, evidence shows individuals can prefer non-professional help-seeking, a form of help-seeking centering on the support of family, friends, and religious advisers (Nadler & Fisher, 1986; Vogel et al., 2006). Prior research has indicated that friends and family represent the first utility for support before professional help-seeking (Reavley & Jorm, 2011). Second, adaptive coping among social supports has proven to be an asset for young adults. For example, young adults who were mentored or in frequent contact with university faculty and staff had an increased likelihood of adaptive coping, mental health service utilization, and active coping practices. Additionally, authors argued faculty can play a pivotal role in reducing risk behavior and enhancing student social-emotional academic adjustment (Lenz, 2014).

Help-seeking behavior can be informal (i.e., religious advisors, friends, and family) or formal (i.e., psychotherapists, teachers, doctors, and psychologists). Formal and informal help-seeking tends to be examined through the realm of intentions, attitudes, and behaviors (Uffelman, 2005). Unfortunately, low rates of help-seeking are a prevalent problem for university and non-university engaged young adults (Cheng et al., 2015; Eisenberg et al., 2012). For instance, a seven-year longitudinal study conducted by the Midwestern Higher Education Compact (2016) examined the utilization of on-campus university counseling services to find that universities averaged poor student help-seeking rates of 10-15% utility (Francis & Horn,

2016). Furthermore, participants who were in university counseling services experienced greater graduation rates, social-emotional adjustment, and academic performance. For this reason, paying attention to aspects of mental health service use by students may help shape implementation of community counseling outreach and service with the aim to improve university academic performance. Even with the widespread visual of counseling centers on college campuses, little is known about how student engagement with service use can affect the help-seeking actions of clinically distressed young adults.

Although psychotherapy use among young adults is a central contributor to reducing the economic burden of untreated mental illness (Cosco et al., 2019; Strauss et al., 2020), many young adults with mental distress do not seek formal professional help. On the one hand, those who may engage in treatment sometimes experience premature attrition (Olfson et al., 2009), and those that do not engage are barred by psychological-perceptual variables such as self-stigma, self-efficacy, and healthcare costs (Gulliver et al., 2010; Kuhl et al., 1997). Moreover, examining TMH help-seeking has been less investigated among young adult populations despite its importance. Furthermore, healthcare service use and availability of appropriate services may influence help-seeking (Pretorius et al., 2019; Tasso et al., 2021; Tsang et al., 2020), yet these variables have received less attention in help-seeking literature. Such findings are alarming given the high rates of poor help-seeking among young adults and the expansion of TMH. Therefore, this study will focus on the predictors of help-seeking of young adults engaged in professional mental health services and contribute to future help-seeking research.

Limitations of Help Seeking Studies

It is important to note the challenges of psychotherapy research, particularly how help-seeking and mental health attitudes research tends to be influenced by methodological gaps. First, literature related to emotional help knowledge tends to lack theoretical grounding despite a

plethora of frameworks (Kauer et al., 2014). Next, Divin and colleagues (2018) documented how researchers are left with few standardized measures related to help-seeking and lack of translation of help-seeking facets into formal intervention research. In a systematic narrative review on young adult online help-seeking, findings revealed specific gaps such as lack of generalizability, most studies focused on females, and geographical predominance of studies based in Australia (Pretorius et al., 2019). Programmatic and practice gaps also exist such that Murphy & Hennessy (2017) argue current research literature does not offer much on the influence of interventions on help-seeking behavior. This is partly due to the large time-cost of heterogenous randomized control trials and the longitudinal nature of intervention inquiry. It is paramount that researchers utilize this knowledge to inform robust methodological design and clarity of help-seeking operationalization.

Theory of Planned Behavior (TBP)

Summary

The theory of planned behavior (TPB) has been utilized in telehealth and telemedicine research to explore the intent of clinicians and patients to participate in different forms of help-promoting behaviors. In a systematic narrative review on young adult online help-seeking, authors cited TPB as the most cited help-seeking framework next to Rickwood's help-seeking model and the theory of technological acceptance model (Pretorius et al., 2019). Furthermore, counselor researchers have yielded TPB to inform psychosocial factors that guide young adults' mental health promotion behaviors (Shi & Kim, 2019). While each TPB was developed in the context of intentions related to help-seeking, the framework can provide valuable building blocks to understand help-seeking associations. Therefore, the proposed study will examine the

predictors of help-seeking by adopting the TPB conceptualization that has been widely used in previous studies (Kauer et al., 2017; Zorilla et al., 2019).

The TPB has been utilized in help-seeking research to explore the participation of young adults in different forms of help-seeking. Zorilla and colleagues (2009) investigated the intent of clinically depressed young adult to participate in psychotherapy and integrated health activities and concluded that attitude did not have bearing on intention to participate. Additionally, TPB has been used among young adults in activism research. For instance, a study by Lee et al. (2019) on environmental activism utilized TPB with an added construct of human rights awareness and were better able to explain the behavioral intent of activists from 52.1% of the variance explained to 58.3%. However, the use of TPB has not been applied to the health-promoting behaviors of young adults within service use during the COVID-19 pandemic. Therefore, a quantitative investigation of the contributors on help-seeking is warranted. Ultimately this study examined the willingness to seek psychological help and help-seeking intentions towards psychological help services based on the TPB. The TPB model presents a compatible framework to explore the joint impact of structural/logistical and psychological factors in young adults' help-seeking.

TPB Variables

Psychological Openness

A common thread through most help-seeking research is the influence of stigma as the most common cause for low treatment-seeking among young adults (Corrigan, 2004). Stigma, a highly studied help-seeking variable, has an important nuance term, psychological openness (Corrigan, 2004; Eisenberg et al., 2009; Vogel et al., 2006). Psychological openness refers to the perceived openness to the acknowledgment of psychological distress (Mackenzie et al., 2004).

Low psychological help-seeking has been associated with unmet mental health needs among young people of color (Hunt et al., 2015). Narendorf and colleagues (2002) asserted that those who showed greater psychological openness were more likely to be women of color and Caucasian women.

For instance, Ward and colleagues (2013) conducted a study that aimed to examine the group differences of psychological openness (IASMHS), stigma (IASMHS), and coping style (Preferred Coping Scale; PCS) via an asset-based approach that examined mental health service use perceptions among African American young adults and older aged adults (18-64 years of age). The researchers used multiple regression analysis to investigate variations in psychological openness, stigma, and coping style based on age and gender and ultimately found that younger participants were more psychologically open than older participants $r\ (\#) = .30$, $p < .05$ as well as a significant relationship between informal support, religious coping, and young adult status. $r\ (\#) = -.24$, $p < .05$. While 40% of the study's participants were young adults, sexuality, income, and prior help-seeking experience were not reported. While the current study acknowledged low reliability with IASMHS, suggesting limited socio-cultural validating, the study assessed coping ability and psychological openness as aspects of mental health service utilization which may provide better insight into the experience of young adult health navigation experience.

Additional research suggests that race and culture may influence the openness towards mental health counseling services (Narendorf et al., 2002). Narendorf and colleagues (2002) conducted an exploratory, mixed-methods study investigating the relationship between clinically distressed young adult patients' ($N = 60$; age 18–25) race and gender related to perceptions of illness (Illness Perceptions Questionnaire-Revised; Moss-Morris et al., 2002), attitudes toward treatment (Inventory of Attitudes Toward Seeking Mental Health Services; Mackenzie et al.,

2004), and use of mental health services (structured qualitative interviews). The participants (N = 60; males, n = 27; females, n = 33) were recruited from acute wards (n = 12), hospitals (n = 20), and support groups (n = 21), and had a confirmed mental health diagnosis. The depression cut off using the Center for Epidemiological Studies scores indicated that the majority of the participants had a severe depressive diagnosis (75%). Results from the independent group t-test analysis indicated that stigma was significantly higher for young adults of color $F(\#,\#)$ = 1.57, p < .21, and psychological openness had the lowest means among men of color $F(\#,\#)$ = 6.04, p < .001.

Other researchers who studied help-seeking-related variables among young adults investigated the role of psychological openness on mental health attitudes using a correlational design (Cheng et al., 2018). The researchers used a sample of 1,535 respondents within a midwestern university in the United States. Using a hierarchical linear regression, the data indicated low psychological openness was negatively associated with favorable attitudes toward seeking professional psychological help $p < 0.05$(Cheng et al., 2018). The acquired survey data went on to reveal that among the young adult sample, individuals of color (African Americans, Asian Americans, and Latino Americans) had a greater propensity to dismiss psychological symptoms as stress. While the study was limited in sampling scope and provided short term cross section data, researchers argued a greater need for counselors to destigmatize the counseling process to capture more underserved young adults of color without care. Researchers illustrated how the social cognitive theory can inform stronger outreach and data related to remediating poor help-seeking. The theory posits individuals can acquire new cognitions and behaviors by simply observing competent models (Cheng et al., 2018), thus by examining current help seekers

and highlighting the gains of current care, more young adults may be able to envision a less stigmatized mental map of mental health counseling.

There is a critical gap in examining the impact of service use modality to psychological openness and an urgent need to examine this in relation to online mental health counseling. Missing from the treatment-seeking and barriers literature is the relationship between psychological openness and the decision to seek professional help for mental health problems. The limited number of empirical studies examining the relationship between mental health, psychological openness, and professional help-seeking during young adulthood has focused primarily on psychological openness as a minimal, secondary variable buried under help-seeking behavior (Divin et al., 2018; Nelson et al., 2021) and has predominantly been conducted outside of the discipline of mental health counseling and counseling education research. It is still unknown whether psychological openness influences the type of coping responses or whether it influences treatment adherence. Ward and colleagues (2013) recommend future investigations into the association between psychological help-seeking and mental health help-seeking behavior. Thus, the role of psychological openness within professional help-seeking behaviors among American young adults is limited. Moreover, limited work has been done examining the correlation between mental health help-seeking and psychological openness. However, the previous studies cited failed to explore psychological openness among telehealth users, and therefore additional research in such populations is justified.

Finally, it would be beneficial for counselors to have resources aimed at cultivating psychological openness to support their emerging adult clients. Within the canon of counseling literature, psychological openness has been associated with positive elements such as cognitive flexibility (Allen & Whiteley, 1968). When young adults are encouraged with greater cognitive

flexibility, individuals may be more sensitive to their mental health concerns, advocate for the authority and professional ethos of counseling, and reduce the epidemic of delayed mental health care plaguing millions of young adults.

Coping

Investigating the multi-factorial concept of coping is appropriate because young adults as a cohort are under-utilizing formal service use coping mechanisms while rates of maladaptive coping, such as substance misuse and risky sexual behavior, is a growing concern. Counseling literature has historically examined coping from a harm reduction model and sought to elevate adaptive behavior and reduce maladaptive behaviors. During the Spring of 2020, 35% of young adults reported elevated levels of anxiety during the COVID-19 global emergency (Johnson, 2020). Johnson's data is particularly alarming given young adults (i.e., persons ages 18-29; Arnett, 2006) demographically represent 34% of the U.S. population (Martin & Bohecker, 2021). In addition, emerging adults (aged 18-29) are reporting increased psychological suffering caused by the COVID-19 pandemic in the form of depression and anxiety (Liu et al., 2020; Tambling et al., 2021). Further, secondary effects of the COVID-19 pandemic, such as elevated levels of depression, posttraumatic stress disorder, substance abuse, and suicide in young adults, remain an urgent issue and greatly contribute to mental health underutilization, especially for young adults of color (BIPOC) (Wan, 2020).

Goldman (2021) conducted a correlational study that examined the relationships between perceived stress (Perceived Stress Scale; PSS-10) and coping mechanisms (Brief COPE) among young adults within the Portland State area. The researchers found a negative relationship between perceived stress levels and adaptive coping mechanisms $r(\#) = -0.149$; $p = 0.023$. Additionally, adaptive and avoidant Brief COPE scores was non-significantly correlated $r(\#) = -.92$, $p < .001$. Twenty five percent of the study's sample rated a predominant avoiding coping

style, but due to poor diversity in sampling and convenience sampling the generalizability to young adults was challenging in some respects (Goldman, 2021). Additionally, while this recent data offers relevant information on young adult coping, literature regarding the coping style of young adults while in counseling is needed. Goldman (2021) also recommended further investigations analyzing the relationship between service utilization and avoidant coping mechanisms.

To understand the current state of coping attitudes, sources, and practices among young adulthood individuals, one must become familiar social supports. Prior research has shown that young people tend to seek support from friends and family before entry into professional help-seeking (Reavley & Jorm, 2011). Such findings suggest young adults who were mentored or in frequent contact with university faculty and staff had increased likelihood of adaptive coping, mental health service utilization, and active coping practices (Peterson, 2017). Authors argued faculty can play a pivotal role in reducing risk behavior and student social-emotional academic adjustment (Lenz, 2014; Peterson, 2017).

Young adulthood has been marked as a developmental period of autonomous coping, coping marked by a spectrum of self-reliance, avoidance, and substance use (Gulliver et al., 2010). In regard to self-sufficiency, young adults are tasked to grapple with multiple stressors, such as living expenses, occupational overwhelm, childcare, tuition expenses, and academic rigor (Garcia-Williams et al., 2014). Conner and colleagues (2014) concluded that young adults were more likely to enact religious and informal coping mechanisms than older adults. Stressors can increase the likelihood of maladaptive coping. For example, Mahmoud and colleagues (2012) revealed that the use of maladaptive coping strategies by undergraduate young adults was

the primary predictor of depression, anxiety, and stress. This implies youth deficits in coping ability and correlations related to mental health impairment.

Steinhardt and Dolbier (2008) observed that college students with ineffective coping strategies are often characterized by detrimental psychological functioning or an exacerbation of symptomatology when mental health issues already exist. When these investigators introduced interventions for improving coping ability and resiliency in a sample of college students, they found that symptoms of psychological distress decreased even during periods of increased academic stress. Similarly, Turner & Quinn (1999) found that college students were less likely to seek professional help for depression and anxiety, make lifestyle changes, or decrease substance abuse compared with a general population sample. In the University of Michigan's Healthy Minds Study, Eisenberg and colleagues (Eisenberg et al., 2007; Hunt & Eisenberg, 2010) found that fewer than half of students who screened positive for major depression or anxiety disorders received any mental health services in the recent year.

In closing, accounting for adaptive and maladaptive coping can inform young adult psychosocial outcomes and help-seeking behavior. Clinically distressed young adults struggling with mental illness experience coping along multiple dimensions, including their experiences of problem recognition (Chakawa & Shapiro, 2021), their unwillingness to disclose information about their mental health, and their structural barriers related to counseling, such as insurance status, transportation, and cost of care (Chen et al., 2016; Hadler et al., 2021; Turner & Quinn, 1999). All in all, contemporary positive and negative coping behaviors can empower youth counselors to create a greater therapeutic alliance, update screening and diagnostic forms, and offer engagement across interdisciplinary community partnerships (such as universities, and non-profits) to better support psychotherapy de-stigmatizing practices.

Computer Self-Efficacy (CSE)

Computer self-efficacy (CSE) has been the objective of some studies that examine users' responses to technology. Self-efficacy is defined as belief in one's capability to complete a task to help lessen avoidance (Bandura, 1994; 1997). Later, researchers Compeau and Higgins (1995) would expand upon this conceptualization and define CSE as belief in one's capability to use an information system. Within the context of this study, the construct of technology self-efficacy will focus on one's capability to use telehealth technologies. CSE in the professional telehealth care setting has been shown to be a strong predictor of behavioral intention (Hill et al., 1987). Self-efficacy related to computers has developed with the goal of understanding the expectations that impact technology usability and trust (Compeau & Higgins, 1995). This has far-reaching implications for mental health counselors interested in patient telehealth usability and increased understanding about one's health status. CSE has substantial impacts on behavioral intentions, perceived ease of use, and well-being.

For instance, Rochlen and colleagues' (2004) meta-analysis explained that there have been a limited number of studies within counseling psychology that incorporated direct comparisons between online therapy and face-to-face counseling interventions. The authors offered empirical evidence that CSE may positively influence online counseling outcomes. CSE specifically affects the mechanisms of computational thinking and help-seeking attitudes, which indirectly present threats to help-seeking initiation (Ward et al., 2013). Although there is a dearth in the literature regarding how to expand CSE among patients in counseling using data driven practices, this study may offer results that suggest CSE interventions tailored for young adults as an effective method for broadening participation in online mental health seeking services. Understanding CSE is necessary to gain both new and existing counseling users.

CSE and general self-efficacy are important constructs for young adults, particularly in terms of achievement motivation and retention. Huang (2013) examined 247 independent studies focusing on university student's academic self-efficacy and CSE. The meta-analysis described both the predominance of computer efficacy empirical discourse in higher education literature as well as the areas in need of further investigation (Huang, 2013). A meta-analysis revealed an interesting association indicating men rated higher CSE than females in age-matched cohorts and CSE was positively associated with academic motivation. The study highlighted seminal work of Whitley (1997), who first articulated gender differences in CSE. In terms of CSE, Whitley (1997) examined the self-efficacy behaviors and attitudes among American and Canadian respondents using a meta-analysis design and found that significant gender differences favored men. Furthermore Huang (2013) revealed that much of research failed to acknowledge that gender differences in CSE may depend on instrument scales and limited generalizability due to a predominance of data collection performed within academic contexts. This study contributes to the knowledge of online versus face-to-face behaviors and preferences, further highlighting that CSE is an understudied construct in counseling warranting more attention. Given the linkage between CSE and academic motivation (Huang, 2013), if positive associations are found based on mental health service types, counseling researchers may be able to intervene using related outcomes to universities and occupational centers.

Similar, gender differences were found in CSE across young adults. Czaja and colleagues (2006) conducted a descriptive, correlational research study investigating the relationship between participants (N = 1,204) levels of CSE (Attitudes Towards Computer Questionnaire [ATCQ]; Jay & Willis, 1992), and computer anxiety (Computer Anxiety Test; Loyd & Gressard, 1984). The participants (N = 1,204; male = 454, female = 750) were from a large national sample

within the United States. The results revealed that men showed more favorable beliefs and CSE towards computers and health technologies than women (Czaja et al., 2006). Within young adults, age differences have been found in computer self-efficacy; young adults report less computer efficacy than older adults (Czaja et al., 2006). Ultimately, it becomes critically important to find key assets and trends in those already receiving help to improve accessibility, digital confidence, and digital health literacy among young adult patients. If a person desires to seek formal help-seeking online, it is necessary to consider an individual level of self-efficacy in navigating internet use and telehealth user acumen.

Implications

Counselor Education Implications

Given the psychological distress that young adults can encounter navigating both occupational and academic challenges, counselor education practitioners are well-positioned to implement curriculum and services that support young adults' treatment-seeking. Recognizing the prevalent negative consequences related to stigma, treatment avoidance, and social determinants of health, counselor education faculty at both teaching and research universities can leverage strategic community partnerships, mental health literacy programs, and resources within and outside of campus life to support help-seeking. Counselor educators can step into leadership by leading stigma awareness training efforts (i.e., Campus Connect, Mental Health First Aid, etc.) and collaborating more intently with their respective university counseling centers. Lastly, counselor educators are well-positioned to support millennial and generation Z individuals' help-seeking engagement through three specific pathways:

1. Faculty can identify best practices for developing an institutional programmatic protocol for acutely and chronically distressed young adults.

2. Dual practitioners can secure program funding for community mental health outreach.
3. Educators can model increasing awareness of help-seeking behaviors by development and implementation of techniques to reduce the stigma associated with mental health concerns.

Therefore, to equip counselors will such knowledge, this study sought to examine how coping, psychological openness and CSE contribute to help-seeking behavior.

Counseling Implications

Licensed mental health counselors and school counselors can play a critical role in the intervention and/or referral process for underserved young adult populations. Particularly, counseling professionals can provide support for populations at increased risk for psychotherapy avoidance behaviors (i.e., LGBTQ, student-athletes, student veterans, commuter students, non-traditional students, etc.). In understanding help-seeking research and contemporary implications, counselors can understand contextual influences of COVID-19 on help-seeking to understand how and why help-seeking manifest differently in millennial and generation Z populations. For this reason, these professionals can act as leaders to connect young adults with community and implement actions within intake, assessment, and homework assignments to reduce psychotherapy stigma and help-seeking avoidance. Although research including actual help-seeking behaviors interactions with young adults is lacking, such information could provide insight into what licensed counselors and school counselors can do to better support psychologically distressed young adults (Campos-Castillo & Anthony, 2021; Eisenberg, 2011).

Chapter Summary

Young adults represent a critical population, impacted by elevated emotional distress and poor utilization of counseling services. While there has been much research examining the layers of young adult help seeking attitudes, intentions, barriers, and facilitators, little work has been

conducted examining users against non-users to impact counseling scalability and engagement. With greater knowledge of youth's active help-seeking behavior, results can provide licensed counseling practitioners and researchers with greater knowledge regarding young adults' perceived experience of receiving mental health support during COVID-19. Universities leaders can develop effective strategies to support active help-seeking behavior and eliminate unsatisfactory access to mental health care. The methodology for comparing help seeking behavior will be discussed in Chapter Three.

CHAPTER THREE: METHODOLOGY

Methodology articulates the research design, procedures, and approaches used in the study (Keeves, 1997). The purpose of this quantitative research is to examine, using a sample of young adults ages 18-29, group differences in the personal and contextual variables of psychological openness, computer self-efficacy, and coping behavior, based on the client help-seeking behavior (i.e., face to face counseling, online counseling, and no counseling) participants engage in. The study follows a theory of planned behavior model (TPB) as a theoretical framework, in hopes of gaining a more informed perspective on young adults' engagement and motivation factors in regards to help-seeking. The data will be analyzed using Multivariate analysis of variance (MANOVA) to study the group differences among help-seeking modalities. This chapter discusses the following aspects of this research: (a) research questions and hypotheses, (b) research design, (c) population and sampling, (d) data collection procedures, (e) data instrumentation, (f) data analysis, and (g) ethical considerations. The chapter concludes with a summary.

Research Questions

Research Question 1: To what extent do group differences exist in coping behaviors (as measured by the Brief COPE; Carver, 1997), psychological openness (as measured by Inventory of Attitude Toward Seeking Mental Health Services (IASMHS); Mackenzie et al., 2004), and computer self-efficacy (as measured by Computer Self Efficacy scale (CSE); Levar et al., 2012), among young adults engaged in one of the three help-seeking modalities (i.e., tele-mental health (TMH) counseling, face to face counseling (F2F), or no counseling) during Covid-19?

- H1a: It is expected that young adult TMH users will have significantly higher scores on coping (as measured by the Coping Orientation to Problems Experienced Scale; Brief COPE; Carver, 1997) than persons in either the no counseling or F2F counseling conditions.
- H1b: It is expected that young adult TMH users will have significantly higher scores on psychological openness (as measured by the Inventory of Attitude Toward Seeking Mental Health Services Scale; IASMHS; Mackenzie et al., 2004) than persons in either the no counseling or F2F counseling conditions.
- H1c: It is expected that young adult TMH users will have significantly higher scores on computer self-efficacy (as measured by the Computer Self Efficacy Scale; CSE; Levar et al., 2012) than persons in either the no counseling or F2F counseling conditions.

*Research Question 2**:*** To what extent do demographic variables (e.g., gender, ethnicity) associated with counseling modality TMH, differ in scores of coping, psychological openness, and computer self-efficacy?

Table 1.Research Blueprint

Research Questions	Constructs	Instrumentation	Level of instrument	Role (IV, DV, Mod, Med)	Collection Methods	Sample & Recruitment	Analysis
To what extent do group differences exits in coping behavior (as measured by the Brief COPE; Carver, 1997), psychological openness (as measured by Inventory of Attitude Toward Seeking Mental Health Services (IASMHS); Mackenzie et al., 2004), and computer self-efficacy (as measured by Computer Self Efficacy scale (CSE); Levar et al., 2012), among young adults engaged in one of the three help-seeking behavior (as measured by tele-mental health (TMH) counseling, face to face counseling or no counseling) during Covid-19?	Help Seeking (TMH, F2F) Psychological Openness Coping Computer Self-Efficacy	(a) a demographic assessment, (b) Brief COPE (c) Inventory of Attitude Toward Seeking Mental Health Services (d) Computer self-efficacy Scale	Ratio Interval Ordinal	DV: Psychological openness, coping, and computer self-efficacy IV: group differences scores (TMH vs F2F vs Control)	Uni Survey; Cross Sectional Survey	Survey Sample = 171 YA (young adults) Young adults engage who engaged in tele counseling between feb 2020 to nov 2021.	Survey Battery Scores MANOVA

Research Design

To investigate the aforementioned research hypotheses for research question one, the research design and analysis will be a quantitative, descriptive, correlational research design using multivariate analysis of variance (MANOVA). MANOVA is a form of correlational analysis which examines correlations between two or more independent variables (i.e., help-seeking modality of TMH, F2F, or no counseling) and dependent variables (i.e., psychological openness, computer efficacy, and coping) and classifies possible significant group differences (Hahs- Vaughn, 2017). Correlational research refers to non-experimental methods used to determine associations among targeted variables of interest (Creswell, 2014; Johnson & Christensen, 2017). In addition, correlational findings can predict outcomes and determine the size of hypothesized associations (Gall et al., 2007; Tabachnick & Fidell, 2019). Correlational design is quite familiar within the counseling discipline and advantageous for analyzing the diverse associations among targeted variables and informed evidenced based practices (Gall et al., 2007). Yet, correlational orientations are not without limitations, researchers must acknowledge that results will not determine causality among the variables, nor fully capture the respondents understanding of the constructs (Gall et al., 2007).

Multivariate analysis of variance (MANOVA) will be used to test research question one in assessing group differences and an analysis of variance (ANOVA) will be used for question two to determine demographic differences.

Population & Sampling

The population of interest is young adults, between the ages of 18-29, in the United States across multi-intersections (i.e., race, sexual orientation, ethnicity, gender, and age, among

other demographics). Young adults were chosen due to their significant reports of high rates of unmet professional health needs (American College Health Association, 2019; Eisenberg et al., 2012) and mental distress prior to and during the COVID-19 pandemic (Twenge et al., 2020; Tasso et al., 2020). Group differences in mental health modality is especially urgent for counselors given that young adults, individuals aged 18–29, represent an estimated 34% of the U.S. population (Martin & Bohecker, 2021).

Inclusion criteria specific to this study are young adults enrolled in either TMH, F2F, or no-counseling in the United States. Participants must be between the ages of 18-29 (e.g., early adulthood as defined by Arnett, 2016), pass a qualifying survey denying suicidal or psychotic features, and confirm service use of either TMH, F2F counseling, or no counseling. In addition, inclusion criteria requires that participants have been in one of these three groups during the Covid-19 pandemic (i.e., between March 2020 and present). Data collection will all take place within the United States.

Desired Sample Size

Counseling researchers should consider power and a priori sample size determination within quantitative analysis, however researchers must be cognizant of the following confounding factors, such as missing data, number of dependent variables and the number of participants in the smallest cell (Tabachnick & Fidell, 2019). For the purposes of this study, the expected effect size was based on the medium effect sizes observed in help-seeking research with young adults (Nearchou et al., 2018; Tasso et al., 2021). Effect sizes (f2) tend to fall in a hierarchy, first the estimate of 0.02 are small, 0.15 representing a medium size, and 0.35 or greater estimated represented as a large effect size (Cohen, 1988). Effect size aids researchers in reducing the likelihood of inferring an association that is not accurate within the data. In order to compute sample size, an a priori power analysis for MANOVA was conducted using G*Power

3.1.9. 4 (Faul et al., 2009). G*Power software determined that a minimum sample of 171 participants (with 57 participants in each group) likely was necessary when conducting a MANOVA analysis with three dependent variables. This G*Power calculation was based on an alpha level of .05, minimum power established at .95 and a moderate treatment effect size of .25 and was conducted in the proposal stage to minimize the probability of Type II error and inform the needed sample size (Faul, Erdfelder, Buchner, & Lang, 2009). In addition, an a-power analysis was computed to determine the necessary sample size for ANOVA analysis. A sample of 106 was estimated to be acceptable when parameters were set for an alpha level of .05, power established at .95 and a moderate treatment effect size of .25.

Response Rate

Response rates (i.e., number of responses divided by number of invited responses) in previous correlational studies with young adult populations and help-seeking range from 53.7% (Nobleza et al., 2019) to 30% (Tabet, 2019). While other studies lacked reporting response rates (e.g., Schuh et al., 2021). The researcher used the lowest previously documented response rate as a benchmark and will anticipate a response rate of 30% (Tabet, 2019), and will use convenience and snowball sampling to reduce challenges with recruitment of participants from this population. The power analysis suggests 171 individuals are needed to appropriately carry out data analysis, therefore the researcher will contact a sample of 550 individuals to ensure a minimum of 171 individuals.

Considering that the totality of recruitment will be online, the researcher must note how response rates and participant tracking has been difficult for online populations to accurately assess due to the invited responses being difficult to ascertain (Saliba El Habre, 2018). For this reason, the researcher will calculate survey completion. Therefore, the response rates will be assessed by: (a) the number of clicks on the survey link compared to the number of completed

surveys, and (b) the number of participants that began the survey but did not complete the survey (e.g., opened or started the survey but did not finish) compared to those that finished.

Participant Recruitment

Within survey research and the Dillman Tailored design method, it is highly encouraged to collect data within in-person traditional settings *and* online settings; however, due to increases in the COVID-19 variant of Omicron the data collection was solely web-based. Specifically, the researcher engaged in online recruitment through social media and sharing survey links across university contacts and listserv emails. The researcher used an integration of passive and active recruitment methods (Carlson et al., 2012; Yancey et al., 2006). As such, the primary researcher utilized referrals via local flyers, social media, and word of mouth from snowball sampling. Yu and colleagues (2021) recommend survey researchers reach underserved populations through maintaining visual community presence at local grocery stores, and using data visualization tools (e.g., Canva, Infographic development). Such information informed the graphic design of the flyer using Canva, as well as developing engaging infographics for emerging audiences.

Potential participants were recruited using convenience and snowball sampling. Convenience sampling involves researchers soliciting an accessible population sample relevant to the research design (Gall et al., 2003), despite noted limitations of being a non-random sampling procedure. Non-probability convenience sampling is cost effective and can increase the likelihood of reaching individuals who have appropriate characteristics needed for this study (Gall et al., 2003). In addition, convenience samples are useful where little or no work has been done on a particular subject and where findings can predict behavior from a general level (Henry, 1990). In turn, snowball sampling was used by encouraging individuals to share the survey link with additional young adults' populations.

Data Collection Procedures

After receiving university Institution Review Board (IRB) approval for the proposed investigation, the researcher recruited participants through online means. The researcher posted an online survey through the survey hosting platform, Qualtrics. Prior to beginning the assessments, participants were required to acknowledge that they comprehended the study's objectives and procedures met the inclusion criteria. After completing an informed consent, eligible participants were asked to complete a survey via Qualtrics, an online survey platform. The survey contained, a demographics section and three validated assessment measures. Surveys could be completed on any internet-equipped device. At the end of the survey, participants were provided a list of mental health resources that participants could utilize if they experienced distress. The researcher began recruitment with a three prong-recruitment strategy. Recruitment strategies included: (a) targeted recruitment via professional contacts at various universities (e.g., sharing the Qualtrics link with existing clinical and academic colleagues to be shared amongst master students and doctoral students enrolled in counselor education programs, etc.), (b) targeted online recruitment via community-based counseling contacts (i.e., SAMHSA Project Star, Jasmyn Clinic), (c) social media recruiting and listserv emails (e.g., Instagram and Facebook posts in targeted groups for young adults), and (d) snowball sampling and peer referrals. Convenience and snowball sampling procedures were used to acquire a national sample of the young adult populations in the United States. The survey was accessible from April 2022 to June 2022.

The primary method of recruitment for the study was online recruitment, with a strong emphasis placed on online mental health audiences (i.e., social media) specifically targeting a diverse population. Several of the online communities are listed as specifically serving diverse young adults. The remote groups include: (a) Project STAR (Seeking Treatment and Recovery),

Florida (b) National Cross Cultural Counseling Association (NCECE), (c) Therapy for Black Girls, (d) Latinx Therapy, (e) Anxiety Support Group (social media), (f) The Mighty support group (social media), (g) AACTE Holmes Scholars and (h) word of mouth connections from individuals serving young adults. Secondly to achieve the desired sample, the researcher developed professional and personal contacts with access to the targeted population. The researcher recruited participants from these universities by explaining the study to professional contacts at each and asking for volunteers. The professional contact of each university list made the commitment to distribute study information and materials through their classes, listservs and on their Web sites. Additionally, research announcements were made via e-mail to community counseling groups/organizations (e.g., Jasmyn Clinic, Campus Advocates, and North-East Florida Counseling Association).

Snowball sampling was enacted in two ways: (a) participants at the end of the survey were able to provide email referrals to potential respondents and (b) current and previous colleagues provided information for other professional contacts, family members, and friends. First, the primary researcher shared the link with 27 professional and personal colleagues who work with young adult populations. The researcher attempted to solicit the number of potential participants who received an invitation from snowball contacts, however the numbers were an estimate given the duration of sampling (i.e., 4 weeks sampling, contacts may forget how many flyers they sent).

Prior to data collection, the researcher developed a list of recruitment contacts stemming from professional connections and professional relationships (i.e., doctoral students, counselor educators, program and conference coordinators, professional organization leadership, etc.). Such collection efforts have been utilized by counselor education researchers interested in survey

design (Mitchell, 2018; Tabet, 2021). Young adults represent a difficult research cohort to engage due to university sampling overwhelm, and developmental pressures (Mitchell, 2018; Tabet, 2021). To combat these difficulties, the researcher collected from professional contacts associated with multiple colleges and universities, including: (a) Portland State University; (b) Boston University; (c) Clark Atlanta University; (d) College of William and Mary; (e) Florida Atlantic University; (f) Jacksonville University; (g) SUNY New Paltz University; (h) Florida State University; (i) CalState University of Bakersfield (j) George Washington University; (k) George Washington University; (l) Georgia State University; (m) Ohio University; (n) Oregon State University; (o) Pennsylvania State University; (p) Rollins University; (q) Syracuse University; (r) University of Central Florida; (s) Claremont Colleges; (t) University of Florida; (u) University of San Diego; (v) University of North Carolina at Greensboro; (w) University of North Texas; (x) University of North Carolina Greensboro; (y) Virginia Commonwealth University; and (z) Wake Forest University.

While web-based social media sampling represents a promising approach for recruiting young adult populations for research studies, it is necessary for ethical considerations to be considered such as misrepresentation and privacy of participants and researcher (Sanchez et al., 2020). Participants were assured of their privacy in the informed consent. Recruitment materials advertised participation as voluntary, and to ensure participant anonymity. In addition, to further protect participant confidentiality and anonymity, data was saved through a password protected program (i.e., Qualtrics), computer, and storage (i.e., OneDrive). For cross-sectional surveys, e-gift cards can act as convenient remote incentive. At the end of the survey, participants had the opportunity to submit their preferred email address for a $6 gift card. E-gift card prizes of $6 each were sourced from either Target or Starbucks. The recruitment and data collection period

lasted for approximately six weeks, with up to three reminder emails for those who had yet to participate or decline to participate. Therefore, the project estimated budget included: $1026 for 171 gift cards, and $400 for targeted social media flyer blasts.

Instrumentation

For the proposed study, dependent variables included coping, psychological openness, and computer self-efficacy, and the grouping variable was client help-seeking modality. The following instruments were used to measure the constructs investigated through this research: (a) the Inventory of Attitudes Toward Seeking Mental Health Services Scale (DV; IASMHS; Mackenzie et al., 2004), (b) the Computer Self-Efficacy Scale (DV; CSES; Laver et al., 2012), (c) the Brief COPE Scale; (DV; Carver, 1997). In addition, information pertaining to specific demographic variables were collected, such as participants' religious affiliation, sexual orientation, and race, in order to explore potential associations with help-seeking. The following section includes information on each of the data collection instruments used, including (a) descriptive information on the instrument, and (b) the psychometric properties of the instrument.

Inventory Attitude Toward Seeking Mental Health Services

The IASMHS (Mackenzie et al., 2004) scale measures positive and negative attitudes toward seeking formal mental health services. The IASMHS is a 24-item scale that includes Likert responses ranging from 0 (*never*) to 4 (*agree*). The IASMHS consists of three subscales: Psychological Openness, Help-seeking Propensity, and Indifference to Stigma. For the purposes of this study the 10-item psychological openness section from the scale was used with permission from Mackenzie and colleagues. An example statement is: "There are certain problems which should not be discussed outside of one's immediate family." Total scores range between 0 to 32. Higher scores are associated with greater perceptions of psychological openness

and lower scores with lower perceptions of psychological openness. The internal consistency of subscales have been documented as psychological openness, a = .82; help-seeking propensity, a = .76; indifference to stigma, a = .79 (Mackenzie et al., 2004). The scale has shown strong internal consistency with an alpha of .82-.87 in previous studies (Mackenzie et al., 2004; Wahto et al., 2016). Similarly, Wahto and colleagues (2016) with a sample of 165 male college students reported an internal consistency of α = .87. Additionally, test-retest reliability coefficients for the psychological openness scale have been previously obtained, r = .86 (Mackenzie et al., 2004). Last, the scale has been validated on a number of populations in an attempt to extend the scales use by the researchers. The IASMHS measure has demonstrated positive correlations with future and previous utility of mental health service (Mackenzie et al., 2004). The researcher sought written permission to use the IASMHS to measure psychological openness in the current study.

Computer Self-Efficacy Scale

The CSES (Compeau & Higgins, 1995) measures an individual's capability to perform specific computer-related tasks based on knowledge. According to Compeau and Higgins (1995) CSE is best defined as "a judgment of one's capability to use a computer. It is not concerned with what one has done in the past, but rather with judgments of what could be done in the future" (p. 192). The CSES is a 10-item scale and includes Likert responses ranging from 1 (*low perceived confidence*) to 10 (*high perceived confidence*). Elevated scores indicate an individual with higher CSE. An example question includes: "Imagine you have found a new technology product that you have previously not used. You believe this product will make your life better. It doesn't matter specifically what this technology product does, only that it is intended to make your life easier and that you have never used it before. Rate your degree of confidence in using this new and unfamiliar technology by recording a number from 1 to 10 using the scale given below: I could use the new technology I could use the new technology, if I could call someone

for help if I got stuck". To capture contemporary elements related to social media technology, the questionnaire extends the work of Compeau and Higgins (1995) the modified computer self-efficacy measure is shorter (Laver et al.,2012). For the CSES, there exists strong internal consistency in previous studies, $\alpha = 0.96$ (Durndell and Haag, 2002). The CSES has also been used to determine technological self-efficacy in contemporary studies (Kass, 2014; Roney et al., 2017). Further, research has shown a positive association between CSE and clients' willingness to accept telemedicine (Cimperman et al., 2013).

Brief COPE Scale

The Brief COPE Scale measures two key subdomains (a) adaptive coping (positive reframing, humor, and acceptance) and (b) maladaptive coping (behavioral disengagement, self-blame, denial, and substance use) (Carver, 1997). The scale represents the most used measure of coping in mental health (Hagan et al., 2017). The researcher sought written permission to use the Brief COPE Scale prior to the current study. The Brief COPE is a 28-item scale and includes Likert responses ranging from 0 (*rarely performed*) to 4 (*frequently preformed*). Resulting scores increase in value as does higher adaptive coping (Carver, 1997). The scales aim to provide reliable and valid measures of coping strategies through prior influences related to Carver's (1997) landmark self-regulation research. An example question includes: "I've been using alcohol and drugs to help me get through it." Research has shown good psychometric properties with moderate internal consistency ranging from .50 to .90 and a test-retest reliability between .56 and .92 (Baccali et al., 2013). To measure coping in the present study, the researcher used a subscale score for Adaptive coping and Mal-adaptive coping for the Brief COPE Scale (Carver, 1997). The Adaptive subscale (16 items; Carver, 1997). had a Cronbach's alpha of .84 and the Maladaptive subscale (14 items; Carver, 1997) had a Cronbach's alpha of .75 (Carver, 1997).

Demographic Questions

Participants were provided a researcher-developed demographic questionnaire to determine characteristics of the collected sample. Young and Meyer (2005) suggests demographic assessments can be valuable in celebrating and gauging experiential characteristics of diverse samples to provide greater acknowledgement of nuances. The demographic questionnaire was comprised of 18 items, gathering information pertaining to: (a) age, (b) sexual/affectional orientation, (c) racial background, (d) identified gender, (e) relational status, (f) religious affiliation, (g) educational background, and (h) number of social supports. Given the literature on help-seeking and counseling, the following demographic variables were informed by data suggesting that demographic differences embodied experiences of treatment-seeking for young adults (e.g., men of color are less likely to seek care within age cohort), service use behaviors (e.g., women are more likely to engage in treatment service use), and stigma (e.g., layered stigma exists for racial and ethnic minority populations).

Participants were also asked about service delivery, defined as the participants choice of traditional F2F, TMH, or no counseling. This specific construct was chosen because service delivery was suggested as needing future research (Pretorius et al., 2019; Tsang et al., 2020; Tasso et al., 2021). The questionnaire gathered information pertaining to the unique predictors of health delivery through three questions inquiring about (a) counseling modality (TMH, face-to-face counseling, or both), (b) frequency of counseling (weekly or monthly), and (c) current counseling satisfaction status (labeled as high, moderate, or low).

Data Analysis

Data Screening

Prior to answering the research questions, data screening and cleaning took place. From a survey design perspective, it was critical to assess for missing data to determine if data missing

was due at random. First, the researcher assessed presence of multivariate or univariate outliers, and then determined if data needed to be removed due to potential outlier responses. To account for missing data, the researcher aimed to reduce the randomization of survey items and set Qualtrics features to require participants to answer every question. Although such a decision has been contested as a means of inflating reliability, quantitative methodologists have agreed keeping constructs together in the survey can be a helpful safeguard to reduce respondent fatigue and data deconstruction (Field, 2018). Lastly, before running the main analysis on the variables of interest, the researcher assessed the data for incomplete or omitted dependent variable data and evaluated statistical assumptions necessary to conduct a one-way between-subjects MANOVA.

Assumption Checking

To accurately conduct MANOVA analysis, assumptions should be evaluated (Laerd, 2015). Laerd (2015) determined researchers interested in using MANOVA should consider the following assumptions: (a) Continuous DV, (b) Continuous IVs, (c) Independence of Observations, (d) Linearity, (e) Homoscedasticity, (f) Multicollinearity, (g) Unusual Points, and (d) Normality. In addition, it should be determined that dependent variables (psychological openness, CSE, and coping sub-scale scores) are continuous and independent variables (service modality) are categorical. Participants were not members of multiple groups in the same category. To determine normality, the researcher analyzed the data's skewness of the subscales and boxplots. Then, to determine homogeneity of covariances, the researcher used a Box's M test. Next, to evaluate homoscedasticity and linearity, the researcher analyzed the data's standardized residual plots. Lastly, to evaluate multicollinearity, the researcher analyzed the data's bivariate correlations. Next, the researcher must examine outliers (Laerd, 2015a). Examples of outliers include highly influential points and high leverage points (Laerd, 2015b).

The normality assumption was be evaluated with a P-P plot of the hypothesized model and histogram (Laerd, 2015a). To preserve the integrity of study outcomes, it is standard practice for quantitative researchers to check statistical assumptions.

Main Analyses

A MANOVA was chosen to detect probable significant differences between help-seeking modality (i.e., TMH, F2F, or no counseling) in regard to psychological openness, coping behavior, and computer self-efficacy. MANOVA is a robust intermediate technique for unequal cell sample sizes and multiple dependent variables (Hahs-Vaughn, 2017; Rochlen et al., 2008). MANOVA allows the investigator to test hypotheses related to the impact of two or more dependent variables on one or more independent variables. The use of MANOVA also takes into consideration the correlations between the variables, thus resulting in a less distorted picture of prospective finding. Previous researchers (e.g., Rochlen et al., 2008) studying young adults' help-seeking behaviors utilized similar methods. Multivariate data analysis techniques have aided counseling researchers in determining how respondents change across condition and whether those changes substantially differ between groups (between-subjects effects; Tabachnick & Fidell, 2019).

Prior to answering the research questions, the researcher computed descriptive statistics and alpha coefficients for the study variables. For the MANOVA analyses, participants will be divided into different groups according to the reported help-seeking modality (i.e., TMH, F2F, or no counseling). Results will be evaluated through significance of *p* values and benchmarks for effect sizes (Cohen, 1988). Bonferroni correction for multiple comparison was applied.

Secondary Analysis

Lastly, two univariant ANOVA's were used to examine if there exists a significant difference of psychological openness, coping, or computer self-efficacy based within the TMH

group based on gender and ethnicity. The purpose of the ANOVA was a useful analysis in making group comparisons (Tabachnick & Fidell, 2013). An ANOVA was chosen because the independent variable had one categorical level (TMH) and there were three dependent variables (psychological openness, coping, and computer self-efficacy). The study examined for differences in psychological openness, coping, and computer self-efficacy values across gender and ethnicity within the TMH group.

Validity

The researcher, among other things (see Table 3 below) will attempt to address risks related to validity by maintaining consistency of the order of the assessments to add a measure of alignment and consistency to procedures. One threat to validity is that the data collected will be derived from purposeful sampling from several large-universities and social media marketing within the United States. This can bias the results and limit generalizability as the proposed study may omit young adults without internet access or those who are less confident navigating an online survey (Umucu & Lee, 2020). Second, because the survey contains 100 items in total, survey fatigue must be taken into consideration. To address such an issue the researcher prevented the technological pitfall of participants being timed out of the survey to increase the likelihood of participants completing the survey and correcting errors. To ensure face validity of the instruments, the assessments used in the study were evaluated by professionals in the counseling field. In addition, assessments were carefully chosen for their sound psychometric properties and frequent use within the field.

Ethical Considerations

All respondents were informed of their rights and the purpose of the study through an approved informed consent form pre-approved by the IRB at the University of Central Florida.

The principal researcher adopted the following considerations to protect participants, including (a) all data collected was anonymous, (b) through the investigation process, all participation is voluntary, and (c) participants are empowered with research integrity and participation rights, and therefore may withdraw from the study at any time without consequence. In addition, permission to use each of the instruments presented has been granted by the authors and developers of each instrument (Mitchell, 2018; Tabet, 2021). To ensure data security, the following precautions were taken: (a) only the research team having access to data, and (b) electronic copies of the collected data were stored securely on the principal researcher's personal computer, using two levels of password protection, and was stored on an encrypted file of the computer's hard drive. Files were slated to be erased or destroyed after five (5) years

Chapter Summary

In chapter three, the researcher presented a stream of reasoning between research questions and hypotheses, research design and data analyses. The chapter includes details of the outline the methodology, data collection, sample and instrumentation details and data analysis plan. Furthermore, it outlines potential study limitations and possible ethical considerations. The researcher will investigate the primary and exploratory research questions using: (a) descriptive statistics, and (b) multivariate analysis of variance (MANOVA). In chapter four, the researcher will present a description of the results and offer initial descriptive statistics.

Table 2.Validity Responsiveness Table

Threats to internal validity:	**Responses to validity threats**
Testing:	Researcher minimize limitation through:-collect data on the extent to which participants are affected by social desirability.
Instrumentation:	Researcher minimize limitation through: consistency among assessment use and frequency, expert audit through research committee, and ensure that the various instruments are psychometrically sound.
Statistical Correlation:	Researcher minimize limitation through: carefully consider removing outliers, focusing on random missing data and seeking to ensure appropriate reliability of instrumentation.
Selection:	Researcher minimize limitation through: sample matching, comparison of sample characteristics to the population statistics, or propensity score matching.
Attrition:	Researcher minimize limitation through: during a priori calculations, doubling power sample to make up for missing data (Gall et al., 2007), and creating technical mandates in Qualtrics to require all items to be completed for submission.
Placebo (nocebo) effect:	May not be applicable.
Contamination effect:	Researcher minimize limitation through: acknowledging limitation and working with methodology to determine how outside activities may impact survey data.
Hawthorne effect:	See social desirability comments above.
Temporal precedence:	Researcher minimize limitation through: acknowledging the failure of cross-sectional studies to address temporal precedence and advocating how correlational designs inform the associations and temporal order (Johnson & Christensen, 2017).
Instrumentation:	Researcher minimize limitation through: acknowledging measurement error within standardized scales (Graziano & Raulin, 2012) and providing thorough directions to mitigate self-report misrepresentation or confusion.

CHAPTER FOUR: RESULTS

Chapter four begins with an overview and summary of the current study and methodology. The researcher presents a comprehensive description of the results of the MANOVA analysis, providing narrative and graphs. Similarly, the researcher explores validity precautions, data cleaning and outliers. In addition, chapter four includes: (a) summary of study, (b) pilot testing, (c) participant demographics, (d) response rate, (e) reliability analysis of instruments, (f) data screening and statistical assumptions for MANOVA/ANOVA, and (g) preliminary analysis. Finally, this chapter includes comprehensive data analysis and documentation for the present study's research questions:

Research Question 1: To what extent do group differences exist in coping behaviors (as measured by the Brief COPE; Carver, 1997), psychological openness (as measured by Inventory of Attitude Toward Seeking Mental Health Services (IASMHS); Mackenzie et al., 2004), and computer self-efficacy (as measured by Computer Self Efficacy scale (CSE); Levar et al., 2012), among young adults engaged in one of the three help-seeking behaviors (i.e., tele-mental health (TMH) counseling, face to face counseling (F2F) or no counseling) during Covid-19?

Research Question 2: To what extent do demographic variables (e.g., gender, ethnicity) associated with counseling modality TMH (i.e., tele-mental health counseling), differ in scores of coping, psychological openness, and computer self-efficacy?

Summary

To investigate the research questions, the researcher utilized the following statistical analyses in this quantitative research: descriptive statistics, MANOVA, and ANOVA. The researcher used the Statistical Package for the Social Science (SPSS, Version 25) to analyze the

data. Data was collected using Qualtrics, an online survey hosting platform, from April 2022 until June 2022. The average time to complete the entire web-based survey was 30 minutes. Participants were compensated via a $6 Starbucks gift card. Data were compiled in Qualtrics, transformed in SPSS (i.e., spv. file) and analyzed with the SPSS statistics software. To find the differences between the help seeking groups (independent variables) of young adults on perceptions toward psychological openness, coping behavior, and computer self-efficacy (dependent variables), the research employed a one-way multi factor analysis of variance (MANOVA; Tabachnick & Fidell, 2001). MANOVA were conducted to interpret the relationships between independent and dependent variables. Following the investigation of the first research question, the second research question examined the group differences of the TMH group participants' demographics (e.g., gender and ethnicity), and their rated perceptions toward psychological openness, coping behavior, and computer self-efficacy.

Web-Based Survey Sampling and Data Screening Procedures

The researcher shared the flyer with research invitation with approximately 68 existing clinical and academic colleagues, however the exact number of potential participants who received an invitation to participate in this investigation is unknown. Pre-existing university and non-profit contacts from the snowball contact list stated the following reasons for not completing the study: restrictions due to Health Insurance Portability and Accountability Act (HIPPA)/ university institutional board review (i.e., flyers being seen as soliciting), working with non-traditional young adults not falling in the eligibility age range often older than age 29, contacts no longer working in the United States, or no explanation. The researcher acquired a total of 265 surveys. Of the 265 responses from online data collection, some participants (n = 2) failed to accept the informed consent segment. Additionally, the researcher removed one participant who

was younger than 18 years old, which does not meet the inclusion criteria. An additional two respondents from the survey incorrectly endorsed all validity items in the survey, and their surveys were therefore eliminated from the data. Lastly, the SPSS Missing Values Analysis determined the data was missing completely at random, with a total of 11 cases, resulting in a final sample of 249 cases. The final total (N = 249) met sufficient sample size for a MANOVA with these variables (N >171), at $\alpha = .01$ to identify medium effect size.

Survey Testing

The pilot testing phase of the survey occurred from February 28th to March 10th. Ten contacts were selected from various backgrounds with the majority falling into the inclusion criteria for the study. The survey testers were encouraged to record the length of time to complete the survey, suggestions for language, usability, and any confusing elements of the survey. The survey testing data is denoted in Figure 1. While pilot-testing, the principal researcher found that suggested changes included: (a) infusing inclusive demographic language, (b) enlarging the font of the text within the survey, (c) to bold instructions, and (d) breaking up the Brief COPE scale across two question blocks in Qualtrics as opposed to one to reduce survey fatigue. The pilot testing also helped in aggregating new recruitment sites such as NAMI, Therapy for Black Girls, and Year Up. Given the online-only data collection proposed by the principal researcher, the pilot testing was a helpful step in formalizing the final survey, infusing inclusiveness and language.

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Response Rate

To obtain the minimum sample size (N = 171), the researcher attempted to assess response rates. Response rates for web-based surveys with young adult populations has been estimated to be low, especially compared to F2F data collection (Deutskens et al., 2004). Thus, the researcher used $6 Starbucks gift cards as an incentive for participation to increase the response rate. It has been well documented that the utility of incentives is a helpful strategy in improving survey response rates (Deutskens et al., 2004; Dillman, 2000). However, due to ambiguities related to how many surveys were shared via professional and personal contacts (i.e., snowball sampling) and the discrepancies between views of the digital flyers on social media and completed surveys, the researcher could not calculate a response rate. At the time of data analysis, estimates display that approximately 1,007 potential participants viewed the survey on Instagram, approximately 29 potential participants viewed the survey on Twitter, approximately 84 potential participants viewed the survey on Facebook and the survey received a total of 568 clicks to the informed consent landing page. Next, the participants were asked: "Where did you hear about this survey?" The results are denoted in Table 1. The majority of survey participants accessed the survey from Email and Instagram platforms.

Description of the Sample

The focal population for this web-based survey was young adults in the United States under 29. Young adult participants (N = 249) between the ages of 18-29, were recruited through university email servers (n = 65) Instagram (n = 124), Facebook (n = 4), and Friend Referral (n = 56). Table 2 provides the statistics regarding descriptive characteristics of participants in this study. The average age of young adult participants was 24 years (SD = 3.6), ranging from 18 to 29 years. Most participants identified as female (85.6%, n = 214), a smaller group identified as

male (11.6%; *n* = 29), as well as transgender (1.6%, *n* = 4), and gender-nonbinary (0.8%, *n* = 2). Most participants reported having a full-time employment status (56%, *n* = 115), followed by part-time employment status (36.4%, n = 91), whereas 17.6% of participants (*n* = 44) identified as unemployed. In terms of geographic regions represented within the study, participants rated residence in the following regions within the United States: (a) Northeast (19.5%, *n* = 50), (b) Midwest, (10.5%, *n* = 27), (c) Southeast (46.3%, *n* = 119), (d) Pacific (13%, *n* = 33), (e) Rocky Mountain (2%, *n* = 4), (f) Southwest (9%, *n* = 22), and (g) Alaska & Hawaii (0.4%, *n* = 1).

More than half of the participants identified as Caucasian (48.1%, *n* = 107;), Black/African American (44.9%, *n* = 100;), and Non-Hispanic or Latino (76%, *n* = 198), Multiracial (5%, *n* = 20;), Asian (5%, *n* = 15;), and American Indian/Alaskan Native (1.2%, *n* = 3;). Participants categorized their ethnicity as Hispanic ethnicity (24%, *n* = 58) and non-Hispanic (76%, *n* = 190). For one item signaling the independent variable of help seeking modality, "Have you sought professional mental health counseling services since COVID-19?" approximately half of the participants (46.9%, *n* = 108) selected "Yes: Video-conferencing counseling," a total of 27 participants (11%) selected "Yes: Face-to-face counseling," and a total of 114 participants (47%) indicated "No counseling". Additional data gathered on mode of counseling, income level and university status are visualized in Table 1.

Table 3.Participants' Demographic Data for TMH, No counseling and F2F subsamples

Characteristics		Help Seeking Behavior					
		Yes (TMH)		Yes (F2F)		No (No Counseling)	
		n	Total Percent %	*n*	Total Percent %	*n*	Total Percent %
Gender	Male	10	9.3%	2	7.7%	17	14.9%
	Female	94	87.0%	23	88.5%	96	84.2%
	Transgender/ Gender Fluid	3	2.8%	1	3.8%	0	0.0%
	Other	1	0.9%	0	0.0%	1	0.9%
	Prefer not to respond	0	0.0%	0	0.0%	0	0.0%
Race	White	42	40.4%	9	8.7%	43	40.6%
	Black/African-American	50	47.2%	13	12.3%	1	50.0%
	American Indian	1	50.0%	0	0%	4	26.7%
	Asian	10	6.7%	1	0.7%	1	0.9%
	Bi-racial / Multiracial	10	6.7%	2	10%	8	30%
	Pacific Island	0	0%	1	0.7%	2	1.9%
	Hispanic/Latina	18	31.8%	8	13.8%	32	53.8%
Region of residence within the U.S.	Northeast	23	21.3%	5	19.2%	20	17.5%
	Midwest	14	13.0%	2	7.7%	11	9.6%
	Southeast	44	40.7%	15	57.7%	56	49.1%
	Pacific	14	13.0%	2	7.7%	16	14.0%
	Rocky Mountains	1	0.9%	0	0.0%	3	2.6%
	Southwest	11	10.2%	2	7.7%	8	7.0%
	Noncontiguous	1	0.9%	0	0.0%	0	0.0%
Source of Survey Referral	Friend/Family Recommendation	19	17.6%	6	23.1%	30	26.3%
	Email	19	17.6%	3	11.5%	2	1.8%
	Instagram	52	48.1%	14	53.8%	58	50.9%
	Facebook	2	1.9%	0	0.0%	1	0.9%
	Twitter	0	0.0%	1	3.8%	0	0.0%
	University	16	14.8%	2	7.7%	23	20.2%
	No degree or diploma	0	0.0%	0	0.0%	1	0.9%

	Characteristics	Help Seeking Behavior					
		Yes (TMH)		Yes (F2F)		No (No Counseling)	
		n	Total Percent %	*n*	Total Percent %	*n*	Total Percent %
Highest education completed	High school diploma/ GED	18	16.7%	2	7.7%	33	28.9%
	Masters Degree/Advance Degree	21	19.4%	4	15.4%	17	14.9%
	Bachelors degree	51	47.2%	12	46.2%	35	30.7%
	Vocational/Technical Certification	1	0.9%	1	3.8%	1	0.9%
	Associates degree	10	9.3%	6	23.1%	22	19.3%
	Other	1	0.9%	0	0.0%	2	1.8%
	Doctoral Degree/ Advanced Professional Degree (PhD, MD, JD)	6	5.6%	1	3.8%	3	2.6%
Current employment status	Part-time	37	33.9%	10	38.5%	44	38.6%
	Full-time	54	49.5%	13	50.0%	47	41.2%
	Unemployed	18	16.5%	3	11.5%	23	20.2%
Has COVID-19 spurred an interest in counseling	Yes	60	55.0%	16	61.5%	59	51.8%
	No	49	45.0%	10	38.5%	55	48.2%

Table 4.Age (in years)

	N	Total %
18.00	15	6.0%
19.00	21	8.4%
20.00	14	5.6%
21.00	7	2.8%
22.00	17	6.8%
23.00	14	5.6%
24.00	18	7.2%
25.00	28	11.2%
26.00	23	9.2%
27.00	27	10.8%
28.00	21	8.8%
29.00	44	17.6%

Reliability Analysis of Research Instruments

After assessing for incomplete or outlier data, and evaluating participants demographics statistics, the researcher evaluated the current study's reliability for the instruments used to measure the dependent constructs. To prevent Type 1 and Type 2 error, assessing the reliability of each instrument's scores acts as a long-held practice to inform the context of investigation. Hence, the researcher determined the reliabilities of the three dependent measures (IASMHS, Brief COPE, CSE).

The Inventory of Attitude Toward Seeking Mental Health Services (IASMHS) is designed to assess attitudes toward seeking mental health services (Mackenzie et al., 2004). Cronbach's alpha for the psychological openness scale is .73 in the current study.

The Brief COPE (Carver, 1997) is a 5-item Likert-type scale and the study used the two sub-scales of Brief COPE Adaptive Coping (16 items) and Maladaptive Coping (12 items) to determine the extent to which participants report using different behavioral coping strategies. Cronbach's alpha for the entire scale is .89 in the current study and the adaptive coping subscale is .84, and the maladaptive coping subscale is: .75. The Computer Self Efficacy scale (CSE; Compeau & Higgins, 1995) is a 10-item measure and uses a 4-item Likert-type scale to measure the extent to which participants report feeling confident using computer technologies, such as telehealth technologies. Cronbach's alpha for the entire scale is 0.88 in the current study,

Table 3 represents the instrument reliabilities, which demonstrate satisfactory reliability. Methodological best practice includes examining a study's instruments' reliability against the recommended Cronbach's alpha reliabilities. These guidelines include Cronbach's alphas of $\alpha > .70$ and above as good standing, $\alpha > .80$ and above as better standing, and $\alpha > .90$ and above as best standing. Although the lowest reliability is within the psychological openness scale,

literature has demonstrated this scale has resulted in similar reliability (e.g., $\alpha = 0.73$) in studies such as Ward et al., 2013. Potential psychometric concerns affecting reliability of the IASMHS might include: (a) respondents misinterpreting items, (b) low variance in responses to items, (c) limited cultural appropriateness and lower number of items on the subscales (Feldt & Qualls, 1996; Ward et al., 2013).

Table 5. Reliability of instruments

Instrument	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
CSE	.887	.894	10
IASMHS	.723	.745	8
Brief COPE	.834	.836	28
Adaptive Coping	.841	.845	16
Maladaptive Coping	.754	.756	12

Data Screening

Survey scores were downloaded from Qualtrics into Statistical Package for Social Science (SPSS) software and were screened for outliers, missing data, and failed response items to validity questions. Data screening was also informed by Melissa Simone, a quantitative psychologist at the University of Minnesota (Simone, 2019). She has conducted quality online quantitative research, often examining young adult populations, weight stigma, and mental health. As a general guideline for the data screening, Simone (2019) suggested: (a) tracking duration timestamps, (b) flagging respondents who completed the survey faster or longer than the average, and (c) flagging respondents who fail attention logic tests. Before analysis, scores were

assessed for potential violation of assumptions, including normality (i.e., skewness and kurtosis), linearity, homoscedasticity using scatter plots, and independence of residuals.

Next, examining the dataset for errors is a valuable step for quantitative researchers to ensure accuracy of data and protect statistical analyses which may be sensitive to errors (Pallant, 2016). Before engaging in calculating total score subscales the researcher examined the data for errors and explored instrument maximum and minimum values (Pallant, 2016; 2013). For the three instruments which were continuous in nature, the researcher examined the data for extreme scores, as observing values related to maximum and minimum values. Next to examine categorical demographic errors, the research inspected validity checks (e.g., respondent saying they live in Florida and denoting their region as Southeast), duration of survey under the 50 minutes allotted, and the frequency, minimum, and maximum of the variables for each categorical variable. All values of items using categorical variables were within the range. In order to retrieve participant demographic statistics, the same procedures used for error checking were used.

Validity

Attention checks (or validity checks) represent helpful attention and logic check precautions for quantitative researchers to ensure high-quality data, void of robots, or inauthentic responses (Simone, 2019). To ensure validity, the survey had a maximum time limit of one hour, and three validity items were included (e.g., respondents had to list both current state and geographic regions residence status; question 13 prompted participants to choose “11” as their response). During data analysis, the survey obtained 264 total responses, of which 2 participants were deleted from the data set because they did not pass a validity check.

Efforts to reduce Type I (false positive) and Type II (false negative) errors remained pertinent. A false positive and false negative can mar the interpretation of findings and impact implications in working with young adults, post COVID. Therefore, the present study used two separate MANOVAs to examine each research question to decrease the chances of a false significance or non-significance (Pallant, 2016; Tabachnick & Fidell, 2013). To further control for Type I error, Bonferroni adjustments were used in post hoc analysis (Pallant, 2016). The researcher strived to encourage quality data through: (a) diverse sampling procedure, (b) restricted one survey response per IP address respondent, and (c) instructions to abstain from discussing the items with other possible participants.

Missing Data

Qualtrics has a dimension called "force response" in which participants are forced to answer an item on the survey before moving on to the next item or question. Within the pilot testing phase of the survey, it was advised not to use the Qualtrics option for "forced response" to provide agency to participants to skip if overwhelmed or tired. Therefore, missing data were present within the study. In addition, some data were missing for demographic, and socio-economic status -related variables due to the fact participants were at will to skip or may not have felt comfortable disclosing. To investigate missing data, the principal researcher utilized SPSS Missing Values Analysis to investigate if data is missing at random (MAR) or missing completely at random (MCAR; Kline, 2011). The SPSS Missing Values Analysis determined the data was missing completely at random, with a total of 11 cases missing. Due to the fact, 11 cases were missing completely at random and accounted for less than 5% of the data, the 11 cases were deleted (Tabachnick & Fidell, 2013).

Preliminary Analyses

Preliminary review of the data included an examination of the means, internal reliability estimates, outliers, standard deviations, and frequencies of all demographics, independent, and dependent variables. The data sets were also screened to ensure that assumptions of MANOVA were not violated (Tabachnick & Fidell,2007). Assumption testing aids a researcher in preventing a Type 1 or Type 2 error, which ensures the best conditions to run intermediate and advanced statistical analyses. In the case when an assumption is violated, corrective procedures are required, and assumptions must be re-tested (Pallant, 2016). The assumptions for MANOVA are as follows: sample size, normality, outliers, linearity, multicollinearity and singularity, and homogeneity of variance-covariance matrices (Laerd Statistics, 2015).

First, the researcher assessed sample size and the presence of continuous dependent variables and categorical independent variables of MANOVA. Tabachnick and Fidell (2018) suggest for MANOVA that a sample size needs to be at least 10 plus the number of dependent variables, fortunately both recommendations for sample size and a priori power were satisfied in the current study (N = 249). MANOVA also requires continuous levels of dependent variables, and two or more categorical level, related groups independent variables. In the current study, the dependent groups were sum scores computed from Likert scales (i.e., *Inventory of Attitude Toward Seeking Mental Health Services Scale, IASMHS); Brief COPE Scale; and the Computer Self-Efficacy Scale, CSE*), and the independent groups were groups of help seeking modalities (i.e., TMH, F2F, and no counseling).

Then, the researcher assessed outliers of MANOVA, because outliers can greatly skew the data. To determine the presence of univariate outliers, the initial dataset was examined for extreme cases that might impact the results of the analyses including skew and kurtosis. Given that MANOVA is quite sensitive to outliers, the principal researcher examined for univariate

outliers. Specifically, SPSS was used to evaluate histograms and box plots to assess univariate outliers (see Figures 3-5), which are represented as small asterisks, with considerable distance between each (Tabachnick & Fidell, 2018). Only 4 univariate outliers were observed.

For multivariate outlets, the Mahalanobis *d2* indices statistic was used to screen the data for statistical outliers on the grouped dependent variables – psychological openness, coping behavior and computer self-efficacy. Initially, 6 outliers were detected as demonstrated by values above the expected critical value of 16.27. The values were deleted from the assumption testing and further analysis due to the extreme values and establish univariate and multivariate normality assumptions. The final Mahalanobis' Distance statistic results indicated a maximum value of 14.64, below the critical value rate for a MANOVA with three dependent variables, 16.27 as suggested by Hahs-Vaughn (2016), therefore meeting the multivariate outlier assumption. Such outliers are unsurprising given the association between large samples and multivariate outliers (Tabachnick &Fidell, 2018). Later in analysis, the residuals calculated were used to determine normality as informed by methods in Hahs-Vaughn (2016).

Next, normality was tested through graphical representation of histogram plots for the independent variables of help-seeking groups: (a) TMH, (b) F2F, and (c) no counseling. Testing the distribution of the data, the Kolmogorov–Smirnov test indicated multivariate normal distribution in coping ($p < .05$), but not overall psychological openness and computer self-efficacy ($p < .05$). Next, the researcher tested the normality of standardized residuals through skewness, kurtosis, Quantile–Quantile plots (Q-Q), histograms and boxplots (Hahs-Vaughn, 2016). Despite Kolmogorov–Smirnov test, residuals statistics of skewness and kurtosis demonstrate normality was met, given each dependent's group skewness value equating to less than 0.8 and Kurtosis equating to less than absolute value 3.0 (Hahs-Vaughn, 2016). In

examining the normality of the residuals, the Q-Q plots of all three dependent variables deviations appeared minimal. Yet, when the residuals were rerun with deleted graphical outliers, the results remained the same. Thus, observed values were retained. As noted by Tabachnick and Fidell (2007) non-normality tends to increase in large sample sizes, however, given the adequate sample size meeting power and at least 20 cell per case, MANOVA is robust to violations of non-normality (Pallant, 2016; Tabachnick & Fidell, 2007).

Next, linearity was assessed graphically through examination of the scatter plot of the three dependent variables. After analyzing the scatterplot, it was determined that the linearity assumption was met. To ascertain whether there was multicollinearity, the researcher assessed the assumption through bivariate correlation matrix statistics. Bivariate correlations matrix tested the assumption of multicollinearity across the dependent variable groups using an alpha criterion of .001 for large samples (Hahs-Vaughn, 2016). The findings demonstrated the dependent variables were not highly correlated (as demonstrated by correlations under .80), therefore the assumption of multicollinearity was met.

To ensure the legitimacy of results, the homogeneity of variance was evaluated through Box's-Test of Equality (Tabachnick & Fidell, 2018). Box's-Test of Equality of Covariance Matrices tested the assumption of homogeneity of covariance matrices across the independent variables using an alpha criterion of .001 for large samples (Hahs-Vaughn, 2016). Box's M was not significant ($p = .29$), thus indicating the data did not violate assumption of equal covariance matrices. In addition to measuring the assumption of homogeneity, the next assumption test was the assumption of equal variance. The Levene test indicated all the dependent constructs supported the assumption of equal variance, except for the coping construct ($p < 0.05$).

Therefore, as a result of unbalanced sample size and equal variance violation, the Pillai's trace values in the multivariate test were utilized (Tabachnick & Fidell, 2013).

Last, researchers Tabachnick and Fidell (2012) asserted that investigations using sample sizes larger than 200 represent minor hesitations when computing multivariate statistics that violate assumptions. Due to obtaining a large sample size (n = 249), the violation of the homogeneity assumption provided less concern in analysis because violations become expected in large samples. During the main analysis it is suggested for when homogeneity is violated, a more conservative alpha level (e.g., .025 or .01 rather than the .05) for determining the significance for that variable in the univariate F-test (Tabachnick & Fidell, 2007). In summary, the researcher appropriately screened the data to assess the assumptions associated with the statistical analyses used in this study (e.g., homoscedasticity, no multicollinearity, multivariate normality). No violations were found for homogeneity of variance, multicollinearity, outliers, and linearity.

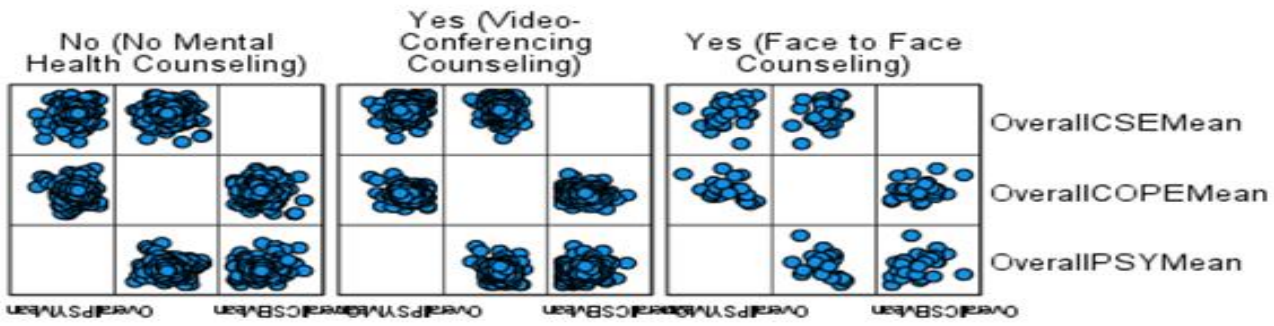

Figure 1. Psychology Openness, Computer Self-Efficacy, and Coping Scatterplot Matrices

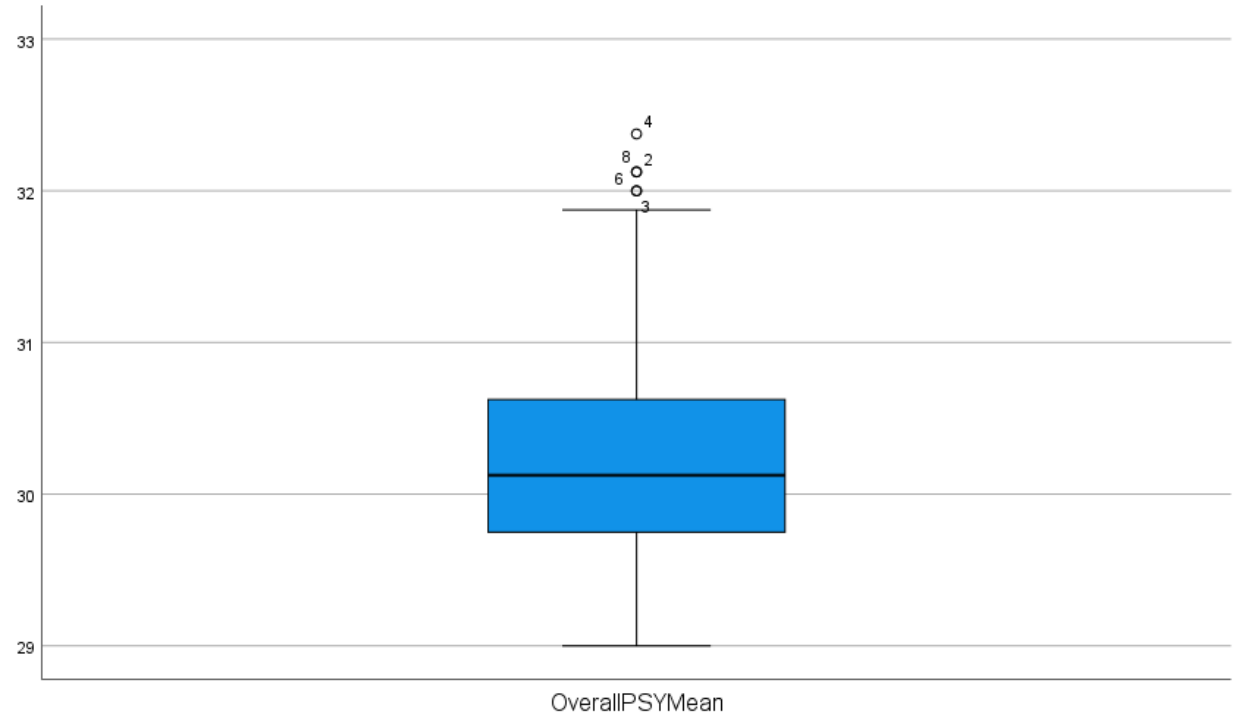

Figure 2. The IAMHS Boxplot

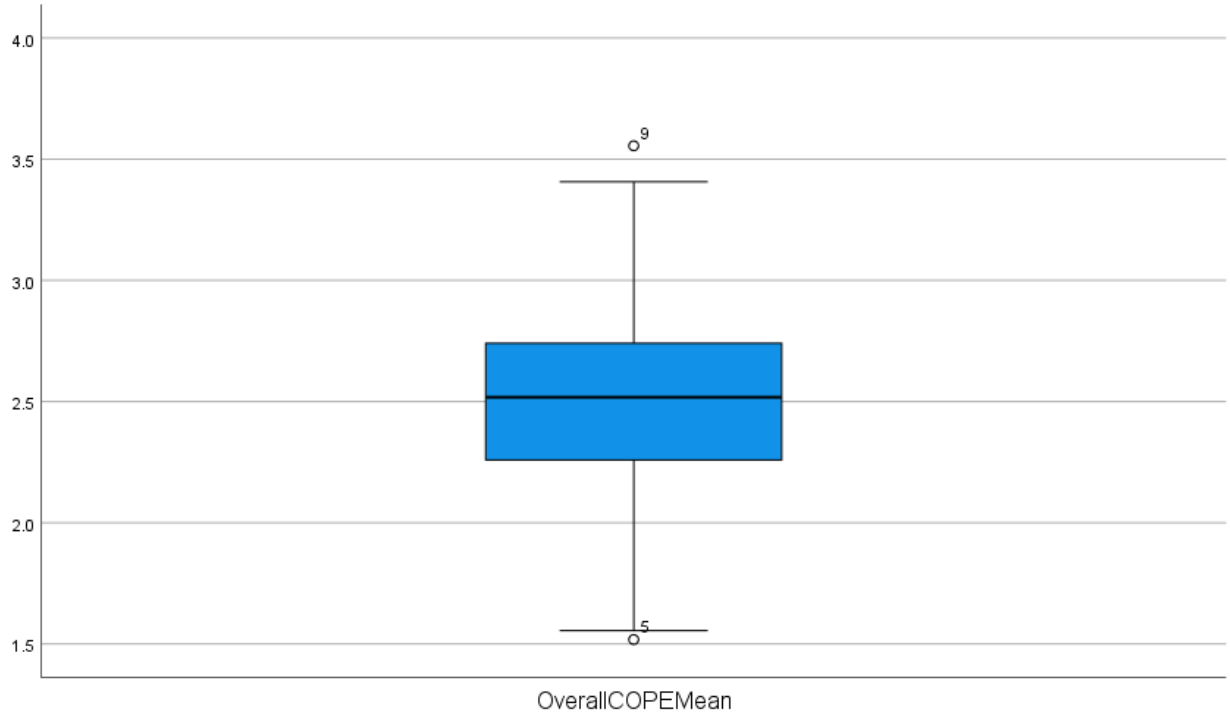

Figure 3. The Brief COPE Boxplot

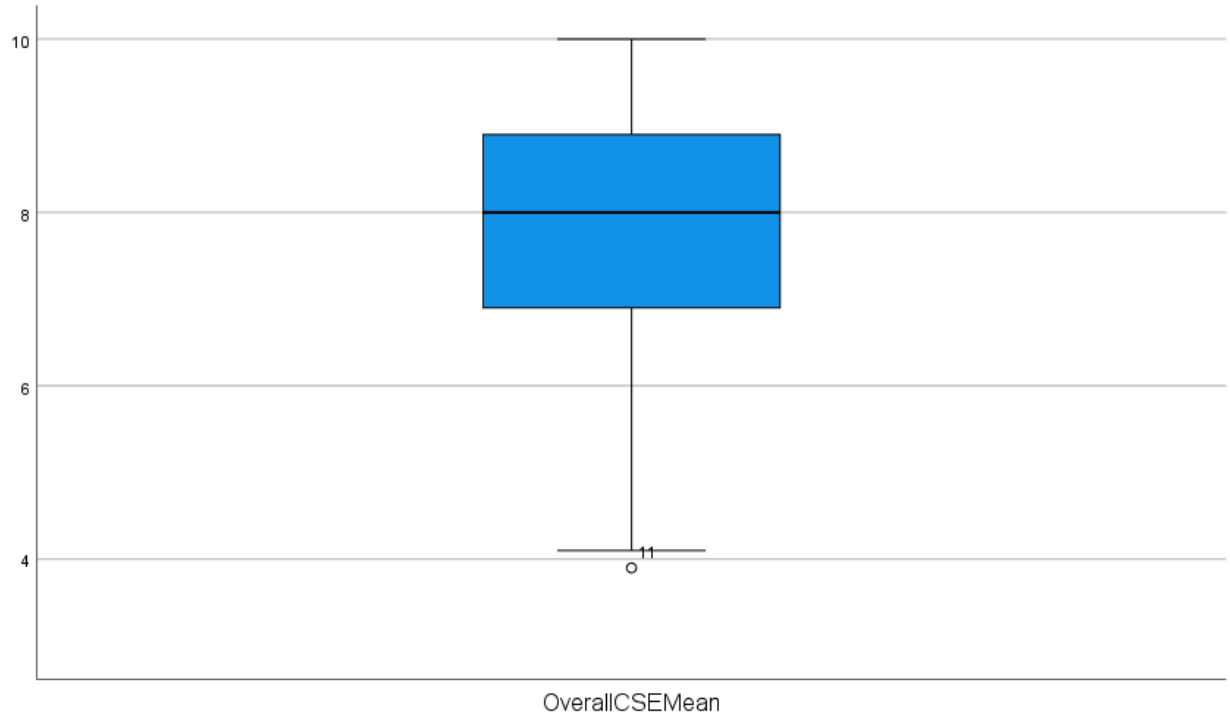

Figure 4. The CSE Boxplot

Table 6.Standardized Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation
Predicted Value	1.50	3.60	2.47	.369
Std. Predicted Value	-2.633	3.064	.000	1.000
Standard Error of Predicted Value	.089	.350	.169	.051
Adjusted Predicted Value	1.41	3.58	2.47	.369
Residual	-2.226	2.499	.000	1.383
Std. Residual	-1.600	1.796	.000	.994
Stud. Residual	-1.632	1.830	.000	1.002
Deleted Residual	-2.315	2.594	.000	1.405
Stud. Deleted Residual	-1.637	1.839	.000	1.003
Mahal. Distance	.023	14.640	2.988	2.597
Cook's Distance	.000	.032	.004	.004
Centered Leverage Value	.000	.059	.012	.011

Table 7.Box's Test of Equality of Covariance Matrices

Box's M	14.658
F	1.185
df1	12.000
df2	23395.839
Sig.	.287

Note. Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

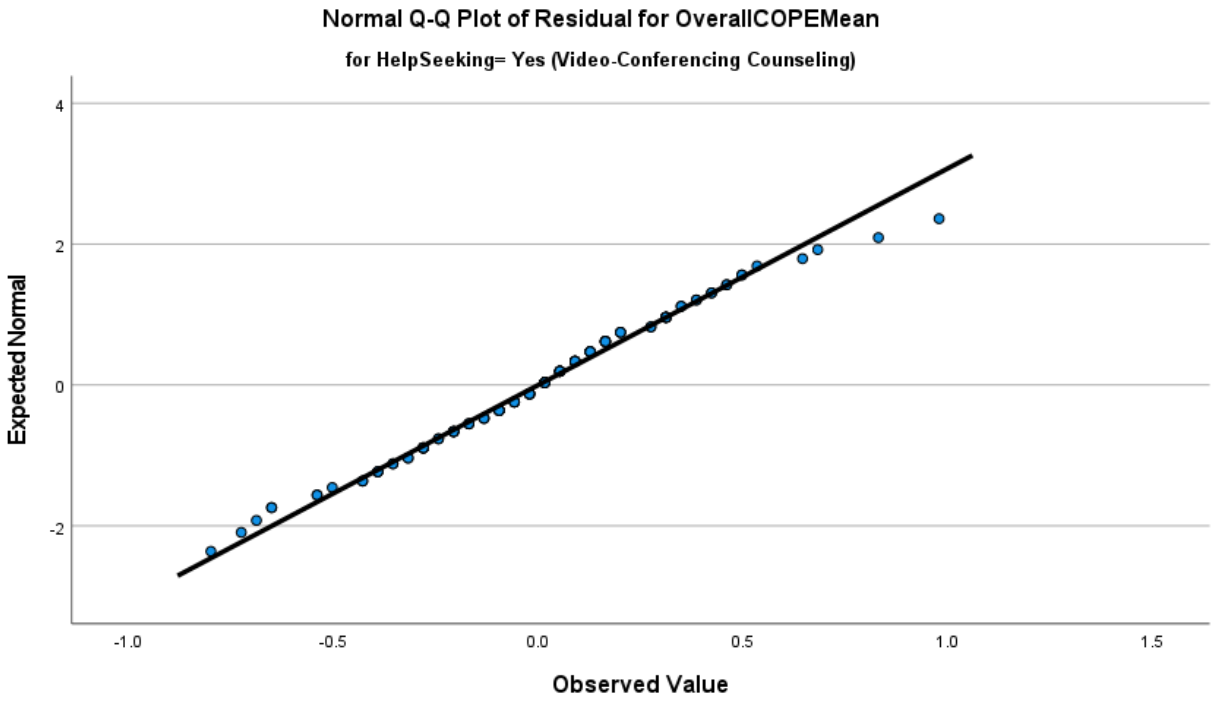

Figure 5. Standardized Residuals Brief COPE Q-Q Plots (TMH)

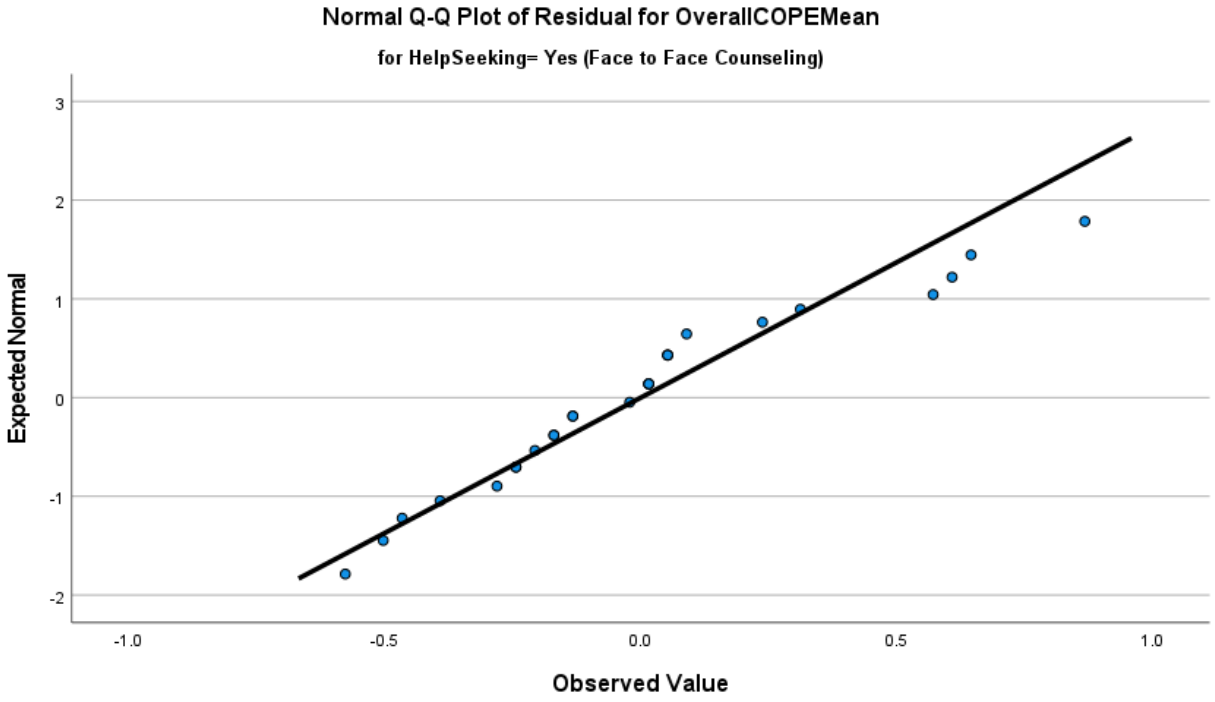

Figure 6. Standardized Residuals Brief COPE Q-Q Plots (F2F)

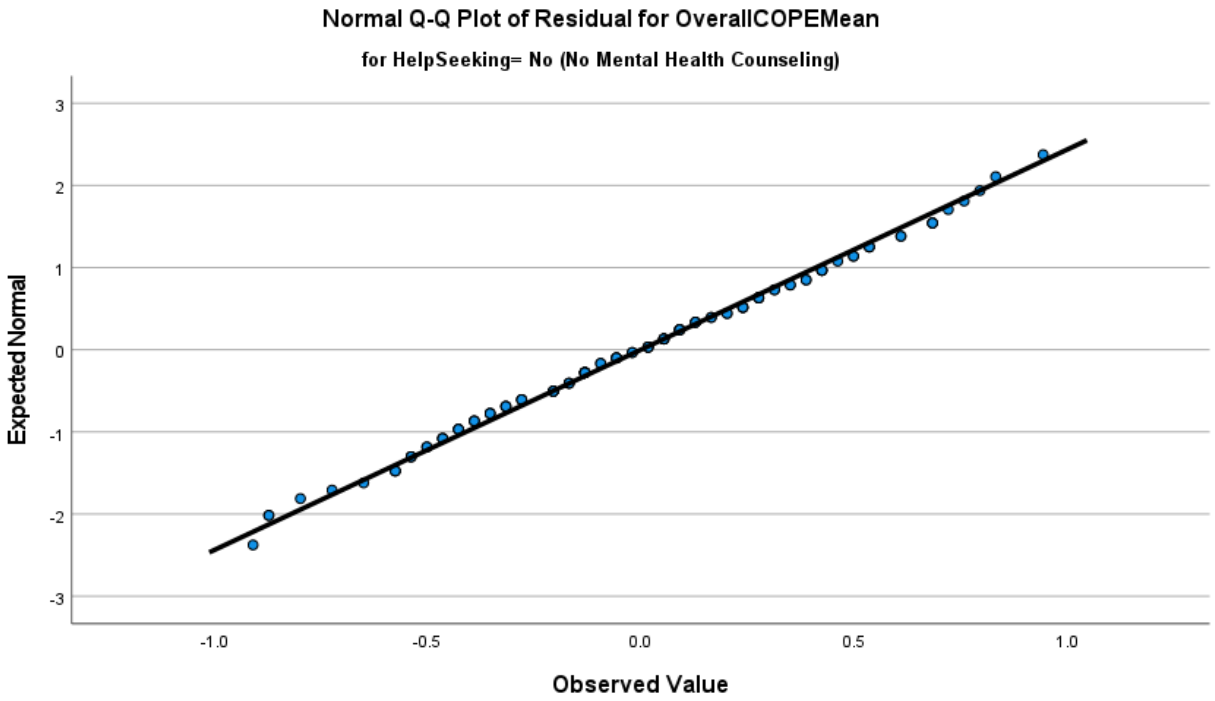

Figure 7. Standardized Residuals Brief COPE Q-Q Plots (No Counseling)

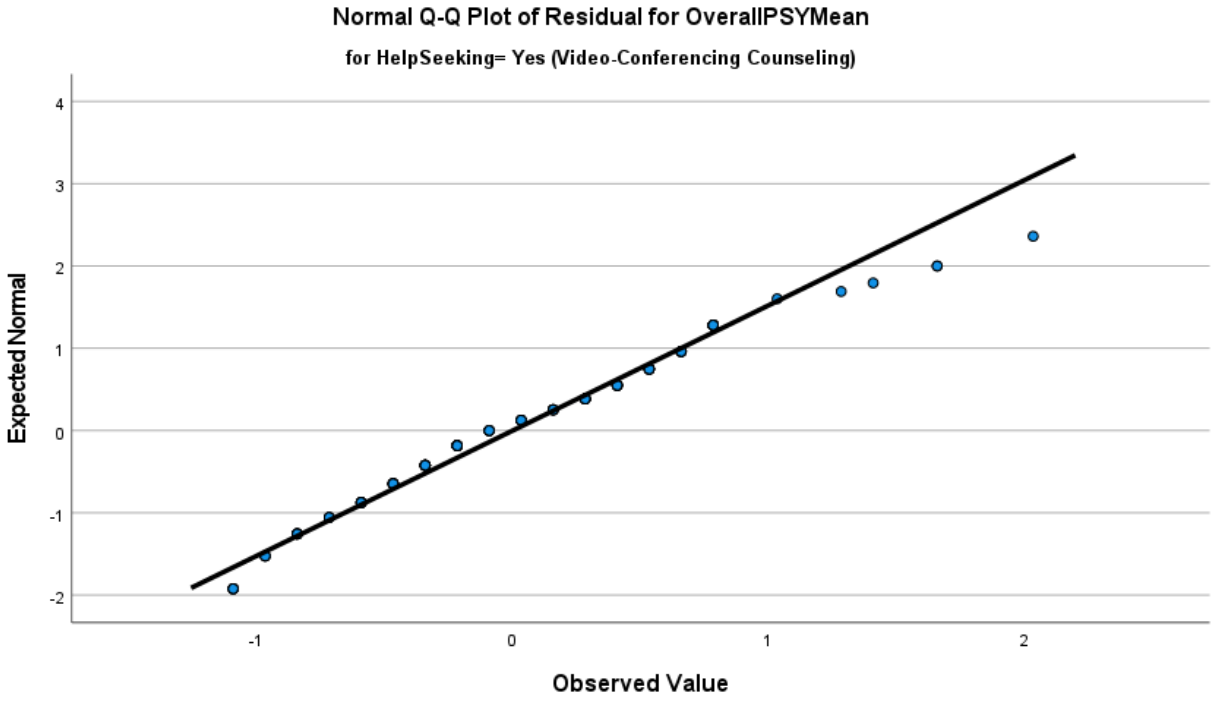

Figure 8. Standardized Residuals Psychological Openness Q-Q Plots (TMH)

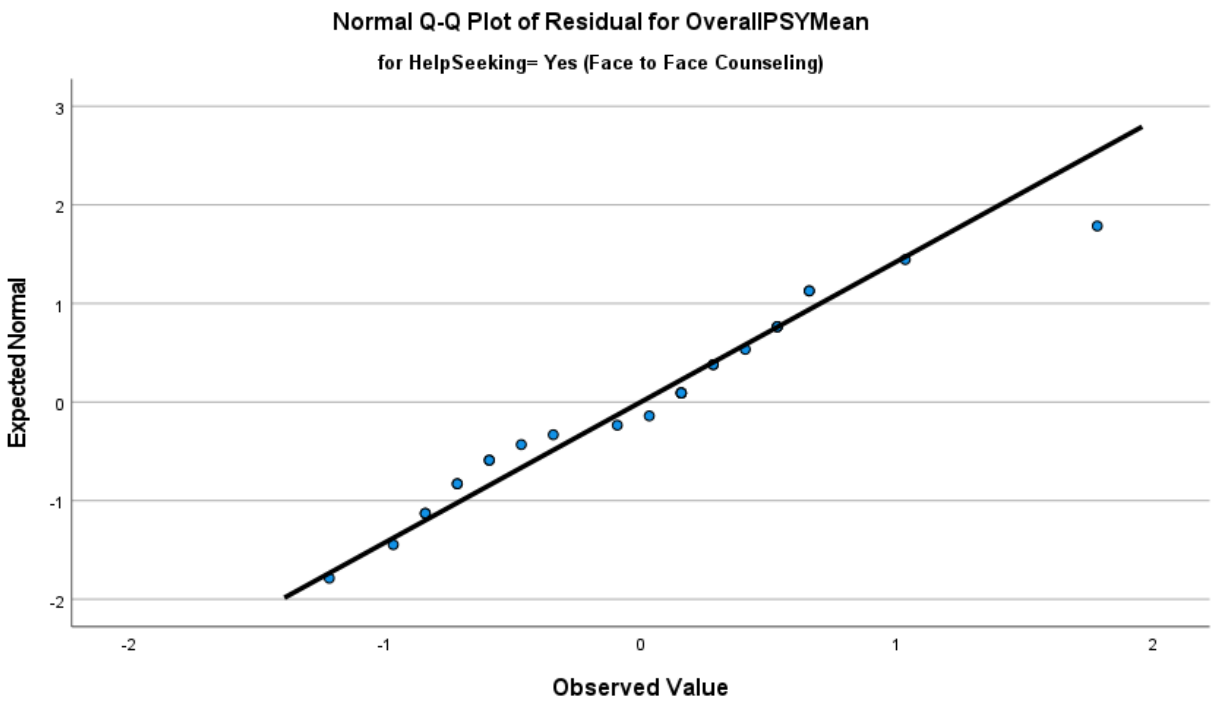

Figure 9. Standardized Residuals Psychological Openness Q-Q Plots (F2F)

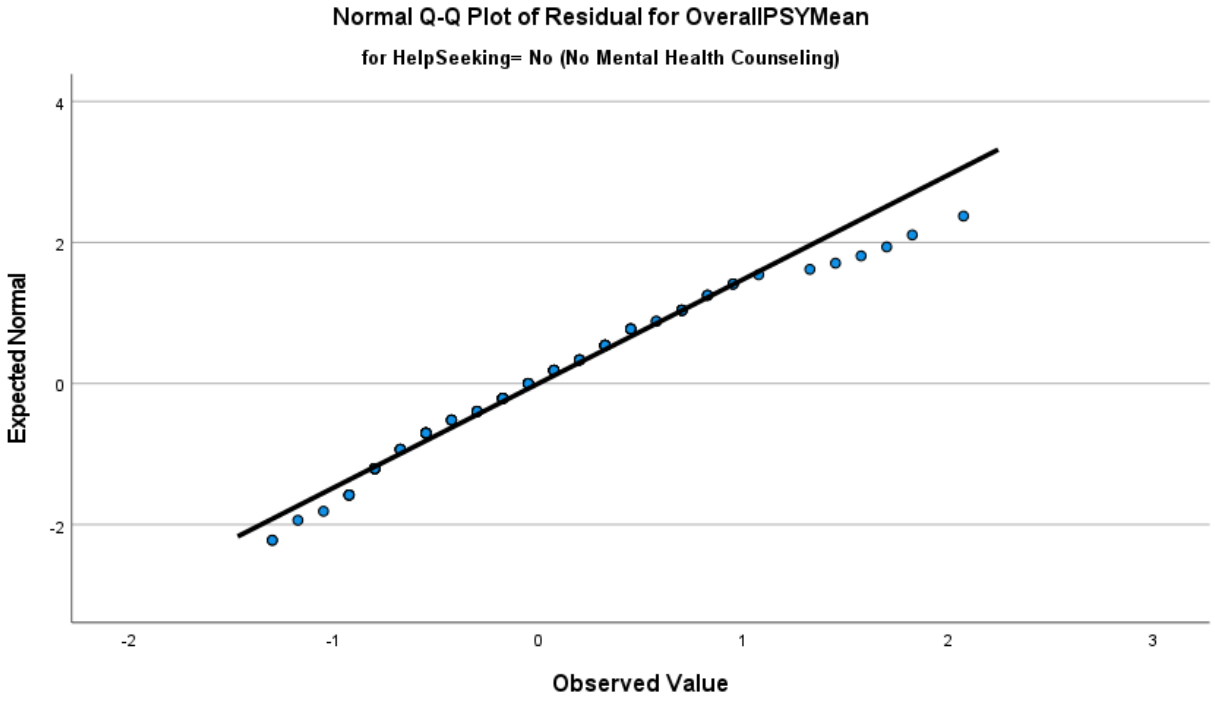

Figure 10. Standardized Residuals Psychological Openness Q-Q Plots (No counseling)

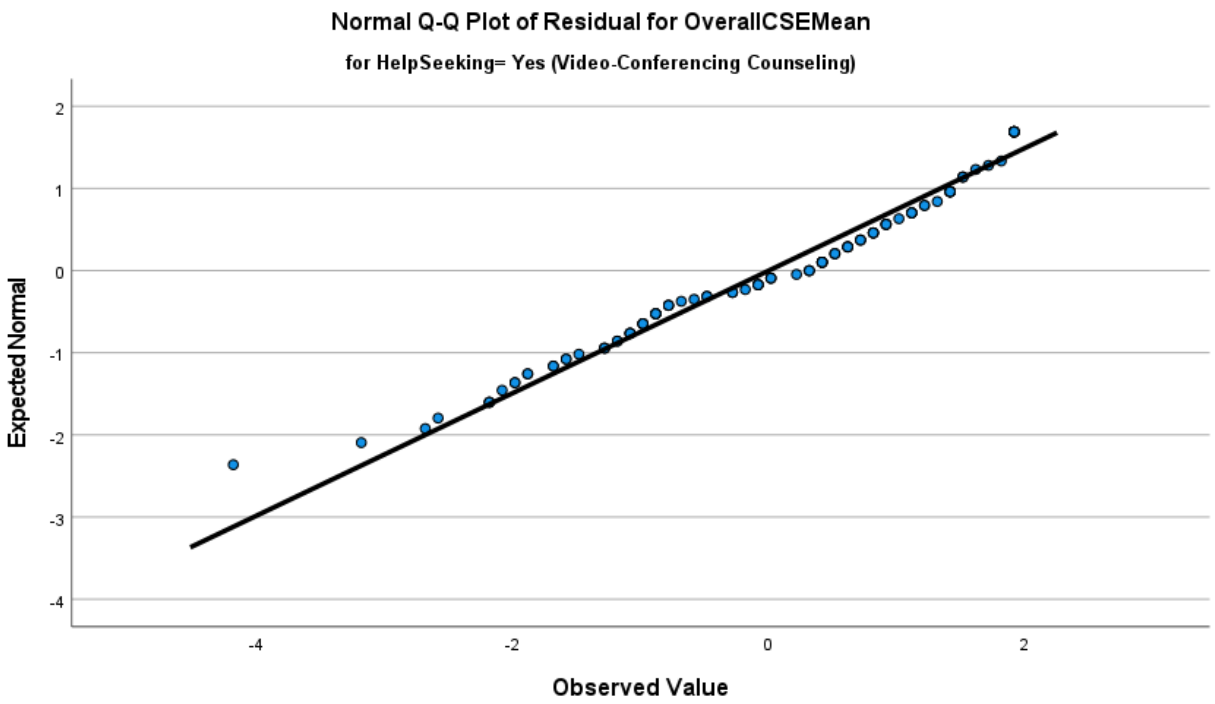

Figure 11. Standardized Residuals Computer Self-Efficacy Q-Q Plots(TMH)

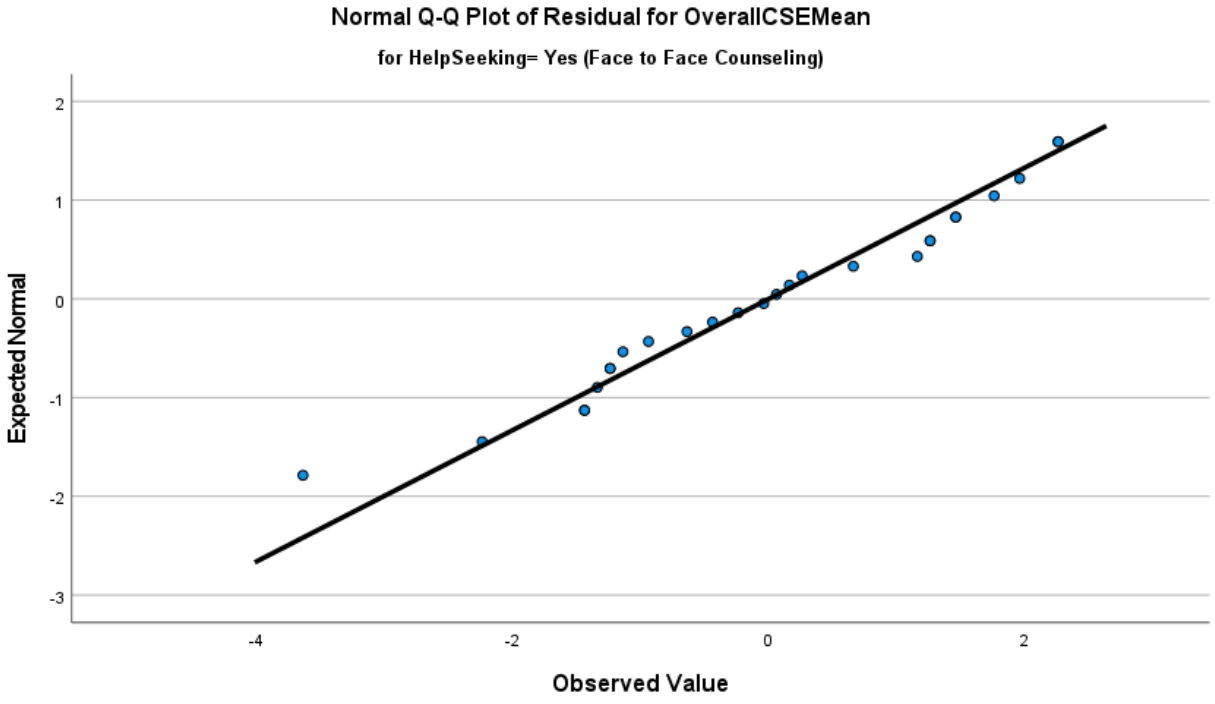

Figure 12. Standardized Residuals Computer Self-Efficacy Q-Q Plots(F2F)

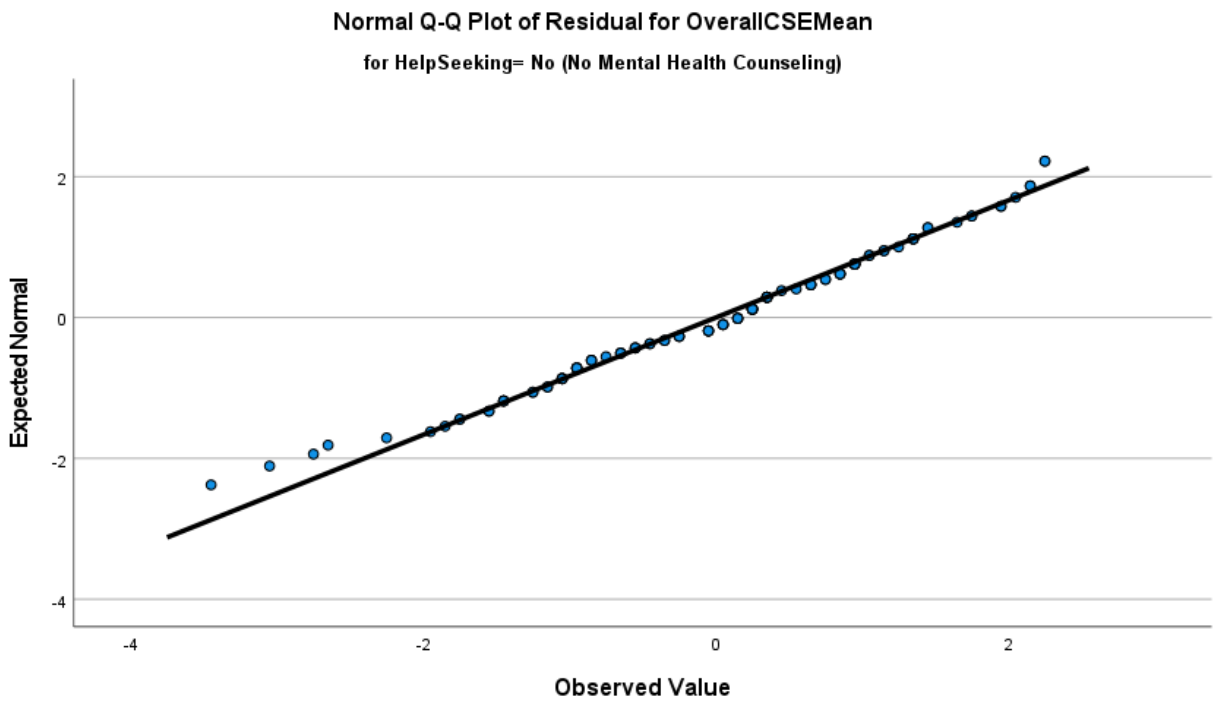

Figure 13. Standardized Residuals Computer Self-Efficacy Q-Q Plots(No Counseling)

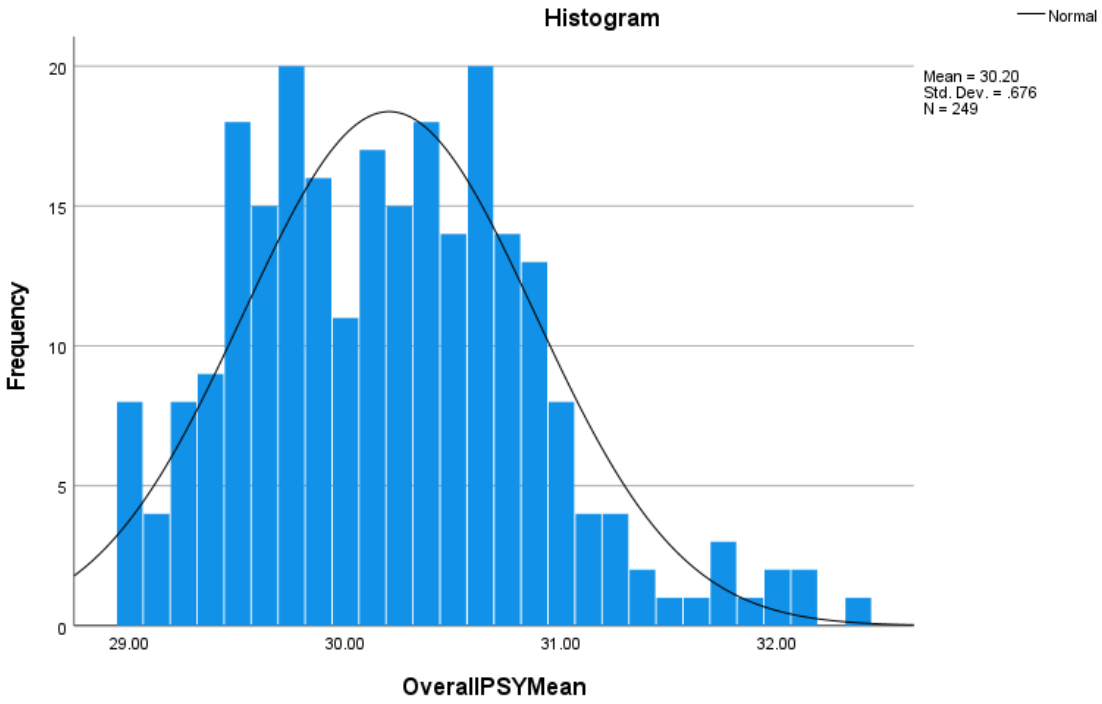

Figure 14. Frequency Histogram with Normal Curve for the IASMHS

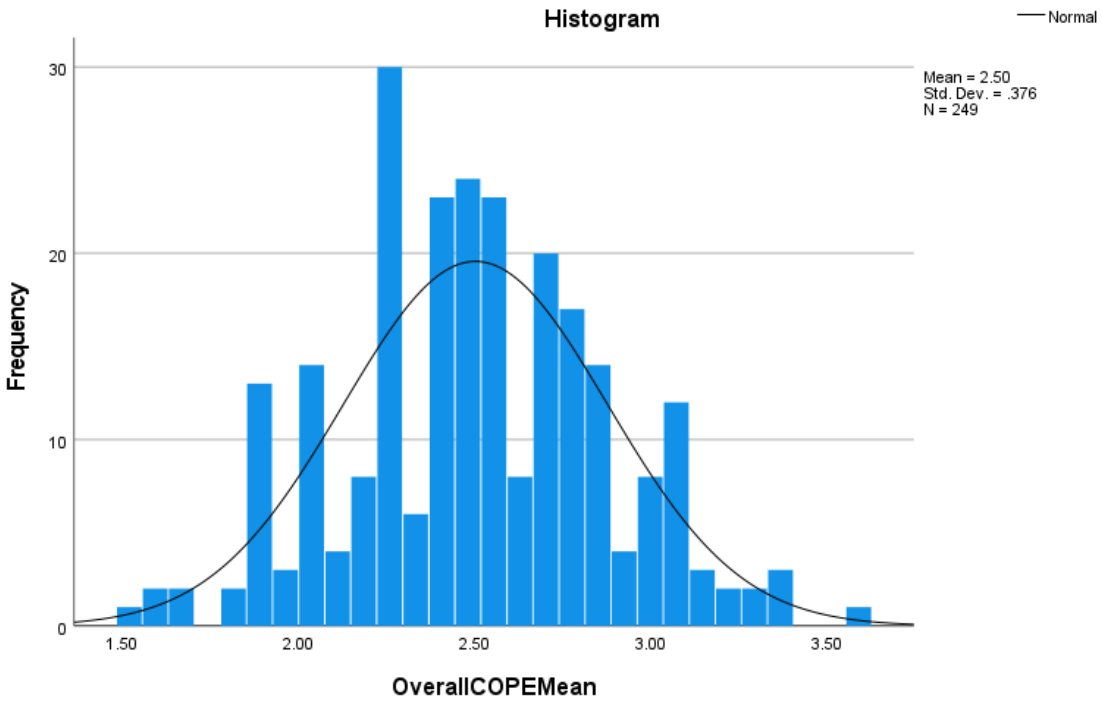

Figure 15. Frequency Histogram with Normal Curve for the Brief COPE

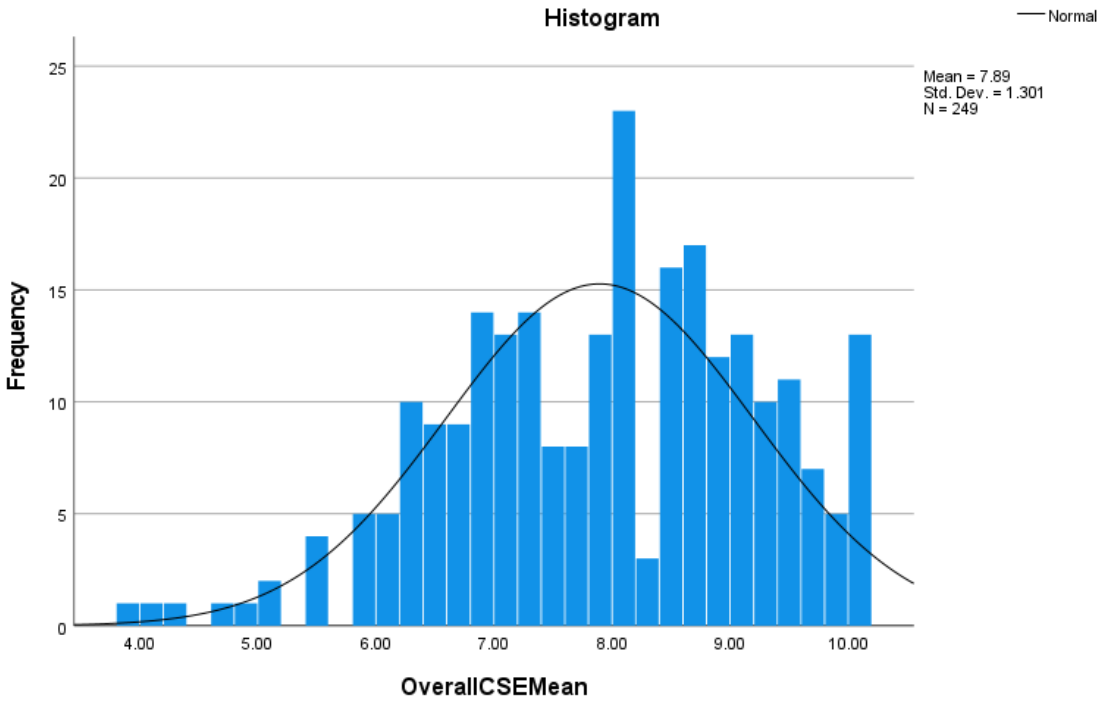

Figure 16. Frequency Histogram with Normal Curve for the CSE

Main Analyses

Research Question 1

To examine if there were differences in the psychological openness, computer self-efficacy, and coping behavior scores across help-seeking modalities (i.e., TMH, F2F, and no counseling), a MANOVA was utilized. Of the 249 young adult participants, half (46.9%, *n* = 108) selected "Yes: Video-conferencing counseling," a total of 27 participants (11%) selected "Yes: Face-to-face counseling," and a total of 114 participants (47%) indicated "No counseling." Next, the young adult participants' scores were converted to standardized means. Raw scores were converted on (a) the subscales of the Brief COPE, (b) psychological openness subscale of the IASMHS, and (c) the CSE to standardized z scores (Tabachnick & Fidell, 2018).

To examine the first research question, the researcher first conducted a multivariate analysis of variance (MANOVA) to determine if group differences exist in coping behaviors (as measured by the Brief COPE; Carver, 1997), psychological openness (as measured by Inventory of Attitude Toward Seeking Mental Health Services (IASMHS); Mackenzie et al., 2004), and computer self-]efficacy (as measured by Computer Self Efficacy scale (CSE); Levar et al., 2012) among young adults engaged in one of the three help-seeking modalities (i.e., tele-mental health (TMH) counseling, face to face counseling (F2F) or no counseling) during Covid-19. The result of the MANOVA was a significant multivariate effect (Wilks $\lambda = .914$, $F(3, 486) = 2.59$, $p = .005$, partial $\eta 2 = .044$). Provided the input demonstrated a significance less than .05, there is a statistically significant difference between no counseling, face to face counseling, and tele-mental health counseling in terms of levels of psychological openness, computer self-efficacy and coping behavior.

Next, an important consideration was the statistical effect size. Effect size, or partial eta, is defined as the proportion of the variance in the dependent variable (such as, coping scores) that can be explained by the independent variable (e.g., help seeking modality). Due to the only statistically significant difference result being maladaptive coping, the value of the effect size for maladaptive coping is .034, which is categorized as a small effect (Cohen, 1988); this represents only 3.4 percent of the variance in perceived maladaptive COPE scores explained by help seeking behavior status (TMH, F2F, and no counseling). Whereas the effect sizes for the other two dependent variables were smaller (partial $eta^2 > 0.01$; Cohen,1988).

Table 8 MANOVA Results for Outcome differences on Help Seeking[a]

	Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.999	91144.413[b]	4.000	242.000	.000	.999
	Wilks' Lambda	.001	91144.413[b]	4.000	242.000	.000	.999
	Hotelling's Trace	1506.519	91144.413[b]	4.000	242.000	.000	.999
	Roy's Largest Root	1506.519	91144.413[b]	4.000	242.000	.000	.999
HelpSeeking	Pillai's Trace	.087	2.748	8.000	486.000	.006	.043
	Wilks' Lambda	.914	2.796[b]	8.000	484.000	.005	.044
	Hotelling's Trace	.094	2.843	8.000	482.000	.004	.045
	Roy's Largest Root	.092	5.607[c]	4.000	243.000	<.001	.084

Note. a. Design: Intercept + HelpSeeking

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = .05

Table 10. Means, Standard Deviations, and MANOVA Analyses

	Help-Seeking					
	TMH		F2F		No Counseling	
	M	*SD*	*M*	*SD*	*M*	*SD*
Psychological Openness	30.09	0.66	30.22	0.71	30.30	0.68
Computer Self-Efficacy	8.08	1.34	7.74	1.50	7.73	1.21
Adaptive Coping	43.14	7.34	41.88	7.91	41.28	8.65
Maladaptive Coping	24.25	5.69	25.69	6.85	26.44	5.06

Note. *N* = 249, TMH = tele-mental health counseling, F2F = face-to-face counseling.

Table 11. Multivariate Test: MANOVA

Measure	df	Sig.	*F*	η^2
OverallPSYMean	2	.073	2.650	.021
OverallCSEMean	2	.134	2.028	.016
Brief COPE				
Maladaptive	2	.014	4.368	.034
Adaptive	2	.225	1.500	.012

When the results for the dependent variables were considered separately, the only statistically significant group difference, using a Bonferroni adjusted alpha level of .017, was maladaptive coping, F (2, 134) = 4.37, p = .014, partial η^2 = .034. The Bonferroni adjustment was computed by dividing the overall experimental alpha (.05) by the number of dependent variables, therefore 0.05/3= 0.017 adjusted alpha. To further test Hypothesis 1c (i.e., young adults in TMH will have significantly higher scores on coping when compared to the other groups), and explore where these significant coping differences were, a One-way Analysis of Variance (ANOVA) post hoc test was conducted. The purpose of the one-way ANOVA follow-up test is to identify the specific intersection at which the differences are. Thus, a one-way ANOVA was run on the coping subscales variables –maladaptive coping, due to its significance in the MANOVA. To determine the exact site of difference the multiple comparison table was consulted, results determined only TMH and no counseling are statistically significantly different from one another. That is, the TMH group and the no counseling group differ significantly in terms of their maladaptive coping scores, however taking into account small sample size of F2F participants compared to TMH and no counseling groups, the presence of limited significance within this small sample of F2F supports the necessity for further research with a larger sample. Therefore, in this present study, the only significant difference between TMH, F2F, and no counseling participants was on their perceived maladaptive coping scores, confirming hypothesis 1c. To confirm, an inspection of the mean scores indicated that, TMH individuals reported lower levels of maladaptive coping (M = 24.25, SD = 5.69) than the no counseling group (M = 26.44, SD = 5.06). In addition, data revealed TMH individuals reported slightly higher levels of adaptive coping (M = 43.14, SD = 7.34) than the no counseling group (M = 41.28, SD = 8.65). Although the difference in the estimated mean plot looks drastic - with no counseling group

recorded the lowest coping scores and the TMH group recording the highest. All in all, in this present sample, maladaptive coping was the only variable constituting significant group differences between help-seeking modalities. ANOVA statistics are reported in Table 12.

Supporting Hypothesis 1c, coping was found to be significantly associated with help-seeking behavior group differences, p=.014. Next steps required examining means differences. Estimated marginal means are characterized by computing variable by variable averages. For perceived maladaptive subscale COPE scores, the mean score for TMH was 24.25, F2F was 25.69, and for no counseling 26.44. Although statistically significant, the actual difference in the three averages scores was very small, with fewer than 2 scale points. For perceived adaptive subscale COPE scores, the mean score for TMH was 43.14, F2F was 41.88, and for no counseling 41.28.

Table 12.Coping (Adaptive and Maladaptive) ANOVA Statistics

		Sum of Squares	df	Mean Square	F	Sig.
Adaptive	Between Groups	193.021	2	96.510	1.500	0.225
	Within Groups	15762.528	245	64.337		
	Total	15955.548	247			
Maladaptive	Between Groups	269.876	2	134.938	4.368	0.014
	Within Groups	7569.463	245	30.896		
	Total	7839.339	247			

Table 13.Effect Size Statistics[a,b]

			95% Confidence Interval	
		Point Estimate	Lower	Upper
Adaptive	Eta-squared	.012	.000	.047
	Epsilon-squared	.004	-.008	.039
	Omega-squared Fixed-effect	.004	-.008	.039
	Omega-squared Random-effect	.002	-.004	.020
Maladaptive	Eta-squared	.034	.001	.085
	Epsilon-squared	.027	-.007	.077
	Omega-squared Fixed-effect	.026	-.007	.077
	Omega-squared Random-effect	.013	-.003	.040

Note. a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

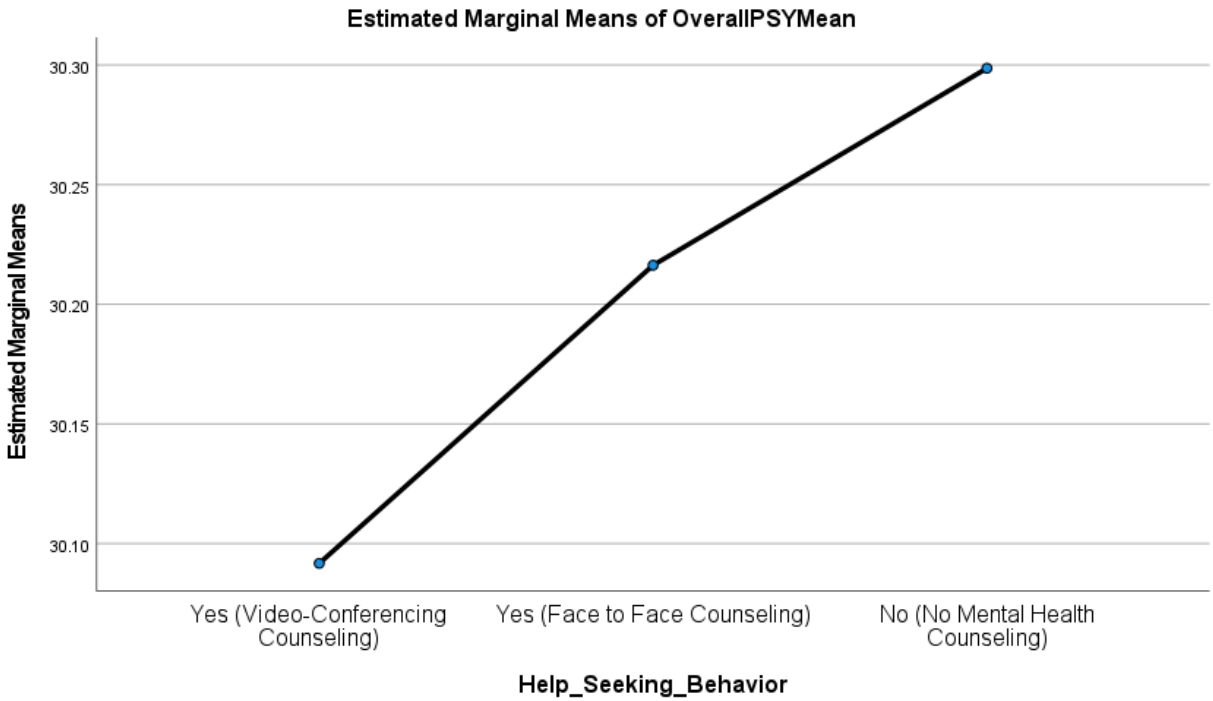

Figure 17. Estimated Marginal Means for Psychological Openness

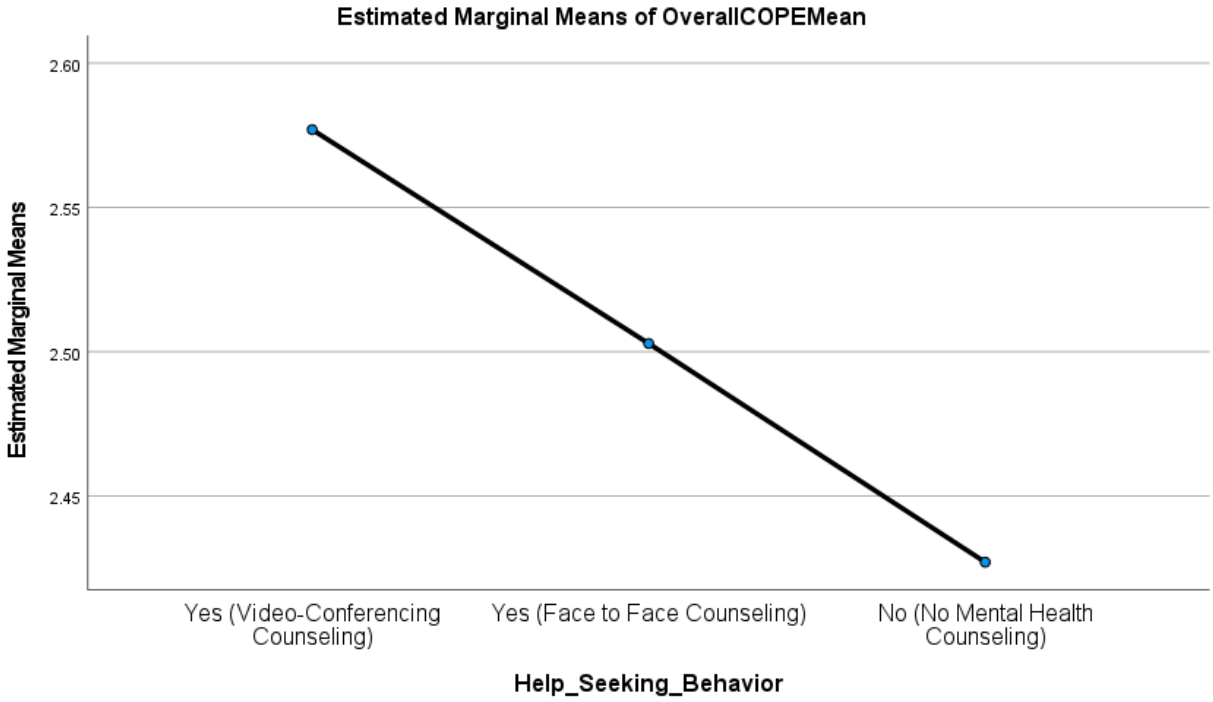

Figure 18. Estimated Marginal Means for Coping

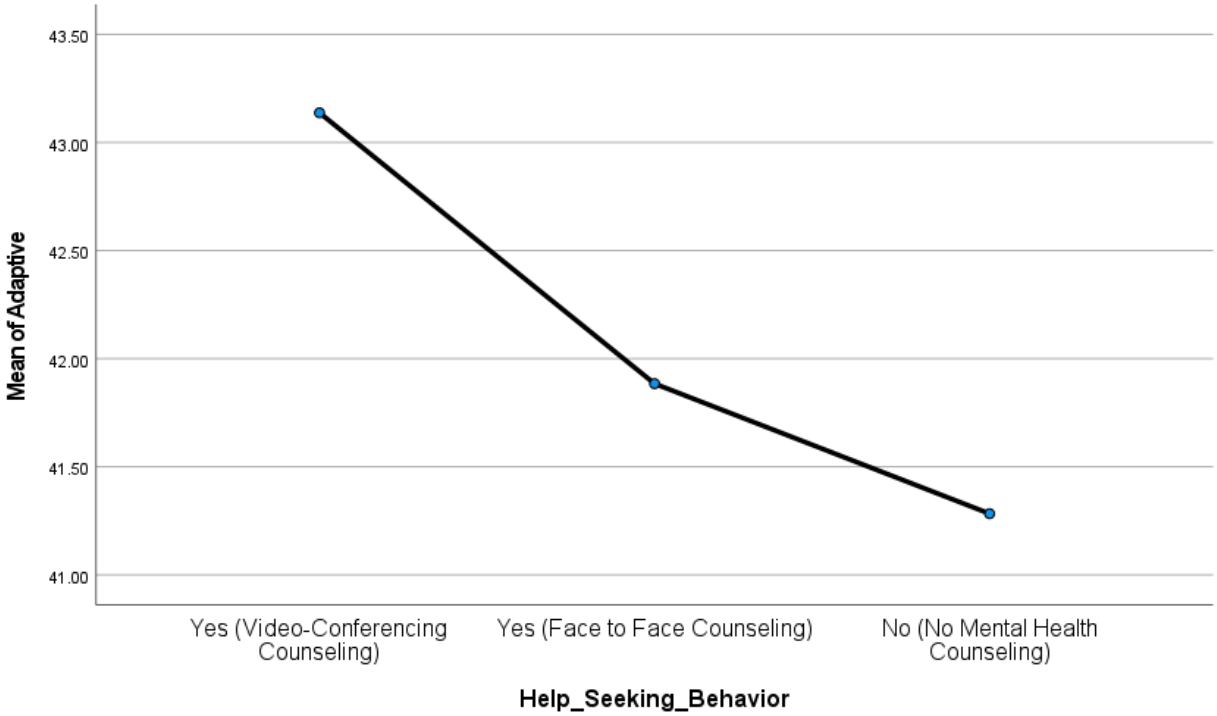

Figure 20. Estimated Marginal Means for Adaptive Coping

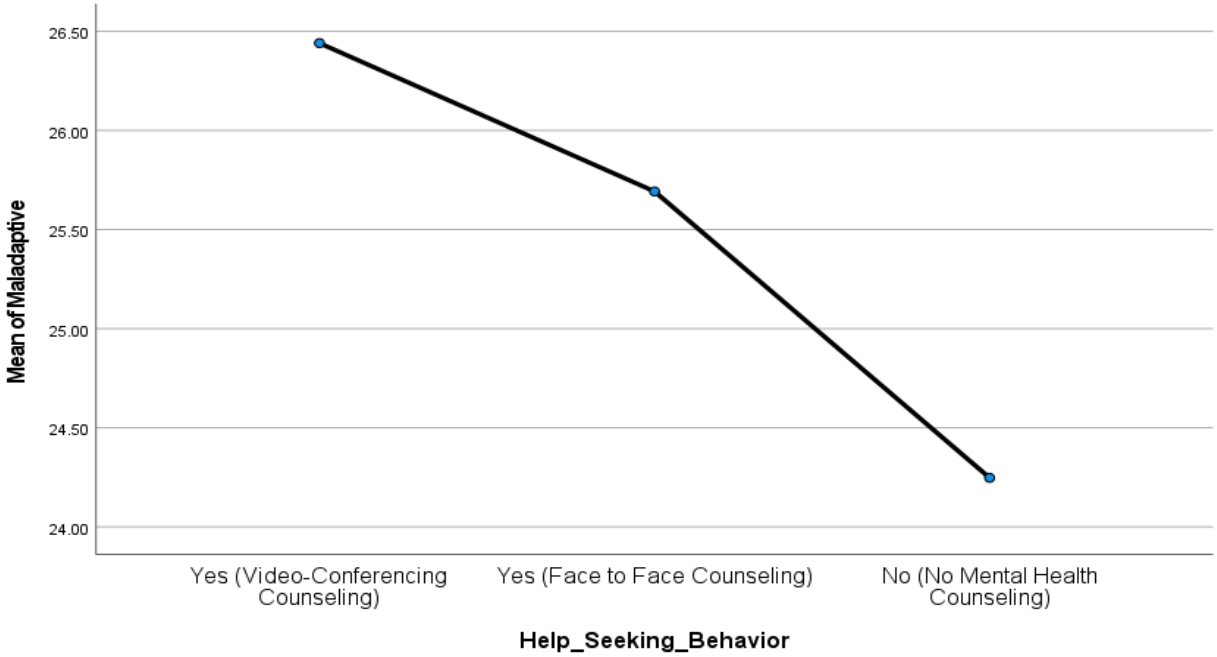

Figure 21. Estimated Marginal Means for Maladaptive Coping

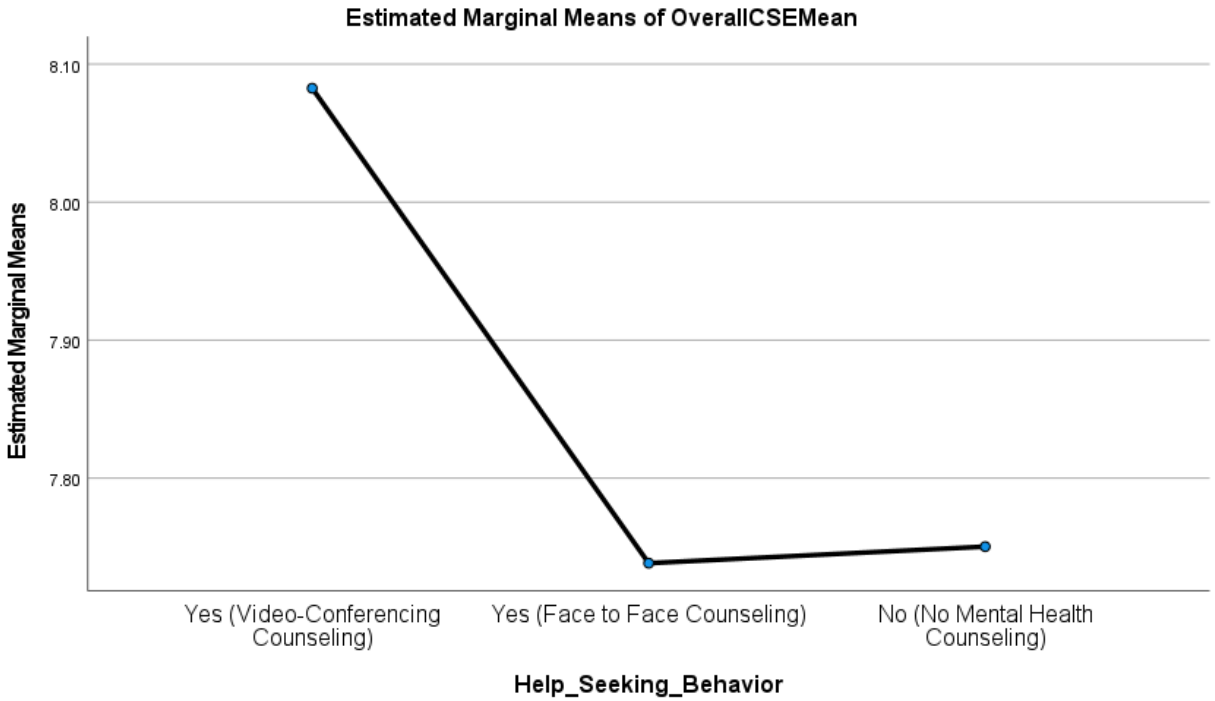

Figure 22. Estimated Marginal Means for Computer Self-Efficacy

Table 14. Dependent Variables Means and Standard Deviations

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Psychological Openness	249	27.00	8.00	35.00	7.89	5.40
Computer Self Efficacy	249	26.10	3.90	10.00	7.88	1.30
Maladaptive	249	26.00	14.00	40.00	25.3976	5.64888
Adaptive	249	36.00	23.00	59.00	42.1807	8.02689
Valid N (listwise)	249					

Research Question 2

The second research question was: to what extent do demographic variables (e.g., gender, ethnicity) associated with counseling modality TMH, differ in scores of coping, psychological openness, and computer self-efficacy. The researcher employed a separate univariate ANOVA analysis with demographic variables as grouping variables (E.g., gender and ethnicity). The purpose of the ANOVA allowed the researcher to make group comparisons (Tabachnick & Fidell, 2013). An ANOVA was chosen because the independent variable had one categorical level (TMH) and there were three dependent variables (psychological openness, coping, and computer self-efficacy). An ANOVA was utilized to examine demographic differences in psychological openness, computer efficacy, and coping scores within the TMH sub-group. Given the emerging evidence supporting the unique accessibility offered by TMH for non-white populations (Chen et al., 2014), participants' demographic variables (i.e., gender, ethnicity) status may potentially influence their perception of psychological openness, computer self-efficacy, and coping behavior.

Looking at the results, the *p* value for gender and ethnicity indicates a non-significant difference ($p > 0.05$) for the three dependent variables. Although women-identifying respondents had slightly higher mean values for psychological openness and adaptive coping, these differences were not significant. Similarly, while there was a lack of statistically significant differences for ethnicity, non-Hispanic populations had slightly higher mean values across all three dependent variables.

The one-way, between groups ANOVA univariate analyses results are provided in Table 20-25. Table 15 shows results of follow-up ANOVA univariate analyses for the different ratings of gender. The ANOVA results found non-significant differences in: (a) psychological openness

(F (3, 104) = 8.36, p = .477), (b) computer self-efficacy (F (3, 104) = 2.50, p = .063), (c) adaptive coping (F (3, 104) = .225, p = .879) and (d) maladaptive coping (F (3, 104) = .632, p = .596) between gender groups from the TMH group. Table 23-25 shows results of follow-up ANOVA univariate analyses for the different ratings of ethnicity. The ANOVA results (Table 18-22) found non-significant differences in (a) psychological openness (F (1, 106) = .056, p = .813), (b) computer self-efficacy (F (1, 106) = .000, p = .987), (c) adaptive coping (F (1, 106) = .060, p = .808) and (d) maladaptive coping (F (1, 106) = .098, p = .755) between ethnicity groups from the tele-mental health group. The demographics for the TMH group gender and ethnicity are displayed in Table 16-17.

The findings resulted in no violations of any assumptions except for normality. The homogeneity of variance-covariance assumption was supported by the Levene test, and the Box's M indicated non-significant values. Findings from the ANOVA indicated two insights. First, that there is no statistically significant differences between males, females, transgender, and gender non-binary identified individuals in the combined dependent variables. Second, that there is no statistically significant differences between Hispanic identified and non-Hispanic identified individuals in the combined dependent variables. However, mean scores indicated women-identifying individuals reported higher scores (a) on the Brief COPE (M= 30.83, SD= 11.90) than the no counseling group (M= 28.28, SD= 10.88); (b) on the Computer Self-Efficacy Scale (M= 15.63, SD= 3.35) than the no counseling group (M= 14.71, SD= 3.73); and the lower scores on (c) on the IASMHS (M=14.55, SD= 3.75) than the no counseling (M= 13.88, SD= 3.71). Therefore, limited practically meaningful differences exist at the gender and ethnicity level of the tele-mental health subsample.

Table 15. Means, Standard Deviations, and One-Way Analyses of Variance (ANOVA)

Measure	Ethnicity		Gender		*F*	p	η^2
	M	*SD*	*M*	*SD*			
Psychological Openness	2.91	0.66	3.35	0.65	.056	.813	.001
Computer Self-Efficacy	8.10	1.33	8.13	1.33	.000	.987	.000
Brief COPE							
Adaptive Coping	43.17	7.37	41.12	7.37	.060	.808	.001
Maladaptive Coping	26.40	5.07	23.42	5.07	.098	.755	.001

Table 16.Demographics Table for TMH Gender

Please indicate your gender?	Mean	Std. Deviation	N
Male	25.4000	4.19524	10
Female	26.6170	5.18498	94
Transgender/ Gender Fluid	23.0000	4.58258	3
Other	26.0000	.	1
Total	26.3981	5.06950	108

Table 17.Demographics Table for TMH Ethnicity

Ethnicity	Mean	Std. Deviation	N
Hispanic or Latino	30.1319	.69593	18
Non-Hispanic or Latino	30.0917	.65176	90
Total	30.0984	.65613	108

Summary

The study sought to explore significant group differences in young adults' perceived psychological openness, computer self-efficacy, and coping behavior as a function of their help-seeking behavior (TMH, F2F, and no counseling; Research Question 1), the researcher employed a one-way MANOVA. The three dependent variables were perceived psychological openness, computer self-efficacy, and coping behavior. The independent variable was help-seeking behavior (TMH, F2F, and no counseling). Results demonstrated statistically significant omnibus differences in the coping variables (perceived coping) based on participants' help-seeking group (Wilks λ= .914, F(3, 486) = 2.59, p= .005, partial $\eta 2$= .044). In addition, the ANOVA results revealed that there were no significant differences across psychological openness, coping and computer self-efficacy amongst participants in the TMH group.

CHAPTER FIVE: DISCUSSION

This chapter begins with a summary of the study including the purpose and research methodology. Next, a comprehensive discussion is presented based on the results of earlier literature. Finally, this chapter concludes with a discussion of the (a) limitations, (b) implications for both counselor preparation and mental health counseling communities, and (c) recommendations for future research.

The objective of this study was to examine group differences in psychological openness, coping, and computer self-efficacy based on help-seeking behavior of TMH, F2F, and no counseling, using MANOVA statistics. Variables were chosen and further understood due to the Theory of Planned Behavior, a psychological process theory depicting relationships among attitudes and behavior constructs and desired behavioral outcomes, namely help-seeking behavior. The present study's findings provide mixed support of group differences between TMH, F2F, and no counseling, thereby adding greater knowledge related to young adults during COVID-19. Below are explanations of the current study's findings and comparison with prior literature to contextualize findings.

Research Question One

The first research question within the present study was: to what extent do group differences exist in coping behaviors (as measured by the Brief COPE; Carver, 1997), psychological openness (as measured by Inventory of Attitude Toward Seeking Mental Health Services [IASMHS; Mackenzie et al., 2004]), and computer self-efficacy (as measured by Computer Self-Efficacy scale [CSE; Levar et al., 2012]) among young adults engaged in one of three help-seeking behaviors (i.e., tele-mental health counseling [TMH], face-to-face counseling

[F2F], or no counseling) during COVID-19? A MANOVA indicated statistically significant differences between help-seeking modality groups and the dependent variables measuring coping Wilks λ = .914, F (3, 486) = 2.59, p = .005, partial η2= .044. Further, one-way ANOVA analysis revealed TMH participants reported significantly lower maladaptive coping in comparison to no counseling participants.

It is important to note, coping was broken down into the adaptive and maladaptive sub-constructs for this study. Young adults in both TMH and F2F provided unique findings that emerged for the subscale of maladaptive coping. Maladaptive coping, displayed statistically significant differences across help-seeking behaviors, with lower levels within the tele-mental counseling group. This finding was consistent with the literature suggesting maladaptive coping having an association with help-negation (i.e., no-counseling group) among young adult populations (Han et al., 2018; Hom et al., 2015). A potential rationale for the statistically significant group differences between help-seeking behaviors and maladaptive coping is the likelihood that telehealth services may positively impact the individual's coping behavior. In this case, a nationwide expansion of telehealth services could encourage an improved behavior in response to mental health distress (Ahuvia et al., 2022; Schuh, 2021). Research has theorized that young adult online help-seeking, such as TMH, may provide greater flexibility and less stigmatized messages regarding mental health (Lipson et al., 2019; Nobleza et al., 2019). It is also possible that the higher rating of maladaptive coping within no counseling group pertains to the time of data collection during mid-terms as well as unprecedented rates of unemployment in the U.S during the Spring of 2022. In addition, the subscales are subjective, although Carver (1997) grouped self-distraction and venting as maladaptive coping - those activities may be positive social and behavioral activities depending on the respondent sampled.

The tele-mental health help-seeking group rated the highest amongst both adaptive and maladaptive coping - such paradox may be reflective of larger nuances - related to unbalanced sampling design, and the emerging adjustments related to tele-counseling for both patients and provider populations. For this reason, it is necessary to further examine tele-mental health metrics to enable researchers and current mental health practitioners to identify crucial considerations for implementing technology-enabled mental health services. Furthermore, Umucu and Lee (2020) advocate future research quantifying COVID-19-related coping strategies to support clinicians and researchers in understanding the effects of COVID-19.

Regarding the high mean ratings of adaptive coping within the tele-mental health group, one possible explanation of the greater coping capacity exercised by the TMH participant group may be that the demands of COVID-19 ushered in a shift to digital mediums. The current finding may also be due to the advent of COVID-19 funneling an unprecedented migration of healthcare funding, access, and awareness to technology-mediated counseling; a precedent young adults may have never experienced before (Ahuvia et al., 2022; Cohen et al., 2020; Schuh, 2021). The historical context of COVID generated greater upticks in video-conferencing platforms (Hacker et al., 2021) and massively transitions from face-to-face counseling to tele-mental health counseling (Ducharme, 2021).This finding was consistent with findings from prior research that revealed that young adults' increased coping skills, such as journaling and gaining knowledge on mental health concerns, were correlated with online help-seeking (Pretorius et al., 2019: Steinhardt & Dolbier, 2008). Specifically, within the Steinhardt and Dolbier (2008) study, young adult help-seekers rated higher scores related to levels of resilience and coping. Four years later, Mar and colleagues (2014) found that young adult online help-seekers had improved coping due to a positive behavior loop, for instance, a session with an online therapist may lead to an

interactive online digital journaling homework assignment. Comparatively, TMH provided great conduits for active coping after counseling sessions such as online support groups, digital journals, and mental health comics/zines (Pretorius et al., 2019).

Furthermore, based on the MANOVA analysis of the current research, participants within the group of TMH were more likely to affirm greater levels of adaptive coping compared to F2F and no counseling participants. Such estimates imply that a utilization of teletherapy may result in increased adaptive coping behaviors for active young adult clients. This is an important finding given self-management coping prevalence in young adults (Lee et al., 2009; Narendorf et al., 2018) has often been linked to poor engagement in either TMH or F2F therapy and poor mental health outcomes among young adults (Pretorius et al., 2019). It may be that engaging in teletherapeutic services provided a sense of problem solving and personal control as well as opportunities for positive experiences after initiating help seeking. These findings also suggest that TMH may have presented young adults with better coping skills. Such positive outputs could have been the impetus needed to undo help-negating trends.

Specifically, the MANOVA analyses revealed that a relationship did exist between coping and counseling modality, however, the effect size was minimal. The results indicated a small effect (partial $\eta^2 = 0.034$) regarding the association between maladaptive coping and TMH when compared to those who did not receive counseling. Low effect sizes are common within the current base of help-seeking research (Kauer et al., 2014; Pretorius et al., 2019). When considered in the context of sampling and analysis, the effect size provided support for the association between greater coping and TMH, and yet also mandated future analyses with preferably larger and more generalized sampling (Kauer et al., 2014). While the initial empirical

evidence suggests a statistically significant association, factors such as effect size suggest this relationship is complex and may rely on the additional factors.

Although no statistically significant changes were found amongst help-seeking groups regarding psychological openness and computer self-efficacy, the lack of significance offers helpful insights for future help-seeking researchers. First, the two constructs are rarely examined within help-seeking literature. Instead, much of the literature is dominated by constructs such as self-stigma, counseling attitudes, and preferences/intentions related to online and/or F2F. The rationale for examining psychological openness was due to the cognitive dissonance gap between young adults' elevated mental health impairments and poor engagement in counseling, hinting at potential lapses in acknowledging mental health concerns (Cheng et al., 2018; Narendorf et al., 2018). Third, computer self-efficacy was chosen as a unique self-efficacy variable to offer a technology-mediated outcome within the study. Although young adults are assumed to have high computer self-efficacy due to frequent social media use, emerging literature has critiqued assumptions that infer technical competences onto young adults that may not be fully actualized (Czaja et al., 2006; Rochlen et al., 2004).

Furthermore, in the present study, the MANOVA revealed that for two items, psychological openness and computer self-efficacy, the TMH group did not significantly differ from the F2F or no counseling groups. The non-significant finding in both constructs could be attributed to the lack of depth within instrumentation. Simply, both measures of psychological openness and computer self-efficacy lacked subscales within the assessments used to recognize each. For instance, the CSE did not have multiple subscales for computer self-efficacy. Similarly, computer self-efficacy is a broad construct with many factors contributing to its

output. Other factors such as years of experience of the TMH therapist and digital-versus-paper preferences could also influence computer self-efficacy.

The current results for research question one elucidate the outcomes of TMH, F2F, and no-counseling in terms of young adult coping, psychological openness, and computer self-efficacy. Most current help-seeking literature includes help-seeking behavior as only a secondary, nominal outcome variable (e.g., Kauer et al., 2014). An implied assumption in prior studies was that help-seeking was secondary to symptoms experienced, which may be indicative of more deficit-based epistemology; however, a growing argument in counseling research is that all behavior and persons are valuable in informing scientific knowledge of mental health engagement and retention (American Counseling Association, 2014; Campos-Castillo & Anthony, 2021; Gutierrez et al., 2020). Although, the current base of literature has equipped contemporary researchers with rich insights such as poor service utilization, counseling utility disparities, and feelings of stigma among college-aged young adults, the present study contributes greater understanding of coping capacity as associated with TMH among current users. During the advent of COVID-19, the association between positive coping and TMH was consistent with emerging data regarding the sharp increases in tele-counseling (both primary care and mental health related) in the media (e.g., *Time Magazine,* Ducharme, 2021) as well as prior data linking TMH to greater flexibility and less severe symptom impairments among young adults (Bird et al., 2020; Schuh, 2020). At the time of the study's completion, this was the first study to date using a MANOVA analysis to examine psychological openness, coping, and computer self-efficacy outcomes within young adult groupings of TMH, F2F, and no counseling.

Research Question Two

`The second research question within the present study was: to what extent do demographic variables associated with the counseling modality TMH (i.e., gender, ethnicity), differ in scores of coping, psychological openness, and computer self-efficacy? The ANOVA analysis results revealed that participants within the group of TMH across gender and ethnicity, yielded no statistically significant mean differences $p > .05$ in psychological openness, coping, and computer self-efficacy scores. These findings were inconsistent with previous literature (e.g., Cheng et al., 2018; Eisenberg et al., 2009) which found statistically significant differences regarding statistically higher levels of psychological openness among male and Asian sub-samples. However, both Cheng and colleagues (2018) and Eisenberg and colleagues (2009) garnered larger samples of university populations. Arguably, such incongruence suggests larger sampling using more university-related contact points could have augmented the lack of significant findings. Furthermore, the data also demonstrated clear mean differences existed across gender and ethnic lines. Mean scores indicated women reported higher scores (a) on the Brief COPE ($M = 30.83$, $SD = 11.90$) than the no counseling group ($M = 28.28$, $SD = 10.88$) and (b) on the CSE ($M = 15.63$, $SD = 3.35$) than the no counseling group ($M = 14.71$, $SD = 3.73$); and lower scores on the IASMHS ($M = 14.55$, $SD = 3.75$) than the no counseling group ($M = 13.88$, $SD = 3.71$). Participants' estimates imply that utilization of teletherapy may contribute to an increased quality of care and offered few disparities in outcomes across ethnicity and gender dimensions. Although the TMH participants demonstrated greater coping compared to F2F and no counseling, further analysis failed to suggest outcome differences involving gender or ethnicity. In closing, the present study suggests that coping behavior, but not psychological openness or computer self-efficacy, is associated with statistically significant differences between TMH, F2F, and no counseling groups.

Limitations

Limitations represent areas for growth in research design, sampling, and instruments. While no study is without weaknesses, articulating the research limitations provides current and future researchers helpful precautions, insights, and optimization points for future research. For this reason, the next sections will examine the present study's limitations comprehensively through the lens of research design, sampling, and instrumentation.

Research Design

Although the results from the present study indicate group differences between coping and help-seeking behavior, the present study cannot assume causality. For causality, non-experimental, early temporal cross-sectional data cannot be examined. To further examine the relationship longitudinally, experimental methods should be employed. Specific associations indicate a statistically significant group difference between help-seeking behavior and coping, but without additional data this study cannot indicate what other variables contribute to these differences. For instance, current demographics cannot distinguish between minimal, moderate, or severe symptom severity. Furthermore, the research design was correlational and examined dependent variables of psychological openness, coping, and computer self-efficacy against the independent variable of help-seeking behaviors, such as TMH, F2F, or no counseling. While the dependent variables were captured using empirically validated scales, the independent variable was nominal and suggested that the participant chose a help-seeking dominant behavior. It is possible a participant engaged in both F2F and TMH but engaged in more tele-counseling sessions and therefore scored as a participant for the tele-counseling group. Such realities, pose a confounding factor.

Sampling

Despite increased research interest in TMH, sampling and research designs pose certain constraints in examining teletherapy behavior (Kauer et al., 2014; Pretorius et al., 2019). Specifically, much of the current body of research on TMH and treatment lacks random sampling, such as random control trial sampling (Kauer et al., 2014). Sampling composition within the present study was unbalanced and fell short of acquiring at least 50 individuals within the F2F group, however, the study was able to meet assumptions for MANOVA. In addition, the study only examined individual clinical data of a convenience sample, thereby limiting generalizability to those with internet access and exposure to the study's flyer. The sampling also posed difficulties in computing a response rate, which could affect the generalizability and accuracy of findings. Future research can provide F2F and online active and passive recruitment strategies so that the number of participants approached can be tracked.

Results may have been different if participants were more representative of diverse gender and racial/ethnic groups with varying educational backgrounds. Although the sampling exceeded the priori power needs (N = 249), purposeful sampling could be used to gather more representative groups. The sample for this study was largely comprised of young adults who identified as White or Black women in various help-seeking behaviors across the United States. As participants were limited in terms of gender and race, generalizability is limited. In addition, pre-existing contacts adjacent to young adults in F2F mentioned greater hesitancy in sharing the flyer within waiting rooms or newsletters compared to TMH contacts. Finally, because of the sampling method, selection bias could affect findings as participants self-selected to participate in the web-based survey.

Instrumentation

Although informed by robust empirical rationale, this study used a self-report assessment to assess the group differences between help-seeking groups' perceptions of psychological openness, coping, and computer self-efficacy. Self-report surveys have the potential to have social desirability and recall bias regarding the constructs measured, thereby posing limitations towards research. When investigating factors such as help-seeking, conceptual clarity of quantitative measures should be held in high regard. Even though the current study utilized existing validated measures of psychological openness, coping and computer self-efficacy, criticism may be aimed at certain questions for their overlap with other factors in this study. Although this investigation explores various mediums of help-seeking, criticism may be aimed at the limited psychiatric data (e.g., GAD, PHQ, BAI, etc.) and informal sources of help-seeking (e.g., mental health applications, social media, social support, etc.). Lastly, from a decolonization standpoint, one challenge in the present study's overall instrumentation was validated measures that were all informed by Western epidemiological definitions of psychological openness, coping, and computer self-efficacy. The constructs may be perceived differently outside of United States and Western contexts. This is a particularly pertinent limitation, given over 40% of the total sample was of Non-White populations.

Strengths of the Study

Strengths of the current study include examining help-seeking in the context of validated measures to assess psychological openness, coping, and computer self-efficacy and large sample size. Secondly, the investigation examined actual help-seeking behavior, rather than solely attitudinal barriers and facilitators to access mental health services. Such a decision directly fills a gap demanded by researchers to further clarify and deepen the current counseling utilization

knowledge (Ahuvia et al., 2022; Lipson et al., 2019; Schuh, 2021). Next, by defining TMH more specifically as videoconferencing, this study offered a clear, specific behavior for future research to build upon rather than an ambiguous notion of TMH, which could mean mobile applications, audio counseling, or hybrid services (Divin et al., 2018; Kauer et al., 2014). Finally, by examining videoconferencing TMH, the present study indicated how the population of individuals in tele-counseling during the pandemic may differ from individuals in F2F and no counseling. Future researchers can follow the same approach of specifying the TMH construct instead of examining technology-mediated counseling under a broad definition (Divin et al., 2018; Kauer et al., 2014; Topooco et al., 2022).

An additional strength of the study was the inclusion of social media recruitment into the research design. Whereas much of the literature has relied on listserv and email recruitment through a large university (Ahuvia et al., 2022), this study captured young adults in both academic and non-academic settings. Developing greater information about young adult mental health outside of academic environments creates benefits by democratizing research outside of purely academic and university populations. To better reflect minority young adult experiences, researchers can mirror the current study sampling efforts with social media and listservs to obtain culturally diverse samples. This sample offered a diverse racial and geographical composition which was lacking within current literature and provided the opportunity to give voice to underserved young adult participants.

Current limitations of the body of research on tele-counseling are that it either assumes or creates an experimental environment in which the availability of F2F and tele-counseling does not typically exist in the United States (Lipson et al., 2019; Zorrilla et al., 2019). There is an assumption that both TMH and F2F choices are equally available, while also framing no

counseling as a deficit as opposed to a neutral choice. The decision to include a no-counseling group as an independent variable grounded in the TPB, defies such limitation and offers a novel strength in this study's overall design. In addition, the present study was able to take the recommendations offered by prior studies to include: help-seeking as a primary variable within the demographics section to contextualize the help-seeking experience (Kalkbrenner et al., 2021), a pilot survey before data capture (Pretorius et al., 2019), and recruitment of samples outside of purposeful university sampling (Ahuvia et al., 2022; Pretorius et al., 2019).

In closing, previous investigators identified increased mental health distress (Cohen et al., 2020; Lipson et al., 2019; Zhai & Du, 2020), pandemic-related psychological consequences (Son et al., 2020; Tasso et al., 2021, Wang et al., 2020), and a critical interest in teletherapy as a medium (Hadler et al., 2021; Schuh, 2021) among young adult populations. However, the clinical population of young adults' mental health during COVID-19 is still emergent, particularly as counselors and public health researchers also examine high risk populations such as the elderly and those with pre-existing conditions (Tasso et al., 2021). This study analyzes the utilization of F2F and TMH with young adults during COVID-19 and the comparative outcome differences along constructs of psychological openness, coping, and computer self-efficacy. Considering the dearth of literature on actual mental health help-seeking behavior (Lipson et al., 2019; Zorrilla et al., 2019), the current survey research offers novel implications for motivating more specific conversations on treatment access and engagement and promoting the mental health supports for young adults of both university and non-university populations. In sum, the findings illustrate an urgent need to improve treatment access and mental health support for emerging adult populations.

Recommendations For Future Research

Future research investigating the relationship between young adult help-seeking behavior and psychological openness, coping, and computer self-efficacy should consider the potential for diverse quantitative and qualitative investigations. First, future researchers can extend and replicate this study with larger, more diverse samples from a research design perspective, specifically across racial and sexual minorities. Secondly, within a quantitative survey design, researchers can build upon the limitation of unbalanced design as help-seeking behavior groups were not equally distributed within the overall study. F2F counselors garnered the lowest participation. Future investigation should recruit more intentionally to garner a balanced distribution of help-seeking styles.

In terms of quantitative reimagining, future studies can build upon this study's instrumentation by carefully replicating the study and expanding the sampling scope. This study was limited by an unbalanced design, since the quantity of F2F individuals compared to TMH individuals was uneven. As such, quantitative researchers interested in garnering more even groups of TMH and F2F groups can use purposeful sampling during data collection. Then, researchers can lean on works like Lederer and colleagues (2021) and include variables such as counseling setting, social belonging, financial impairments, and food or housing insecurity. Scientists can also infuse scales or innovative methodologies to determine if the counseling provided aligns with evidence-based guidelines, such as ACA and CACREP standards of practice. Next, future counselor education researchers can implement follow-up survey studies. These surveys can aim to repeat the current study and triangulate data from client, therapist, and supervisor populations to acquire findings more readily translatable for training and pedagogical purposes and improve reliability of scales across levels of care. Such statistics can inform the strategies for counselor development and teletherapy optimization. Further research is needed to

better sample and determine the direct and indirect effects TMH may have on both gender and racially minoritized young adults.

Next, to acquire a more nuanced explanation regarding the outcomes of counseling users and non-users, counseling researchers can use the findings from the current study to focus on the association between coping and help-seeking behavior. Given previous literature regarding the dominance of self-management coping (Narendorf et al., 2018) and the association between maladaptive coping and non-counseling use (Moore, 2018), researchers can examine the phenomenon of coping qualitatively. For instance, qualitative researchers can use qualitative journey mapping to encourage participants to draw their journey from symptom distress to the chair (counseling) and compare trends and stark differences between the participant produced art and the current base of help seeking knowledge. In addition to journey mapping, to develop a more comprehensive understanding of help-seeking it is recommended that future research focus on conducting qualitative methods of both focus groups and semi-structured one-on-one interviews to mine more in-depth narratives beyond the facilitators and barriers for counseling, and to elicit young adult users' counseling experience, as well as engagement with non-formal mental health supports (i.e., journaling). In-depth interviewing can provide insights for policy and university programming to shorten the gap between mental distress and treatment. Furthermore, narrative researchers should focus on inclusive elements and examine informal mental health supports (e.g., digital interventions, peer mentoring, social support, etc.) and formal mental health supports (e.g., TMH and F2F) as additional constructs to contribute to the scientific understanding of guided and unguided digital mental health interventions (DMHI; Topooco et al., 2022).

Moreover, greater international collaborations are needed to improve psychotherapy access and messaging. With most help-seeking research based in Australia, United States, and Canada (Kauer et al., 2014), stark gaps exist in understanding access and engagement in non-Western locales, such as African and Latin American countries. A logical next step would be for researchers to partner with international universities and non-profits to carry out ethical and applied counseling research to inform help-seeking knowledge across geographic contexts. Such data collections become urgent as research demonstrates disparities in counseling utilization among men, sexual minorities, and non-White populations (Gomez et al., 2020). It is important to note, future research would benefit from eliciting strategic follow-up interviews that vary participants by university enrolled and non-university enrolled, which may yield further information on the specific group differences for young adults in the contexts of COVID-19 recovery. Lastly, interviews may counteract self-report bias and reveal diverse themes and phenomenon across counseling users and non-users.

These results illustrate an urgent need to invest critically in the help-seeking behavior and coping of young adults. Future research should continue to use quantitative approaches such as path analysis or moderation to further examine the causal relationships of TPB on both users and non-users with help-seeking modalities. Core findings revealed coping and help-seeking behavior have statistically significant group differences across modalities, thereby pointing to the importance of analyzing perceived behavior control on the help-seeking experiences of young adults. Future research should center on young adults' unique experiences regarding coping and consider how formal help-seeking such as counseling may influence this relationship. Sustainable investments require appropriate advocacy and stakeholder buy-in. Counselor educators and mental health counselors are primary audiences with knowledge, skills, and

contact with young adults who can positively apply the present research findings into actioned practice.

Implications

Overall, the present study adds to the extant literature by investigating the unique group differences across help-seeking modalities (i.e., TMH, F2F, and no counseling) and relevant counseling factors (e.g., psychological openness, CSE, and coping) in relation to COVID-19 context. The study also uses the Theory of Planned Behavior (TPB) to further understand the group differences across an array of help-seeking behavior. By examining perceived behavioral control (i.e., coping), social norms (i.e., CSE), and attitudes (i.e., psychological openness) as logical concepts to better evaluate help-seeking behaviors and non-help-seeking behaviors.

Counselor Education Implications

The results of the present study indicated that TMH participants possessed greater levels of coping than similarly aged cohorts in F2F or no counseling. Unfortunately, treatment gaps still exist among young adults resulting in many still under treated for mental health impairments (Kessler et al., 2005; Schuh, 2020). It is imperative that counselor educators understand the specific outcomes across help-seeking modality and behaviors of current young adult counseling users to better influence non-counseling users.

It is essential to recognize that technology-mediated counseling services are still emerging within standards of practice and training for counseling training. For instance, there are only two standards with CACREP (2015) related to mental health counseling training and practice (i.e., 2.F.1.j and 2.F.5.e; CACREP, 2015). Yet, the counseling literature provides little theory to support practice solutions for instructors (Barrio Minton, 2018; Woo et al., 2020), and programmatically, tele-counseling competencies are not universally required across counseling

professions (Juarez Palma, 2021; Sheperis & Smith, 2021). Moreover, although counselor educators and clinicians can reference the National Board for Certified Counselors (NBCC) telehealth guidelines, the ACA Code of Ethics (2014), and CACREP guidelines, tele-counseling training materials are still in the infancy stages (Woo et al., 2020). Training gaps in technology-mediated counseling services may result in master-level counselors in training feeling less effective and connected to their clients through online platforms. Thus, given the study-illustrated positive outcomes related to technology-mediated counseling services, such findings can be used to inform future accreditation development and research related to mental health supports. Results can influence accreditation efforts by encouraging counselor educators and lobbyist to develop tele-therapy standards of care and training, and to combine tele-counseling standards with ethical considerations and practicum curricula to better enhance counselor competence. Theoretically, acknowledging distance education gaps related to the telehealth interface can better equip instructors to amplify interactions between instructors and counselors-in-training.

Next, specific attention to TMH training and normalization would be meaningful. The results of the current survey underscore statistically significant group differences regarding coping, as TMH young adults reported higher levels of coping than no counseling young adults. As such, it behooves both counseling and counselor education accrediting bodies, such as CACREP, ACA, and NBCC, to provide opportunities for counselors-in-training and counselor lecturers to advance their TMH acumen and treatment skills. Considering statistics demonstrating the persistent undertreatment associated with young adults using mental health resources, CACREP, ACA, and NBCC should be able to work together to advocate for and develop the technical skills of TMH to actively improve access to care from the structural level.

Provider hesitancy regarding teletherapy has been theorized as being linked to a lack of teletherapy training and resources for counselors (Woo et al., 2020). Counselors left with limited ethical and applied practice support may sometimes grow overwhelmed in potentially using TMH, often citing fears of incompetence, inadequate confidentiality, and inability to respond to crisis and severe symptoms (Bathje et al., 2014; NBCC, 2012). While much is known attitudinally regarding clinician perceptions of TMH, more research, professional advocacy, and support are needed to quantify and enhance clinician behaviors in telehealth care delivery. For that reason, this study argues it may be beneficial to expand teletherapy training and professional advocacy opportunities to advance the profession for the benefit of the young adult community at large.

Additional resources for counselors to improve TMH professional advocacy are to trace current local and federal TMH policy updates and implement the 'Proposed Standards of Practice for Telehealth' suggested by Sheperis and Smith (2020). The 'Proposed Standards of Practice for Telehealth' is a best practices curation tool designed for practice counselors, university counseling professionals, and counseling and trainings to have an empirical base graphic organizer with best practice tele-counseling strategies across counseling, social work, and psychology. Sheperis and Smith (2020) recommend counseling instructors to facilitate greater development of the standards given that they are only to be used as a starting point to better counselor competency and mental health service delivery. Through these guidelines, counselors can develop more specific training goals to foster programming that provides ethical and competency-based teaching, supervision, and support for counselors-in-training. The adoption of these TMH-specific guidelines in a campus or community setting can establish greater evidence regarding the efficacy of the guidelines and encourage better referrals between

counselor educators and community members for counseling services. These guidelines can be used in studies to compare CACREP and non-CACREP mental health services and can provide ways to support the increasing number of young adults that engage in professional help-seeking over digital platforms. Counselor educators can promote positive help-seeking through normalizing and destigmatizing mental health language and providing resources when appropriate (Lipson et al., 2018).

Secondly, the results of this study might encourage counselor educators to play an active role as counseling referral advocates. Faculty, such as counselor educators, can sometimes be an underutilized resource in enhancing student mental health outcomes (Lederer et al., 2019). Instructors can recognize distress without blurring the lines between the roles as faculty and counseling provider. Given counseling instructors' proximity to young adults and their roles as thought-leaders in mental health, this study argues that instructors can act as referral agents to counseling, including TMH. Recent research on instructional rapport building highlights how counselor educators can normalize counseling with their students in creative and experiential ways (Rolins et al., 2022). Rolins and colleagues (2022) suggested counselors could insert mental health resources into syllabi or bring guest speakers that may normalize counseling to non-users. Similarly, Lipson and colleagues (2018) highlight that faculty members can act as institutional stakeholders to promote mental health resources, particularly for underserved racial/ethnic minorities, international students, and LGBTQ young adult populations. Such allyship may position counselor educators to increase well-being and coping amongst young adult populations.

Counselor education programs can help counselors-in-training in addressing coping and TMH of clients by encouraging service-learning opportunities destigmatizing TMH. Currently

the two routes of expanding public awareness of TMH fall into contact and education interventions. Contact theory is closely aligned with Bandura's social cognitive theory which states that learning opportunities to obtain new attitudes and behaviors can occur by observing competent models (Bandura, 1988). To advance the normalization of TMH, instructors can seek young adults as guest lecturers (i.e., college-aged speakers, similar-aged college athletes, and young adult social influencers) who can discuss journeys of cognition, affects, and behaviors prior and during their personal help-seeking behavior experiences. In line with past research, young adults have a greater likelihood of exercising self-management coping and incorrectly deeming depressive and anxiety symptoms as stress, which can act as major impeding factors that negatively influence their ability to pursue professional help (Cheng et al., 2018; Eisenberg et al., 2011; Narendorf et al., 2018). For that reason, increased contact with persons engaging in counseling may help young adults within college towns and counseling students alike to recognize factors that help or hinder help-seeking behavior.

Lastly, counselor education faculty can promote curricular and co-curricular learning opportunities for masters-level counselors in training and interested community partners to develop effective outreach and treatment scalability knowledge and skills. With the increase in telehealth, counselor education programs can develop tele-counseling certificates with evidence-based literature, such as the current study, to understand behaviors on clinical populations that lead to counseling use. Future counselor education researchers can assess the impact of help-seeking curriculum and teletherapy certificates on counselors' training knowledge and skills. Researchers can also determine what are the current successful university and counselor education clinic partnerships doing in programming and outcomes for addressing young adults' underutilization of counseling. Such supplemental training and instructional design hold

implications for practicing supervisors. As the study's mean difference results suggest, young adults in both TMH and F2F groups rated greater levels of coping and computer self-efficacy. Supervisors working with counselor education-led clinics can use such findings to develop better assessment methods to measure coping behavior and computer self-efficacy. Counselor education community-based clients can modify their psychosocial assessments, counseling outcome reports, and client case conceptualizations to reflect outcomes related to psychological openness, coping, and computer self-efficacy. If appropriate, further training may better equip counselors to provide psychoeducational information to clients who rate low psychological openness, coping, and computer self-efficacy.

University Implications

Higher education institutions should be aware the present research's finding – that during the COVID-19 pandemic, a sample of young adults in TMH reported statistically significant lower levels of maladaptive coping. University leadership and student affairs professionals can use such findings to expand mental health outreach programs for millennial and generation Z populations. To better equip university faculty and counselor educators in empowering young adults to engage in TMH or F2F, it may be helpful to understand the two guiding outreach models for awareness building, education, and contact strategies. In a recent article in the Journal of American College Health, Hilliard and colleagues (2020) masterfully synthesized the diversity of outreach programs targeted to young college adults particularly the dimensions of education versus contact interventions. Education interventions provide statistics and knowledge to inform audiences about mental health severity, prevalence, and outcomes. Whereas contact interventions provide stories and interpersonal interactions with those who sought therapy or have a mental health diagnosis. Contact interventions have been lauded for improving race relations during the civil rights movement where some White individuals had little connective and interpersonal

contact with Black individuals. Through integration and federal policy, contact intervention was enacted to reduce stigma (Corrigan et al., 2007). Universities have long been advocates of such interventions often combining contact and education interventions. Once applied, universities are swift to translate the interventions into engaging programming such as university lecture series, mental health awareness pep rallies/workshops, and fundraisers. Contact and education interventions are advantageous because counselor educators can creatively implement and that also lend themselves to multi-disciplinary support. A multi-disciplinary team involves professors and community leaders of various professional experiences that work on a common objective. Mental health counselors, school counselors, and counselor educators represent advance-degreed professionals with a unique position to provide evidence-based mental health literacy and serve on mental health panels to debrief and stabilize interpersonal processes related to contact interventions.

This study supported increasing access to TMH counseling services and pairing more comprehensive designs comparing users and non-users of counseling to better inform service-use capacity, advocacy, and programming. Along with structuring intentional programming either in community-based counselor education clinics or service projects with contact theory-focused, story-sharing concepts, it is also essential for counselor educators to be mindful of the potential disclosure and process dynamics involved in the execution of destigmatizing mental health counseling through narrative. Much of the prior literature informing the conceptualization of this study offered applied interventions along the lines of campus activities programming, anti-stigma campaigns, and referral processes suggestions (Cheng et al., 2018; Topkaya, 2015). However, less cited are the potential approaches for counselor education university-community-based clinics and stepped care processes that can be conduits for expanding treatment access for young

adult populations within and outside academic settings. Stepped care provides the less resource-intensive counseling interventions that are evidence-based to be delivered at a wider scale – this is done by providing mental health and psychological openness training to non-counseling professions (Topooco et al., 2022). A widely applied example of this is the 'Mental Health First-Aid Trainings' a staple training in the U.S at universities and hospitals. Counseling centers can use stepped care interventions to facilitate scalable care for clients with minimal to moderate symptom severity, or as a mechanism to use when a counselor is absent. Stepped care interventions can further foster interdisciplinary collaborations across integrated care collaborators such as nurses, medical practitioners, or social workers.

Counseling Implications

Mental health service providers and counselors are called by counseling professional bodies to contribute to the public good by increasing awareness of professional counseling and evidence-based mental health resources (American Counseling Association, 2014). Counselors and counselor educators can meet ethical imperatives by reducing mental health use gaps and positioning help-seeking as an asset (Thomas et al., 2014). Given the association between levels of coping and TMH found in the present study, counselors can use such data to better advocate for TMH offerings at community-based counseling or private practice settings that may currently only be F2F in nature. Counselors can transform findings into scientific communication strategies such as infographics, presentations, and gallery walk, to improve buy-in surrounding technology-mediated counseling. Technology-mediated supports are frequently assumed to be video-conferencing TMH services (Pretorius et al., 2019), when many forms of digital mental health supports are available (i.e., mental health apps, audio counseling, digital journals, etc.). Researchers have encouraged mental health counseling professionals to embrace and integrate

technology-mediated supplements into counseling, such as digital journals (Woo et al., 2020) and mobile apps (Lipson et al., 2019).

Secondly, mental health counselors might look to better track the data related to their clients across various help-seeking behaviors (i.e., TMH, F2F). Counselors engaging in multi-modal counseling may not be assessing technical efficacy and competency among their TMH clients. The noteworthy association between higher rates of computer self-efficacy with the TMH group of young adults has practical implications for counseling as well. This result underscored the importance of assessing technical efficacy and suggests future research in determining which high yield activities improve client computer self-efficacy. TMH also provides a possible secondary benefit of greater computer self-efficacy, as seen by the higher computer self-efficacy mean scores among the TMH group. Woo and colleagues (2020) championed that empirical inquiry is needed in counseling about technology within psychotherapy, researchers argue much of what is currently known about teletherapy is highly centered on university researchers who stifle inclusive research. The researchers describe how clinical mental health counselors often perform 'on the ground' therapeutic work and for this reason, researchers should include more non-academic counselors within technology-based counseling knowledge creation.

Clinicians may positively influence young adult clients' coping by offering both TMH and hybrid care options such as Digital Mental health Interventions (DMHI) (Topooco et al., 2022). In addition, expanding modality options may also welcome features such as no-delay options. In closing, the primary findings regarding the higher rate of coping associated with TMH are consistent with findings from past studies (Horgan & Sweeney, 2010; Mar et al., 2014; Pretorius et al., 2019). For that reason, both counselor education faculty and clinical mental

health counselors are encouraged to review the procedural and applied strategies to normalize psychotherapy across TMH and F2F, and reinforce wisdom offered by users and non-counseling users to enhance young adult coping.

Conclusion

Chapter Five compared results from the current study with existing research in the counseling field. Overall, this investigation offers insight into the use of telehealth during COVID-19 among young adults and highlights the strengths and concerns across outcomes of psychological openness, coping, and computer self-efficacy. University leaders, counseling professionals, and counselor educators may find such results useful in better retaining young adults in care. Lastly, the potential for corrective behaviors is great when both practitioners and faculty work creatively and non-judgmentally alongside users and non-users of counseling. Implications for counselor educators and counseling professionals included specific strategies related to improving counseling scalability and reducing young adult treatment apprehension.

Taken these together, MANOVA results demonstrate statistically significant differences between coping and TMH help seeking behavior Wilks $\lambda = .914$, F (3, 486) = 2.59, $p = .005$, partial $\eta^2 = .044$. Further analysis revealed statistically significant differences between lower maladaptive coping within tele-mental health counseling and respondent without counseling experiences, ($M = 24.25$, $SD = 5.69$); F (2, 134) = 4.37, $p = .014$, partial $\eta^2 = .034$. Similarly, however, statistically significant differences were absent for psychological openness F (2, 1.19) = 2.65, $p = .07$, partial $\eta^2 = .021$, and computer self-efficacy, F (2, 3.41) = 2.03, $p = .13$, partial $\eta^2 = .016$. Further, secondary analyses revealed, ANOVA results showed no mean difference within the TMH group across gender and ethnicity. Ultimately there were no significant differences between the study variables by gender or by ethnicity.

APPENDIX A: IRB APPROVAL

UNIVERSITY OF CENTRAL FLORIDA

Institutional Review Board
FWA00000351
IRB00001138, IRB00012110
Office of Research
12201 Research Parkway
Orlando, FL 32826-3246

EXEMPTION DETERMINATION

March 29, 2022

Dear Lea Herbert:

On 3/29/2022, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study
Title:	Investigating group differences of mental health service use (tele-mental health, face-to-face counseling, and no counseling) on psychological openness, level of computer self-efficacy, and coping behavior in young adults during COVID-19
Investigator:	Lea Herbert
IRB ID:	STUDY00004030
Funding:	None
Grant ID:	None
Documents Reviewed:	• Faculty Advisor Form, Category: Faculty Research Approval; • Copy of Survey, Category: Survey / Questionnaire; • Recruitment Email, Category: Recruitment Materials; • Research Flyer , Category: Recruitment Materials; • Study 4030 HRP-254.V3.pdf, Category: Consent Form; • Study 4030 HRP-255-FORM V3.docx, Category: IRB Protocol;

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please submit a modification request to the IRB. Guidance on submitting Modifications and Administrative Check-in are detailed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Gillian Bernal
Designated Reviewer

APPENDIX B: STUDY FLYER

SNAP A PHOTO
QR CODE

CALLING YOUNG ADULTS!

SEEKING RESEARCH PARTICIPANTS

Your response to a 20 minute online survey may help increase quantitative knowledge about counseling outcomes related to psychological openness, coping, and computer self efficacy.

Online survey

In order to participate in this study, you must be between 18-29 years of age, participated in either TMH, F2F, or not have participated in counseling in the United States during the Covid-19 pandemic (March 2020- present) and speak and read English.

https://ucf.qualtrics.com/jfe/form/SV_bKKQ22TTPMUGHt4

Compensation
You will receive a $6 gift card to Starbucks for your participation.

Questions?
Contact Lea Herbert: lea.herbert@ucf.edu

Approved by the University of Central Florida IRB

APPENDIX C: INFORMED CONSENT

UNIVERSITY OF CENTRAL FLORIDA

EXPLANATION OF RESEARCH

Title of Project: Investigating group differences of mental health service use (tele-mental health, face-to-face counseling, and no counseling) on psychological openness, level of computer self-efficacy, and coping behavior in young adults during COVID-19

Principal Investigator: Léa Herbert, LMHC, NCC, Doctoral Candidate

Faculty Supervisors: Melissa Zeligman, Ph.D

You are being invited to take part in a research study. Whether you take part is up to you.

The purpose of this study is to examine group differences of psychological openness, coping behavior, and computer self-efficacy among young adult individuals who report having engaged in: teletherapy (TMH), face-to-face counseling (F2F), or no counseling, during the current pandemic. Data from this research will be used to better understand young adult mental health.

To participate, you will complete a demographic questionnaire and answer questions in an online survey format through Qualtrics in a location of your choosing. The electronic survey includes four instruments: (1) general demographics survey, (2) *Inventory of Attitude Toward Seeking Mental Health Services* (IASMHS) scale, (3) *Brief COPE* scale, and (4) Computer Self Efficacy scale (CSE). Participation is expected to last 35 minutes. For each completed survey (answering all required questions) you will receive a total of: a $6 Starbucks gift card, within 7 days after survey completion. At the end of survey you will be directed to separate Qualtrics page where you could submit your email address for the gift card. The doctoral researcher and the faculty mentor will keep the survey data, participants names and emails for 5 years, and then the will be erased or destroyed after five (5) years after data analysis.

No one except the research team will have access to any of your responses. All data collected will be kept confidential. Data will be stored securely on the PI's personal computer, using two levels of password protection, and will be stored on an encrypted file of the computer's hard drive. Files will be erased or destroyed after five (5) years.

In order to participate in this study, you must be between 18-29 years of age, participated in either TMH, F2F, or not have participated in counseling in the United States during the Covid-19 pandemic (March 2020- present) and speak and read English.

Although we do not anticipate that this survey will cause discomfort, should you experience any discomfort, please contact your health insurance company for a referral to a mental health care provider. You can also contact a mental health hotline such as the National Alliance on Mental Illness (NAMI) at 1-800-950-6264 or Mental Health Crisis hotline at 1-800-273-8255.

Study contact for questions about the study or to report a problem: If you have questions about this study, please contact the primary researcher, Léa Herbert at her an email: Lea.Herbert@ ucf.edu or my faculty advisor (Melissa Zeligman, melissa.zeligman@ucf.edu)

IRB contact about your rights in this study or to report a complaint: If you have questions about your rights as a research participant, or have concerns about the conduct of this study, please contact Institutional Review Board (IRB), University of Central Florida, Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901, or email irb@ucf.edu.

APPENDIX D: GENERAL DEMOGRAPHICS FORM

Demographic Questions

Instructions: Please provide your responses for each of the following questions. All responses are confidential.

First name: _____

Last Name:

Email Address:

What is your age and date of birth? _____ _____/_____/_____

2. Please indicate your gender:

☐ Male ☐ Female ☐ Transgender ☐ Other:

3. How do you describe your racial background (select all that apply)?

☐ American Indian or Alaska Native ☐ Asian ☐ Black or African American ☐ Bi-racial/Multiracial

☐ Caucasian ☐ Native Hawaiian or other Pacific Islander ☐ Other (please state):

4. What is your ethnicity?

☐ Hispanic or Latino ☐ Non-Hispanic or Latino

5. Highest education completed:

☐ No degree or diploma ☐ High school diploma/ GED ☐ Vocational/Technical Certification ☐ Associate degree

☐ Bachelors degree ☐ Masters Degree/Advance Degree ☐ Other:

6. Please indicate your estimated annual household income:

☐ < $30,000 ☐ $31,000 - $60,000

☐ $61,000 - $75,000 ☐ > $75,000

7. Please indicate if you live in a rural or urban area: ☐ Rural (low population areas)

☐ Urban (area in or surrounding a city)

8. Please indicate your employment status:

☐ Part-time ☐ Full-time ☐ Unemployed

9. Please indicate your geographic region:

☐ Northeast ☐ Midwest ☐ South ☐ West

10. Have you attended mental health counseling between March 2020 and February 2021?

☐ Yes ☐ No

11. If no, SKIP Questions 12a -12b; If yes, what was your mental health counseling modality?

☐ Video-Conferencing ☐ Face to Face Counseling

12a. Please indicate the length of your counseling:

☐ Less than 1week ☐ 1 - 3 weeks ☐ 1 month ☐ 3 - 6 months ☐ More than 6 months

12b. Please indicate how did you find your counselor:

☐ University ☐ Work ☐ Friend/Family Referral ☐ Social Media ☐ TV / Radio Advertisement

13. Has the COVID-19 spurred your interest in counseling:

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

APPENDIX E: PSYCHOLOGICAL OPENNESS ASSESSMENT (IASMHS)

The next few questions will be for the Inventory of Attitude toward Seeking Mental Health Services (IASMHS) Scale

Instructions: The term *professional* refers to individuals who have been trained to deal with mental health problems (e.g., psychologists, psychiatrists, social workers, and family physicians). The term *psychological problems* refers to reasons one might visit a professional. Similar terms include *mental health concerns, emotional problems, mental troubles, and personal difficulties.*

For each item, indicate whether you (0) *strongly disagree*, (1) *somewhat agree* , (2) *neither agree or disagree*, (3) *somewhat agree*, or (4) *strongly agree*

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
There are certain problems which should not be discussed outside of one's immediate family.	○	○	○	○	○
Keeping one's mind on a job is a good solution for avoiding personal worries and concerns	○	○	○	○	○
It is probably best not to know everything about oneself	○	○	○	○	○
People should work out their own problems; getting professional help should be a last resort.	○	○	○	○	○
Psychological problems, like many things, tend to work out by themselves.	○	○	○	○	○
There are experiences in my life I would not discuss with anyone	○	○	○	○	○
There is something admirable in the attitudes of people who are willing to cope with their conflicts and fears without resorting to professional help	○	○	○	○	○
People with strong characters can get over psychological problems by themselves and would have little need for professional help.	○	○	○	○	○

APPENDIX F: COMPUTER SELF-EFFICACY SCALE (CSE)

The next few questions will be from the Computer self-efficacy scale (CSES)

Instructions: Imagine that you have been given a new technology for some aspect of daily living (for example using a new telehealth counseling website or medium). It doesn't matter specifically what this technology does, only that it is intended to make your life easier and that you have never used it before. The following questions ask you to indicate whether you could use this unfamiliar technology under a variety of conditions. For each of the conditions, please rate your confidence about using the new technology on the scale of 1-10.

"I could use the new technology..."

	1 Not at all confident	2	3	4	5	6	7	8	9	10 Completely confident
If there was no one around to tell me what to do as I go	○	○	○	○	○	○	○	○	○	○
If I had never used a product like it before	○	○	○	○	○	○	○	○	○	○
If I had only the product manuals for reference	○	○	○	○	○	○	○	○	○	○
If I had seen someone else using it before trying it myself	○	○	○	○	○	○	○	○	○	○
If I could call someone for help if I got stuck	○	○	○	○	○	○	○	○	○	○
If someone else had helped me get started	○	○	○	○	○	○	○	○	○	○
If I had a lot of time to complete the job for which the product was provided	○	○	○	○	○	○	○	○	○	○
If I had just the built-in help facility for assistance	○	○	○	○	○	○	○	○	○	○
If someone showed me how to do it first	○	○	○	○	○	○	○	○	○	○
If I had used similar products before this one to do the same job	○	○	○	○	○	○	○	○	○	○

APPENDIX G: BRIEF COPE SCALE (COPE)

Instructions: The following questions ask how you have sought to cope with a hardship in your life. Read the statements and indicate how much you have been using each coping style.

For each item, indicate whether you: (1) *I haven't been doing this at all*, (2) *I've been doing this a little bit*, (3) *I've been doing this a medium amount*, or (4) *I've been doing this a lot*

	1 = I haven't been doing this at all	2 = I've been doing this a little bit	3 = I've been doing this a medium amount	4 = I've been doing this a lot
I've been turning to work or other activities to take my mind off things.	○	○	○	○
I've been concentrating my efforts on doing something about the situation I'm in.	○	○	○	○
I've been saying to myself "this isn't real.".	○	○	○	○
I've been using alcohol or other drugs to make myself feel better.	○	○	○	○
I've been getting emotional support from others.	○	○	○	○
I've been giving up trying to deal with it.	○	○	○	○
I've been taking action to try to make the situation better.	○	○	○	○
I've been refusing to believe that it has happened.	○	○	○	○
I've been saying things to let my unpleasant feelings escape.	○	○	○	○
I've been getting help and advice from other people.	○	○	○	○
I've been using alcohol or other drugs to help me get through it.	○	○	○	○
I've been trying to see it in a different light, to make it seem more positive.	○	○	○	○
I've been criticizing myself.	○	○	○	○
I've been trying to come up with a strategy about what to do.	○	○	○	○

Instructions: The following questions ask how you have sought to cope with a hardship in your life. Read the statements and indicate how much you have been using each coping style.

For each item, indicate whether you: (1) *I haven't been doing this at all*, (2) *I've been doing this a little bit*, (3) *I've been doing this a medium amount*, or (4) *I've been doing this a lot*

	1 = I haven't been doing this at all	2 = I've been doing this a little bit	3 = I've been doing this a medium amount	4 = I've been doing this a lot
I've been getting comfort and understanding from someone.	○	○	○	○
I've been giving up the attempt to cope.	○	○	○	○
I've been looking for something good in what is happening.	○	○	○	○
I've been making jokes about it.	○	○	○	○
I've been doing something to think about it less, such as going to movies, tv, shopping	○	○	○	○
I've been accepting the reality of the fact that it has happened.	○	○	○	○
I've been expressing my negative feelings.	○	○	○	○
I've been trying to find comfort in my religion or spiritual beliefs.	○	○	○	○
I've been trying to get advice or help from other people about what to do.	○	○	○	○
I've been learning to live with it.	○	○	○	○
I've been thinking hard about what steps to take.	○	○	○	○
I've been blaming myself for things that happened.	○	○	○	○
I've been praying or meditating.	○	○	○	○

APPENDIX H: PILOT SURVEY

UCF College of Graduate Studies

Ease of use: In terms of the usability of the survey how would you rate the following items (from strongly disagree to strongly agree)

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
All questions were understandable	○	○	○	○	○
The first and last pages were pleasant and informative	○	○	○	○	○
All instructions were clear	○	○	○	○	○
I was rarely confused during the survey	○	○	○	○	○

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