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VARIABLES ASSOCIATED WITH TELEMENTAL HEALTH SEEKING ATTITUDES IN A COMMUNITY SAMPLE IN LEBANON

by
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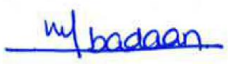

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ABSTRACT
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Telemental health is an emerging and interesting alternative to traditional mental health services that entails physical separation between patients and mental health professionals. The utility of telemental health has become increasingly apparent globally during the COVID-19 pandemic, and locally during the ongoing crisis in Lebanon. A review of the literature reveals that most studies pertaining to telemental health have focused on professionals' perspectives with patients relegated to the background. Even fewer studies were conducted in the Arab world and Lebanon in particular. Lastly, no study to date has evaluated the association between public stigma and telemental health attitudes in the Global South countries. Based on these perceived gaps in the scientific literature, this study aims to identify the potential variables that could be associated with attitudes towards telemental health use. To pursue our objectives, we recruited a community sample of 300 English and Arabic speaking adults in Lebanon. Participants were asked to complete several questionnaires. These questionnaires allowed us to evaluate the association between sociodemographic and participant-related factors, subjective recognition of mental health problem(s) and the need for help, objective mental distress, public stigma, openness to experience, confidence in mental health professionals and telemental health-seeking attitudes.

Our results revealed that age, mental distress levels and technological skills are positively associated with telemental health seeking attitudes in a community sample in Lebanon. We also found structural barriers to telemental health care to be negatively associated with telemental health seeking attitudes. The increased popularity and usefulness of telemental health, the results obtained from this study are likely to have research and clinical implications.

Keywords: telemental health, telemental health seeking attitude, patient telemental health attitude, structural barriers, technological skills, mental distress.

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CHAPTER I

INTRODUCTION

A. Mental Disorders and their Prevalence Rates

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), mental disorders are dysfunctional patterns of thoughts, emotions, and behaviors that are typically associated with significant impairments across varying areas of functioning (American Psychiatric Association, 2013). Mental disorders usually result from an intricate interplay between biological, psychological, developmental, and environmental factors (Borsboom, 2017).

Some of the most common mental health disorders in adulthood include mood and anxiety disorders, among others. From a biopsychosocial lens, mood and anxiety disorders may result from an interaction between genetic and environmental risk factors (Riskind et al., 2000). Mood disorders are typically characterized by distorted moods that are inconsistent with one's circumstances and interfere with daily functioning (Price & Drevets, 2010). Among the most prevalent mood disorders in adults are Major Depressive Disorder (MDD), Persistent Depressive Disorder (PDD), and Bipolar Disorders (BD; Price & Drevets, 2010). As for anxiety disorders, these disorders are typically characterized by features of excessive fear, anxiety and related behavioral disturbances (American Psychiatric Association, 2013). The most commonly diagnosed anxiety disorders in adults are specific phobia, Social Anxiety Disorder (social phobia), Panic Disorder (PD), Agoraphobia, and Generalized Anxiety Disorder (GAD; Bandelow et al., 2022).

According to the World Health Organization (WHO), about 4.4% of the adult global population was believed to suffer from depression in 2015 (World Health Organization, 2017). More recently, in 2020, the National Institute of Mental Health (NIMH) estimated the proportion of adults in the United States who have experienced at least one major depressive episode at 8.4% (Galea et al., 2020). As for BD, a cross-sectional study of eleven countries across North America, Europe and Asia, found the lifetime prevalence of the disorder among adults to be 2.4% in 2011 (Rowland & Marwaha, 2018). As for Lebanon, a nationally representative study conducted by Karam et al. (2006) estimated the twelve-month prevalence rate of mood disorders in adults at 6.6% (Karam et al., 2006). More specifically, the twelve-month prevalence rate of MDD among adults was estimated at 4.9%, those with BD were estimated at 1.5% and those with Dysthymia (currently referred to as PDD) at .8% (Karam et al., 2006).

After having presented the prevalence rates of mood disorders, we will now shift our focus to anxiety disorders. According to a 2015 report by the WHO, 3.6% of adults seem to suffer from an anxiety disorder (World Health Organization, 2017). More recently, according to a metanalysis spanning studies from the Pacific (Cambodia, China, Japan, New Zealand, Thailand etc.) Mediterranean (France, Italy, Spain, Greece, Turkey etc.) and North American regions (US, and Canada), up to 33.7% of adults seem to suffer from an anxiety disorder throughout their lifetime (Schafer et., al, 2022). In Lebanon, the twelve-month prevalence rate of anxiety disorders among adults was estimated at 11.2%. The most frequently diagnosed anxiety disorders in Lebanon were specific phobias (8.2%), followed by GAD (1.3%), Social Phobia (1.1%), Agoraphobia (0.3%) and PD (0.2%; Karam et al., 2006).

Other mental health disorders worth mentioning include psychosis, with a 12-month prevalence rate estimated at 4.03% (Moreno-Küstner et al., 2018). The lifetime prevalence rate of PTSD in North America was estimated to range between 6.1% and 9.2% (Sareen, 2018). The lifetime prevalence rate of eating disorders was estimated to range between 2.2% and 8.4% (Galmiche et al., 2019) and the lifetime prevalence rate of substance use disorder was estimated at 6.5% for alcohol and 8.9% for illicit drugs (Merikangas & McClair, 2012).

B. The Importance of Seeking Mental Help

Mental health problems have now become a global problem (World Health Organization, 2019). With the prevalence rates of mental illness on the rise in almost every country (World Health Organization, 2021), receiving care for these mental health issues is important for many reasons. Among those reasons are the reduction of symptoms, improving daily functioning, as well as enhancing interpersonal relationships (Vidourek et al., 2014). Timely mental health intervention is particularly important. Receiving mental health services early has been linked to better treatment outcomes (symptom reduction and increased functioning) and prognoses (Correll et al., 2018; Leahy et al., 2018). After having highlighted the importance of intervening early, we will now be switching our focus to Lebanon.

C. The Case of Lebanon

In Lebanon, the treatment gap (between individuals needing mental health services and those actually receiving them) was estimated at 90% (Shehadeh et al., 2020). Karam et

al. (2019) found that only 19.7% of Lebanese adults with mental health disorders received mental health services. 57.4% of the patients with lifetime PD sought help for their condition at some point in their lives, compared to 29.7% of patients with lifetime MDD (Karam et al., 2019). Lastly, only 19.2% of patients with agoraphobia, 17.5% of patients with GAD, 13.5% of patients with BD and 5.6% of patients with specific phobia sought treatment for their disorders (Karam et al., 2006).

According to Karam et al. (2019), a lack of insurance coverage for mental health services and lack of recognition of mental distress and the need for help constitute barriers to mental health use in Lebanon (Karam et al., 2019). Additionally, stigma towards mental illness and mental health services in Lebanon is considered high (Naal et al., 2021). Access and affordability of mental health services are also limited in Lebanon (Shehadeh et al., 2020). Those barriers to mental health services may be further exacerbated by the country's ongoing socio-economic crisis and the COVID-19 pandemic (Obeid & Saade, 2022).

In sum, potential barriers to mental health services in Lebanon (Karam et al., 2019; Shehadeh et al., 2020) include but are not limited to: The mental health repercussions of the Lebanese civil war, a high prevalence rate of psychological disorders (Karam et al., 2006), a significant mental health treatment gap, the devastating impact of the Beirut port explosion (El Khoury et al., 2022), and the ongoing economic crisis and the COVID-19 pandemic (Obeid & Saade, 2022). This constellation of factors, some unique to Lebanon and some more global justifies the need for mental health services and alternative forms of accessing these mental health services. In our opinion, alternative forms of mental-health services may be particularly helpful in the current Lebanese context (Bosqui, 2020). In the following section, we will be presenting on telemental health services.

D. Telemental Health Services

Telehealth is a relatively novel technological delivery approach to efficacious treatments and diagnostics (Schumacher, 2015). The Global Health Observatory of the World Health Organization defines telehealth as a healthcare service that includes a physical separation between the patient and the healthcare provider (World Health Organization, 2016). Telehealth services may be used in various health fields, such as mental health. The integration of one or more technologies into mental health care has been called different yet interchangeable terms in the scientific literature (American Telemedicine Association, 2006; Barnett & Kolmes, 2016). These names include but are not limited to: Telepsychology, telehealth, telemental health, online counselling, e-health, and e-counselling (Barnett & Kolmes, 2016). In this thesis, we will be using the term "telemental health" to refer to the use of telehealth in various mental health treatments (psychotherapy, psychiatry and counselling).

Various technological tools could be used in telemental health. These tools include, but are not limited to: Computers, tablets, telephones, mobile devices, mobile applications, interactive videoconferencing, PowerPoint presentations, chat with the mental health provider, internet browsers, videos, robots, gaming, computerized tests, and virtual reality (American Psychiatric Association, 2013, p. 792; Valentine et al., 2020). Telemental health services usually encompass two main modalities that can often be combined (Sutherland et al., 2018). These modalities include synchronous and asynchronous telemental health service delivery (Sutherland et al., 2018). Synchronous delivery usually includes a live meeting held online (with or without video). This meeting could involve a two-way conference between a patient on one end and a mental health professional on the other end.

While synchronous telemental health refers to treatment received in real-time, asynchronous telehealth refers to the electronic delivery of a mental health treatment not in real-time. Asynchronous delivery can be achieved through the use of smart devices and health-based software apps or websites to access online modules prepared by mental health professionals or others (Sutherland et al., 2018). In asynchronous telemental health, the posted modules can be viewed by patients at any time. Those modules could include pre-recorded material and videos posted on an online platform. Additionally, some asynchronous telemental health services include online tests or exercises to test the patient's knowledge of a construct (Lindgren et al., 2016).

Compared to traditional in-person treatments, telemental health presents certain advantages. Among those advantages is the reduced costs associated with telemental health compared to in-person therapy (Richardson et al., 2009). This reduced expense could be particularly pertinent in Lebanon and globally given the skyrocketing gas prices and the resulting limitations to transportation and mobility (Cohen, 2022). Additionally, telemental health may facilitate access to mental health services for individuals living in rural areas who would otherwise not be able to receive any services (Schieltz & Wacker, 2020).

In addition to its advantages, telemental health also presents some disadvantages (Langarizadeh et al., 2017). Amongst the frequently patient-reported disadvantages are threats to confidentiality due to lack of privacy in patients' spaces (Appleton et al., 2021; Cowan et al., 2019), discomfort with technology (Conrad et al., 2020; Costa et al., 2021), and connectivity problems (Chaiuzzi et al., 2020; Barnett et al., 2021). In the following sections, we will be discussing potential barriers to telemental health services. After

discussing telemental health services in general we would like to shed light on telememental health practice in Lebanon as of today.

E. Telemental Health Services in Lebanon

Telemental health services are available in some clinics in Lebanon. These clinics include but are not limited to: MIND clinics, the American University of Beirut Medical Center, and Embrace Mental Health Center, etc. Additionally, virtual centers that offer online therapy are available in Lebanon. These include but are not limited to Brainstation, and Counsela. To the best of our knowledge, the only empirically researched telemental health service available in Lebanon is an Arabic version of a web-based self-help e-mental health intervention developed by the World Health Organization (WHO), called Step-by-Step (SbS). The Arabic version of the SbS is called "Khoutweh Khoutweh" and is hoped to become available for free for individuals experiencing emotional distress in Lebanon (Van't Holf et al., 2021).

SbS started out as an internet-delivered intervention and was later adapted to be used as a phone application. Currently, SbS can be used on most mobile devices as well as an App that can be accessed via an internet browser (Harper et al., 2020; Van't Holf et al., 2021). Similarly, to SbS, Khoutweh Khoutweh can be accessed/downloaded as a phone or browser-based application. It is becoming available for download on Apple and Android devices in Lebanon (https://step-by-step-program.com/). The interventions delivered in this App included asynchronous as well as synchronous telemental health. In a randomized controlled trial SbS was shown to have promise in the treatment of depression and anxiety disorders (Abi Ramia et al., 2018; Cuijpers et al., 2022). In the course of an SbS

intervention, patients have access to pre-recorded learning modules and weekly 15-minute phone-based or message-based support. The fifteen-minute support sessions were provided by a trained non-specialist undergraduate research assistant, dubbed an "e-helper" (Harper et al., 2020). Even though Khoutweh Khoutweh could provide much needed relief to several individuals living in Lebanon, the mental health qualifications of the professionals offering mental health services are not necessarily that of a trained professional. However, Khoutweh Khoutweh incorporates a culturally sensitive adaptation of a narrative story-based approach to convey helpful information and test it through weekly exercises. The themes covered in pre-recorded sessions aim to increase behavioral activation, pleasurable activities and social support available to patients (Van't Holf et al., 2021). Additional strategies include stress management techniques, gratitude, positive self-talk exercise, and mood tracking (Van't Holf et al., 2021). Along with pre-recorded sessions and the follow-up exercises, e-helpers assist the participants in case they had any questions relating to their weekly lesson and/or exercise (Harper et al., 2020). After having highlighted some of the telemental health options available in Lebanon, we will now discuss telemental health seeking attitudes.

F. Telemental Health Seeking Attitudes

There has been a growing interest in attitudes towards telemental health-seeking, especially after the COVID-19 pandemic (Barnett et al., 2021). Help-seeking attitudes refer to an individual's affinity to either seek or avoid help from mental health professionals (Hammer et al., 2018). By the same logic, telemental health-seeking attitudes refer to an individual's tendency to either seek or avoid telemental health services. While telemental health-seeking

attitudes include an individual's affinity to either seek or avoid help, telemental health-seeking behavior refers to actual behavior, i.e.: seeking or avoiding telemental health. While help-seeking attitude and behavior are two different constructs, both have been found to be positively correlated in some studies (Mojtabai et al., 2002; O'connor et al., 2014; Vanheusden et al., 2009; Yee et al., 2020). That said, these two constructs (help-seeking attitudes and behaviors) do not always overlap (O'connor et al., 2014; Vanheusden et al., 2009; Yee et al., 2020).

In this thesis, we decided to focus on attitudes towards telemental health services as opposed to actual mental health seeking, as attitudes often predict and precede actual service use (Mojtabai et al., 2002; O'connor et al., 2014; Vanheusden et al., 2009). Understanding telemental health attitudes may be the first step in addressing barriers to telemental health use. With the novelty and the need for telemental health services in today's day and age, addressing patient-related barriers to telemental health is important. This is especially pertinent in a country like Lebanon, which has witnessed significant adversity, especially in the last few years (Obeid & Saade, 2022). Despite our study's focus on attitudes towards telemental health, our literature review will include studies pertaining to both telemental health-seeking attitudes and behaviors. Our decision to include both telemental health attitude and behavior was driven by a perceived scarcity in studies pertaining to attitudes toward telemental health. Our conceptual model was informed by findings pertaining to both telemental health-seeking attitudes and behavior. To pursue our study's objectives, we will draw from Fischer and Turner (1970)'s model and supplement it with variables identified in the scientific literature.

In the following section, we will present Fischer and Turner (1970)'s model that will guide most of our literature review. After having presented this theoretical model, we will present each of our independent variables separately.

G. Conceptual Model: Fischer and Turner

Several conceptual models have been proposed to better understand attitudes toward help-seeking and mental health-seeking behavior (Fischer & Farina, 1995). In one of those models, Fischer and Turner (1970) suggested that an individual's attitude toward receiving help, a cognitive process, usually precedes their help-seeking behavior, a behavioral process (Fischer & Turner, 1970). In Fischer and Turner's (1970) model, some variables have been found to be associated with positive attitudes toward mental help-seeking. These variables include: Recognition of the need for psychological assistance, stigma tolerance, interpersonal openness, and trust in mental health practitioners. Fischer and Turner's model has since been validated in multiple countries (Anderson, 2012; Chen et al., 2020; Picco et al., 2016). It is important to mention here that Fischer and Turner's model has mostly been used to guide the literature on face-to-face mental health services (Anderson, 2012; Picco et al., 2016). Given the novelty and subsequent scarcity in the literature pertaining to telemental health services, we still decided to draw from this conceptual model and supplement it with variables deemed important for telemental health. Based on the telemental health literature (Barnett et al., 2021; Cowan et al., 2019; Fischer et al., 2020; Huilgol et al., 2021; Jefee-Bahloul, 2014; Madigan et al., 2021), we decided to add the following variables to our conceptual model: (a) age (Jefee-Bahloul, 2014; Musiat et al., 2014; Rohland et al., 2000; Rohland et al., 2000); (b) structural barriers such as:

electricity-related issues (Beck & Beck, 2011), internet related concerns (Berry & Lai, 2014; Huilgol et al., 2021), online payments (El Hayek et al., 2020) and access to materials and a quiet place (Cowan et al., 2019; Vera San Juan et al., 2021); (c) and technological skills such as technological literacy, comfort/trust with technology and internet literacy (Sapci & Sapci, 2019). See Appendix V for our study's conceptual model.

Next, we will be presenting the results of studies pertaining to the independent variables included in our conceptual model. The literature we will be presenting next will pertain to studies conducted in both the Global North (typically having developed economy with a GNI per capita 13,205$ or more) and the Global South (typically having an underdeveloped economy with a GNI per capita between $1,086 and $1,085; World Bank, 2022).

H. Independent Variables

1. Sociodemographic and Participant-Related Factors

In the following sections, we will be presenting our independent variables and their association with telemental health-seeking attitudes and behaviors across the Global North and Global South. Our sociodemographic and participant-related factors include the following variables: Age, structural barriers and technological skills. The next section pertains to our first variable: Age.

a. Age

Age is defined as the number of years during which someone or something has existed (Eckert, 2017). Several studies spanning the Global North and Global South have shown that

older individuals may be less inclined to use telemental health services in comparison to younger adults (Jefee-Bahloul, 2014; Fischer et al., 2020). After having defined our first variable, we will move to a discussion of its potential association with telemental health-seeking attitudes and behaviors.

i. The Global North

- Age and Telemental Health-Seeking Attitudes:

Age appears to play a critical role in telemental health-seeking attitudes in the Global North. Rohland et al. (20000) conducted an empirical study in the US in the early 2000s where adults (*M* age = 53.3 years) residing in a rural area in Texas were surveyed to determine their willingness to receive telemental health services (Rohland et al., 2000). Age appeared to play a role in the endorsement of telemental health services in the said rural population (Rohland et al., 2000). There appeared to be a significant difference between mean ages of those who reported endorsing telemental health services (*M* age = 50 years) compared to those who did not endorse such services (*M* age = 59.9 years; Rohland et al., 2000). In 2020, the APA reported that younger adults (aged 18-39 years old) in the US were more likely to support telemental health services compared to older ones (aged 65 and older; American Psychiatric Association, 2021). Older adults' hesitation to use and/or endorse such services may in part be related to their poor knowledge of telemental health (Fischer et al., 2020). Compared to younger adults, older adults may hold a less favorable attitude towards telemental health due to lower computer literacy (Musiat et al., 2014). After having presented the role that age could play in attitudes toward telemental health, we will move to the potential role age could play in telemental health use.

- Age and Telemental Health-Seeking Behaviors:

Data relating to the prevalence of telemental health use is scarce. This scarcity could be attributed, at least in part, to the novelty of such modalities. Fischer et al. (2020) explored the contribution of age to telemental health-seeking behavior. In Fischer et al. (2020), 2555 adults in the US were surveyed. Based on Fischer et al.'s (2020) study, compared to older adults, younger adults aged 65 and under seem more likely to endorse the use of telehealth for mental health services. Older adults (aged 65 and older) expressed some hesitation towards the telemental modality and were more likely to report not knowing how to use telehealth services (Fischer et al., 2020).

The APA's 2021 national poll also sheds light on the prevalence of telemental health use. Investigators in this poll estimated that 66% of Americans aged 18 to 29 years old compared to the 36% of older adults aged 65 and older were open to using telemental health services themselves (American Psychiatric Association, 2021). Thus, most adults aged 18-29 years old would likely use telemental health services, compared to 36% of adults over the age of 65.

Age appears to play an important role in engagement and avoidance of treatment at a distance (medical and/or mental health needs). According to the presented data, adults aged 65 and older were less likely to use both telehealth and telemental health compared to individuals younger than 65 (Fischer et al., 2020). Patients who would most likely use telemental health specifically appear to center around the ages 18 to 29, while those most likely to use telehealth in general center around the ages 18 to 65. This age-specific difference in telemental health-seeking behavior across the different telehealth services may in part be related to particular mental health needs of individuals aged 18 to 29 years old. Patients aged

18 to 29 years old may be more interested in seeking out telemental health services in comparison to patients who are 65 years old and older potentially due to a higher prevalence of mental illness among the former age group in comparison to the latter (NIMH, 2020). According to the National Institute of Mental Health, the prevalence rate of serious mental health disorders necessitating help, in the US in 2020 was highest among the age group 18 to 25 years old (9.7% NIMH, 2020). The prevalence rate of serious mental health disorders among both young adults aged 26-49 years (6.9%), and adults aged 50 and older (3.4%) was lower than that of younger adults (9.7%; NIMH, 2020).

In short, the higher prevalence rate of mental illness among individuals aged 18 to 25 years old could be due to an increased demand for mental health services among this age group. In addition to the high demand, younger adults seem to hold more positive attitudes toward telemental health in comparison to older adults which may explain their greater willingness to use telemental health services.

After having presented the role age could play in both telemental health-seeking attitudes and behavior in the Global North, we will move to this discussion in the Global South.

ii. The Global South

- Age and Telemental Health-Seeking Attitudes

Age appears to play an important role in telemental health-seeking attitudes in the Global South. Similar to findings from the Global North, Jefee-Bahoul et al (2014) published a review paper, where they argued that elder adults are less likely to endorse telemental health services (Jefee-Bahloul, 2014). Jefee-Bahloul et al (2014) suggested that older adults may

not be comfortable using the modality due to their poor computer and internet literacy. The review by Jefee-Bahoul et al (2014), like most studies pertaining to telemental health in the Global South is theoretical. The predominantly theoretical data on telemental health can be attributed to the dearth of empirical studies examining attitudes toward telemental health use in the Global South. That said, a few empirical studies have been conducted in the Global South, and those will be presented in the next paragraphs.

Perla Werner (2004) aimed to assess potential users' willingness to use tele-psychiatric services. Werner conducted interviews in Palestine with a sample of 1,204 adults aged 45 and older (*M* age = 58 years old). Participants' willingness to use telepsychiatry was assessed by the use of six items rated on a 5-point scale. One of the items evaluated overall attitudes toward telemedicine, while the other five items assessed three outcomes of telemedicine: Access to health care, quality of care and cost (Werner, 2004). Werner (2004) found a negative association between age and willingness to use tele-psychiatric services (Werner, 2004).

In summary, attitudes towards telemental health appear to be associated with age, as the age of users increases their willingness to use tele-psychiatric services decreases. After having discussed the role age could play in telemental health-seeking attitudes in the Global South, we will now shift gears to discuss the potential role age could play in telemental health-seeking behaviors in the Global South.

- Age and Telemental Health-Seeking Behaviors

Despite data linking the age of patients to their willingness to use telemental health services, to the best of our knowledge, no empirical study conducted in the Global South

evaluated the potential role age could play in the actual use of telemental health services. The shortage of studies pertaining to the prevalence of telemental health use in the Global South may in part be attributed to the novelty of the modality. But also, the dearth of such studies may be related to potential structural barriers specific to telemental health use. Consistent with findings from the Global North, we think that older adults are likely to hold more negative attitudes towards telemental health, and may use the modality less frequently than younger adults.

The next section will explore structural barriers along with their potential roles in telemental health-seeking attitudes and behaviors. Structural barriers pertaining to telemental health-seeking attitudes and behaviors will be explored in the Global North and Global South.

b. Structural Barriers

Structural barriers refer to a set of obstacles that collectively impact a group of people in varying ways based on their environments and/or circumstances (Kiselev et al., 2020). Some of the most frequently reported structural barriers in healthcare in general are: Access to care, time to access and follow-up with care, financial concerns and life chaos (e.g.; poor social support, unmet needs, presence of stressors, etc.) leading to difficulties in planning and anticipating the future (Moskalenko et al., 2020). Other structural barriers have also been identified in the telemental health literature (both the Global North and Global South). These barriers include: Electricity-related issues (Beck & Beck, 2011), internet availability, bandwidth, literacy and technological support (Berry & Lai, 2014; Huilgol et al., 2021), payments online, and access to materials and a quiet place (Cowan et al., 2019; Vera San Juan et al., 2021). It is important to evaluate the potential role(s) these

variables could play in telemental health as they could highlight individual differences and aid in identifying potential barriers to telemental health use.

In the coming section, we will discuss the potential role structural barriers could play in telemental health-seeking attitudes in the Global North.

i. The Global North

- Structural Barriers and Telemental Health-Seeking Attitudes

As previously mentioned, structural barriers to telemental health use include but are not limited to: electricity-related issues, internet availability, bandwidth, literacy and technological support, payments online, and access to materials and a quiet place. Amongst these barriers, the following were frequently reported in the Global North: Internet availability, bandwidth, literacy and technological support (Berry & Lai, 2014; Huilgol et al., 2021), access to the necessary technology and access to a quiet space at home (Cowan et al., 2019; Vera San Juan et al., 2021). Unsurprisingly, electricity-related and online-payment concerns did not seem to be potential barriers to the use and endorsement of telemental health services in the Global North. This finding may be in part related to the wide availability of electricity and ease of online banking in most Global North countries (World Bank, 2022).

Lal et al (2015) conducted a study in Canada and gauged the interest of young adults (aged 18-35) with first-episode psychosis in using telemental health services (Lal et al., 2015). Lal et al (2015) conducted a cross-sectional study where they recruited a convenience sample of 67 patients with first-episode psychosis from specialized early intervention programs for psychosis (Lal et al., 2015). Patients were asked to fill in a descriptive survey

to assess their attitudes toward telemental health. Results demonstrated that the most common patient-reported barriers to the use of telemental health services are: Poor internet literacy, cost of internet access, mistrust of the internet and technology more broadly (Lal et al., 2015). It is important to mention here that this particular population may experience unique structural barriers in their use of telemental health compared to individuals with other mental illnesses/mental health problems. To be able to confidently speak on the role structural barriers could play in attitudes toward telemental health, more empirical studies would need to be conducted with different clinical populations.

More studies on the association between structural barriers and attitudes toward telemental health are still warranted. We will now discuss the potential role structural barriers could play in telemental health-seeking.

- Structural Barriers and Telemental Health-Seeking Behaviors

After having discussed the role structural barriers could play in attitudes towards telemental health, we will discuss structural barriers' role in telemental health-seeking behavior. We should first mention that most of the published research relating structural barriers and barriers to telemental health use coincides with the COVID-19 pandemic. The COVID-19 pandemic has amplified the need for an alternative to face-face mental health treatments across the globe. Several studies highlighted a decline in mental health during the pandemic (Bäuerle, 2020; Proto & Quintana-Domeque, 2021). The deterioration in mental health during the pandemic may be attributed to increased stressors such as: Uncertainty, reduced activity, bereavement, isolation and loss of income for many individuals (Magson et al., 2021). Telemental health during the pandemic became a

necessity for many individuals who could no longer receive face-to-face therapy. As such, many researchers were keen to understand patients' experience of telemental health. Based on patients' reports, researchers were able to identify potential barriers and facilitating factors to telemental health. We will present some of these structural barriers next.

Chiauzzi et al (2020) conducted a study on videoconferencing-based telemental health in the US during the COVID-19 pandemic (Chiauzzi et al., 2020). Chiauzzi et al (2020) aimed to understand patients' experiences (children and adults) with videoconferencing-based telemental health. Chiauzzi et al (2020) conducted interviews with patients presenting with different mental illnesses. The qualitative data collected by Chiauzzi et al (2020) allowed for a better understanding of barriers to telemental health use. Patients reported several internet-related concerns including: Connectivity problems during videoconferencing sessions, and difficulty finding technological support in case of connectivity problems (Chiauzzi et al., 2020). Patients also reported the following access-related concerns: Lack of availability and/or the high price of videoconferencing tools, and difficulty finding a quiet private space at home to conduct sessions while ensuring confidentiality (Chiauzzi et al., 2020).

Similarly, two other studies were conducted, one in the UK (Vera San Juan et al., 2021) and one in Canada (Madigan et al., 2021) during the COVID-19 pandemic. In both studies, patients (aged 18-75 years old) with mental health problems and/or mental illnesses who have used telemental health services were recruited and interviewed. Investigators in both studies used semi-structured interviews with patients (Madigan et al., 2021; Vera San Juan et al., 2021). Similar to Chiauzzi et al (2020), Vera San Juan et al (2021) and Madigan et al (2021) described the following internet-related patient-reported concerns: Poor internet

bandwidth, no internet access (among individuals with a low socioeconomic status), and limited internet and technological expertise. Some patients also reported difficulty accessing the necessary technology and having a private space at home (Madigan et al., 2021; Vera San Juan et al., 2021). Some patients even described the modality as intrusive due to the lack of space at home to conduct sessions privately.

Despite the important role telemental health played during the COVID-19 pandemic, patient-reported barriers to the use of the modality are worth considering. Patients' reported concerns seemed to center around internet issues and access in the Global North (Chiauzzi et al., 2020; Vera San Juan et al., 2021). These barriers are important to consider and address in the future to ensure patient retention and avoid treatment dropout.

After having presented the role structural barriers could play in telemental health-seeking attitudes and behaviors in the Global North we will switch to the Global South next.

ii. The Global South

Some structural barriers pertaining to telemental health have also been identified in the Global South (Naal et al., 2021). The following structural barriers to the perception and use of telemental health have identified: a) electricity-related issues, b) internet availability, bandwidth, literacy and technological support, c) payments online, and d) access to materials and a quiet place. In the next section, we will discuss how these structural barriers, starting with electricity-related concerns, could impact patient-related attitudes toward telemental health.

- Structural Barriers and Telemental Health-Seeking Attitudes

In this section, we will begin by discussing and theorizing about the impact electricity could have on telemental health-seeking attitudes. Perhaps most specific to the Lebanese context are potential telemental health barriers relating to electricity shortages. These shortages may hinder access to computers, tablets, phones, functioning cameras and audio devices as well as the Internet (Fouad et al., 2021). Electricity plays a major role in telemental health services. Electricity shortage may also impact attitudes towards the use of the modality. We believe that individuals who are more likely to suffer from electricity shortages at home are less likely to hold favorable attitudes toward this modality. This less than favorable attitude could be attributed to its reduced feasibility in such a context.

In addition to electricity-related concerns, internet-related issues could play a role in attitudes toward telemental health services in the Global South (Almoshmosh et al., 2020; Burchert et al., 2019). Burchert et al. (2019) aimed to adapt the web-based e-mental health intervention SbS to Syrian refugees in Germany, Sweden and Egypt (Burchert et al., 2019). Burchert et al (2019) conducted interviews with 128 Syrian refugees (*M* age=33 years old), where participants were asked to list out potential barriers to the access and use of SbS. Participant interviews were then analyzed using inductive and deductive thematic analysis. According to the aforementioned study, participants perceived the following variables as potential internet-related structural barriers to the use of the web-based-e-mental health intervention: Internet literacy, internet access and limited internet bandwidth (Burchert et al., 2019).

Aside from internet-related structural barriers, is the issue of online payments. According to El Hayek et al. (2020), some patients in the Middle East and North African

(MENA) region reported some difficulty and unfamiliarity with managing online payments to cover the costs of telemental health (El Hayek et al., 2020). The Lebanese population, in particular, may have a hard time paying online due to ongoing issues with Lebanese banks that have limited or in some cases, eradicated access to online payments (Devi, 2020). The lack of ability to pay online may negatively impact patients' view of telemental health feasibility.

Finally, the last structural barrier that may influence the perception of telemental health services is access to the necessary technology (e.g.; phones, tablets, computers, microphones, cameras, etc.) and access to a quiet space at home. Individuals who do not have access to the necessary technology are less likely to view telemental health as feasible and useful. In the Global South, the lack of access to technology seems to be a major feasibility concern for many individuals considering telemental health services (Ashfaq et al., 2020). The ongoing economic crisis in Lebanon may hinder access to telemental health services due to difficulties affording the technology required to receive such services (World Bank, 2021). In addition to accessing the necessary technology for telemental health services, access to a quiet and/or private space at home for telemental health services has also been reported (Knaevelsrud et al., 2015). For instance, individuals living in small dwellings, or those with shared living spaces may view telemental health as invasive due to difficulties finding a private space at home to ensure confidentiality (Knaevelsrud et al., 2015).

In summary, all four structural barriers (electricity-related issues, internet-related concerns, payments online, and access to technology and a quiet place) appear to influence users' perception of telemental health services in the Global South to varying extents. The next section pertains to telemental health-seeking behavior in the Global South.

- Structural Barriers and Telemental Health-Seeking Behaviors

After having discussed how structural barriers may impact patients' perceptions of telemental health in the Global South, we will move next to the role structural barriers could play in the use of this modality. Structural barriers that have been shown to affect attitudes toward telemental health have also been found to impede access to telemental health services in the Global South (Naal et al., 2021). As previously mentioned, the following structural variables may influence willingness to use telemental health services: a) electricity-related issues, b) internet availability, bandwidth, literacy and technological support, c) payments online, and d) access to materials and a quiet place.

As elaborated in the previous section, the most unique structural barriers to the Lebanese context are electricity shortages that may impact access to both technological tools (computer, tablet, phone, functioning camera and audio) and the internet (Fouad et al., 2021). Electricity could act as a barrier to telemental health services in Lebanon and similar countries with recurrent electricity shortages or lack thereof.

In addition to electricity problems representing potential barriers to telemental health, internet-related structural barriers are also worth noting. In a study conducted by Almoshmosh et al. (2020) in the Syrian Telemental Health Network (STMH), the researchers provided tele-psychiatric consultations to 19 primary care centers in Syria, Lebanon, Turkey and Jordan. Syrian patients (*M* age = 25.41) with different mental health needs were asked to fill out a survey on their experience with tele-psychiatric consultations. Patients' reports highlighted internet availability and bandwidth problems, poor internet literacy and the need for technological support (Almoshmosh et al., 2020).

As previously mentioned, the third structural barrier that is pertinent in the Global South pertains to difficulties with online payment. Online payment concerns seem common in the MENA region and especially in Lebanon. Thus, online payments may play a role as a potential barrier to telemental health in some Global South countries (El Hayek et al., 2020).

After having discussed how electricity-related issues, internet-related concerns, and online payment concerns could act as potential barriers to the use of telemental health in the Global South, we will now discuss the final structural barrier: Access to technology and quiet space at home. As previously mentioned, lack of access to technology has been frequently cited as a concern held by many individuals (Ashfaq et al., 2020). Ashfaq et al. (2020) reported that the utilization of mobile-based telemental health is near impossible for individuals without access to mobile devices. This lack of access is, unfortunately, the case for many Syrian refugees living in dire conditions in many refugee camps around the world (Ashfaq et al., 2020). In addition to technological access, having a quiet space at home has also been identified as a potential structural barrier to the use of telemental health in the Global South. Knaevelsrud et al. (2015) aimed to assess the efficacy of an Internet-based Cognitive Behavioral Therapy (ICBT) for patients (*M* age = 28.1 years old) with war-related trauma in Iraq (Knaevelsrud et al., 2015). Patients were provided with Distress/Endorsement Validation Scales (DEVS) to measure their distress and asked about their preference for different treatment modalities. According to patients' reports, structural barriers to the use of telemental health included a lack of privacy at home, especially from family members. This is pertinent because often times family history and family interactions are an integral part of the therapeutic process, consequently patients without a private space may not be able to fully engage in sessions.

In summary, all four categories of structural barriers (electricity-related issues, internet-related concerns, payments online, and access to technology and a quiet place) appear to influence users', willingness to use telemental health services, to varying degrees.

In the next section, we will explore the potential contribution of technological skills in telemental health-seeking attitudes and behaviors.

c. Technological Skills

Technological skills refer to a set of abilities that enable someone to perform practical tasks across a wide array of areas (Martinez, 2008). Technological skills typically require the use of certain technologies. Some of the technological skills that may be particularly valuable for telemental health services are: Ability to operate devices (phone, tablet, laptop, computer, and virtual reality headsets, etc.), web navigation skills, internet literacy, and familiarity with conferencing service (video-conferencing service, application use, texting, virtual reality, etc.; Sapci & Sapci, 2019).

In the next section, we will review technological variables and how they may influence patient perception and use of telemental health in the Global North.

i. The Global North

- Technological Barriers and Telemental Health-Seeking Attitudes

Several technology-related variables have been identified as potentially playing a role in patient attitudes toward telemental health in the Global North (Madigan et al., 2021; Musiat et al., 2014). When asked about their perception of this modality, some patients reported an overall mistrust of technology and/or technological difficulties. These concerns

appeared to be negatively associated with patients' willingness to use telemental health (Knaevelsrud et al., 2015; Barnett et al., 2021). Compared to individuals with lower computer literacy levels, individuals with higher computer literacy appear significantly more likely to use smartphone apps for mental health aid (Musiat et al., 2014).

In sum, technological difficulties, poor computer literacy and mistrust of technology are pertinent technological barriers that appear to negatively influence patients' attitudes towards telemental health (Barnett et al., 2021; Madigan et al., 2021; Musiat et al., 2014).

After having reported on the technological variables and their influence on patients' attitudes toward telemental health in the Global North, we will now move to the discussion of telemental healh-seeking behavior.

- Technological Barriers and Telemental Health-Seeking Behaviors

Some technology-related variables have been identified as potential barriers to the use of telemental health services in the Global North (Burke et al., 2015; Chiauzzi et al., 2020). Poor technological skills/technological literacy are defined by a lack of or poor knowledge of technological services. Poor technological skills/technological literacy seem to be the most frequently reported technology-related barriers to telemental health use in the Global North (Costa et al., 2021; Eisner et al., 2019). Both Costa et al (2021) and Eisner et al (2019) evaluated the acceptability of telemental health interventions in the Global North. One of those interventions was an online peer support group for individuals with substance use disorders (Costa et al., 2021), while the other relied on a mobile application to monitor early signs of psychosis relapse (Eisner et al., 2019). The researchers evaluated the acceptability of the interventions offered by interviewing patients, some of whom had

reported struggling with technology use (Costa et al., 2021; Eisner et al., 2019). In addition to poor technological skills, other technology-related variables have been suggested as potential barriers to telemental health use. Some patients preferred not to use telemental health services due to slight audio and/or video delays experienced online. (Guinart et al., 2020). Some patients also reported high data charges and limited mobile coverage for telemental health services (Schmidt et al., 2019).

In summary, several barriers to telemental health use in the Global North are worth noting. These include: Poor technological skills/technological literacy, slight audio/video delays in the technology-based modality, and high data charges and limited mobile coverage. In the next section, we will discuss the role technological variables could play in telemental health attitudes and behaviors in the Global South.

ii. The Global South

- Technological Barriers and Telemental Health-Seeking Attitudes

Similar to the Global North, some technology-related variables appear to influence patients' views of telemental health in the Global South (Ashfaq et al., 2020). We will discuss the role of technological variables could play in telemental health-seeking behavior next.

- Technological Barriers and Telemental Health-Seeking Behaviors

In a systematic review conducted on telemental health use in some Global South countries (Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Syria etc.) technological literacy appeared as a frequently reported barrier in the years 2000-2019 (Ashfaq et al., 2020). In

Lebanon, poor technological literacy was also recognized as a barrier to telemental health use (Harper et al., 2020). In a mixed methods pilot study, Harper et al (2020) recruited 129 Lebanese, Syrian and Palestinians residing in Lebanon to test the feasibility of the e-mental health intervention SbS in Lebanon (Harper et al., 2020). Participants were over the age of 18 years old, scored moderately for depression based on the Patient Health Questionnaire (PHQ-9) and were not considered at risk of suicide; Harper et al., 2020). In addition to providing participants with a Client Satisfaction Questionnaire (CSQ), participants were interviewed by the researchers. Based on participants' reports, technological skills were identified as a major barrier to the use of telemental health services (Harper et al., 2020). The results obtained from this study align with those of Werner (2004) and Jefee-Bahloul (2014) that also highlighted technological skills as well as unfamiliarity with the modality as barriers to the use of telemental health services in some countries in the Global South (Werner, 2004; Jefee-Bahloul, 2014).

In sum, technology-related variables, mainly technology literacy and technological familiarity appear to play a significant role in the use of telemental health in the Global South. Next, we will discuss the next variable in our conceptual model: Recognizing the mental health problem and the Need for Help.

2. Recognizing a Mental Health Problem and the Need for Help

The second independent variable in our study's conceptual model pertains to recognizing a mental health problem and the need for help. Recognition of a mental health problem and the need for psychological help appears to be associated with telemental health-seeking attitudes and telemental health use (Kern et al., 2018; Lal et al., 2015). Generally

speaking, recognizing the presence of mental health problems may precede the recognition of the need for psychological help (Coles et al., 2014). Inversely, difficulty recognizing mental health problems seems to reduce the likelihood of seeking mental health services (Saunders, 1993). As such, a lack of recognition of a mental health problem and the need for psychological help could negatively influence patients' telemental health-seeking attitudes and behaviors. Next, we will discuss the association between recognizing one's mental health problem and one's telemental health-seeking attitudes in the Global North.

a. The Global North

i. Recognizing a Mental Health Problem and the Need for Help and Telemental Health-Seeking Attitudes

Patient recognition or awareness of mental illnesses appears to influence their attitudes toward telemental health-seeking. For instance, Lal et al (2015) found that patients aged 18-35 years with first-episode psychosis who do not recognize having mental health problems report not needing to use telemental health services (Lal et al., 2015). Kern et al (2018) investigated the attitudes of American college students towards the use/potential use of Mental Health Applications (MHAs). The authors of the study administered a survey to 741 students in a public Midwestern University. Similar to Lal et al (2015), Kern et al (2018) found that students who reported not recognizing their own mental health needs held negative views of telemental health services, while those who had recognized their own mental health needs held more positive views of the modality (Kern et al., 2018).

Based on the results of these studies, recognizing mental health problems and/or needs seems to be associated with favorable attitudes towards telemental health. Next, we

discuss the potential role of the problem and the need for help recognition in telemental health-seeking behavior in the Global North.

ii. Recognizing a Mental Health Problem and the Need for Help and Telemental Health-Seeking Behavior

Patients' recognition of their own mental illnesses/mental problems appear to influence their attitudes toward telemental health-seeking. In both of the aforementioned studies by Lal et al (2015) and Kern et al (2018), patients were not willing to seek out mental health services because they did not believe that they needed them (Lal et al., 2015; Kern et al., 2018). Because attitudes toward mental health treatment are important predictors of actual service use, i.e., telemental health-seeking behavior (Mojtabai et al., 2002), we suspect that not recognizing one's own mental health problem and the need for help could be negatively associated with telemental health-seeking behavior. The next section relates to the potential role of the problem and the need for help recognition in telemental health-seeking attitudes and behaviors in the Global South.

b. The Global South

i. Recognizing a Mental Health Problem and the Need for Help and Telemental Health-Seeking Attitudes

Similar to the Global North, in the Global South recognizing one's mental illnesses/mental problems appears to influence their telemental health seeking attitude. Those findings are in line with a study conducted by Abi Ramia et al. (2018). In their study, Abi Ramia et al. (2018) aimed to adapt SbS based on behavioral activation in Lebanon (Abi

Ramia et al., 2018). In the Ramia et al. (2018) study, national mental health program staff conducted semi-structured interviews with mental health professionals, front-line workers in primary health care centers and Lebanese, Syrian and Palestinian community members residing in Lebanon (Abi Ramia et al., 2018). Results obtained from these interviews were transcribed and analyzed via thematic analysis by the project coordinator and two research assistants (Abi Ramia et al., 2018). According to Abi Ramia et al (2018), users in Lebanon may hold negative attitudes toward SbS for two main reasons. One of these reasons pertains to a lack of recognition of mental health problems and the need for help. This barrier could be attributed to a lack of awareness and understanding of the seriousness of mental distress. The second reason provided by Abi Ramia et al. (2018) pertains to competing priorities between basic survival needs (food, shelter, health care etc.) and mental health needs. These competing needs may cloud recognition of mental health needs.

In summary, it appears that the recognition of mental health problems and the need for psychological help play an integral role in attitudes towards seeking telemental health services. In the Global South competing needs (basic survival needs and mental health needs) may hinder the recognition of mental health problems. This, in turn, could further distance potential telemental health users from the service itself. Next, we will discuss the potential role of recognizing a mental health problem and the need for help in telemental health-seeking behavior in the Global South.

ii. Recognizing a Mental Health Problem and the Need for Help and Telemental Health-Seeking Behavior

Researchers have emphasized a positive association between mental health literacy (knowledge, recognition and attitudes towards mental health) and help-seeking intentions and behaviors specifically in traditional mental health services (in-person; Waldmann et al., 2019).

Favorable attitudes toward telemental health use appear to be associated with community members' recognition of their mental health problems/needs in the Global South (Abi Ramia et al., 2018). Since telemental health seeking attitudes are an important predictor of actual service use, i.e., telemental health-seeking behavior (Mojtabai et al., 2002), we suspect that recognizing a mental health problem and the need for help should be negatively associated with telemental health-seeking behavior. In the following section, we will introduce the third variable in our conceptual model: Openness to Experience.

3. Openness to Experience

Openness to Experience is one of the dimensions of the Five-Factor Model (FFM) of personality traits (McCrae & Sutin, 2009). Individuals with high scores on openness to experience as assessed by the Big Five Inventory (BFI) may identify and/or be described as non-conventional, original, creative, and curious (McCrae & Costa Jr, 1997). Openness to experience refers to the cognitive process i.e., how individuals think (McAdams, 2015) and that may influence individuals' emotions and behaviors (Beck & Beck, 2011).

Openness to experience is a particularly interesting variable to examine when discussing potential barriers to telemental health. Telemental health is a relatively new

therapy dispensing modality that necessitates a minimum of openness to experience on the part of the user to be able to use it (Levallius et al., 2020). Given that telemental health services may be considered relatively new compared to traditional forms of therapy (Richardson et al., 2009), one might expect openness to experience to be positively associated with the use and/or endorsement of such services. That said, openness to experience has not been thoroughly explored in the telemental health literature yet. This dearth could be due to the novel nature of telemental health and the scarcity of studies pertaining to this modality. In the next sections, we will explore the potential role(s) openness to experience could play in telemental health use across the Global North and Global South.

a. The Global North

i. Openness to Experience and Telemental Health-Seeking Attitudes

In the Global North, the association between openness to experience and telemental health use seems unclear. Notably, most studies pertaining to openness to experience favored a Cognitive Behavioral Therapy (CBT) approach. Authors' preference for a CBT approach, may in part, be related to the strong evidence base for such approaches in certain disorders (CBT for treating depression, eating disorders etc.; Gowers, 2006; Priemer & Talbot, 2013).

Levallius et al. (2020) aimed to identify potential predictors of treatment response for patients with eating disorders (Levallius et al., 2020). Levallius et al. (2020) conducted a randomized control trial in Sweden where participants were randomly assigned to ICBT or a face-face CBT treatment. In their study, Levallius et al. (2020) evaluated whether the Five-Factor Model of personality could be associated with treatment response (symptom reduction

and remission) in patients with full or sub-threshold Bulimia Nervosa (BN; Levallius et al., 2020). The results of the study indicated that specific personality traits that may play a role in treatment response are openness to experience and conscientiousness. Levallius et al. (2020) argued that individuals with high openness to experience and conscientiousness (a trait characterized by discipline, goal-directedness and diligence) may be particularly well-suited for ICBT. Additionally, participants scoring high on both personality traits have shown the most reduction and/or remission in symptoms after ICBT (Levallius et al., 2020). Levallius's findings are consistent with those of Quilty et al. (2008). Quilty et al. (2008) reported a positive association between openness to experience and symptom relief in in-person treatments of MDD (Quilty et al., 2008).

Despite the scarcity of studies on openness to experience and attitudes toward telemental health, we suspect these two variables may be related. In our view, someone who is open to experience is more likely to be open to novel treatment modalities such as telemental health (Levallius et al., 2020). Next, we will discuss the role openness to experience could play in telemental health-seeking behavior in the Global North.

ii. Openness to Experience and Telemental Health-Seeking Behaviors

Unlike telemental health attitudes, the role openness to experience could play in telemental health-seeking behavior has been more frequently studied. Schmidt et al. (2019) aimed to identify potential predictors of treatment dropout in patients with MDD in the US. The researchers examined the characteristics of 117 patients who participated in ICBT (for MDD; Schmidt et al., 2019). Schmidt et al. (2019) found internet literacy, technological difficulties, and a few personality traits to be positively associated with a higher dropout rate

in the ICBT trial (Schmidt et al., 2019). According to this study, the specific personality traits that may play a role in predicting treatment dropouts are extraversion (a trait characterized by excitability, sociability, talkativeness and assertiveness) and openness to experience. Schmidt et al. (2019) found that lower levels of extraversion, as well as higher levels of openness to experience, could be positively associated with ICBT treatment dropout (Schmidt et al., 2019). Despite other research reporting on an association between openness to experience and symptom relief in in-person treatments for MDD (Quilty et al., 2008) and ICBT treatments for BN (Levallius et al., 2020), high levels of openness to experience may be associated with higher dropout rates in ICBT programs (Schmidt et al., 2019). Treatment dropout is not always indicative of poor treatment outcomes, but may sometimes be related to patient dissatisfaction with the therapeutic process itself (Zieve et al., 2019). Schmidt et al. (2019) argued that it may be possible for participants who scored higher on openness to experience to be more willing to try out the treatment, even though they may have been less committed to seeing the ICBT program all the way through (Schmidt et al., 2019). Thus, in the Schmidt et al. (2019) study, scoring high on openness to experience may have facilitated the initial use of telemental health but not its continued use (Schmidt et al., 2019).

In conclusion, openness to experience has been found to be associated with treatment gains in face-to-face therapeutic interventions for both MDD and BN (Bagby et al., 2008; Deumens et al., 2012; Levallius et al., 2016). In short, compared to individuals with low levels of openness to experience, individuals with high levels of openness to experience may be more open to trying out telemental health. After having discussed the role openness to experience plays in telemental health-seeking attitudes and behaviors in the Global North, we will discuss telemental health-seeking attitudes and behaviors in the Global South.

b. The Global South

i. Openness to Experience and Telemental Health -Seeking Attitudes

Consistent with findings from the Global North, in the Global South openness to experience appears to play a role in individuals' attitudes towards both online and in-person mental health treatment.

Atik & Yalçin (2011) aimed to identify the role personality traits could play in telemental health-seeking attitudes in Turkish college students (Atik & Yalçin, 2011). According to them participants with greater openness to experiences reported more favorable attitudes toward in-person counselling and/or therapy (Atik & Yalçin, 2011). Along the same line, Bathje et al. (2014) examined attitudes towards both in-person and online counselling among Korean college students. Bathje et al. (2014) found a positive association between openness to experience and attitudes toward in-person and telehealth modalities in treatment. In other words, Korean college students with high openness to experience were more likely to have favorable attitudes towards both in-person and telemental health services (Bathje et al., 2014).

In sum, it seems that individuals reporting high openness to experience are more likely to hold favorable attitudes toward telemental health. Next, we will discuss the role of openness to experience in telemental health-seeking behavior in the Global South.

ii. Openness to experience and Telemental Health-Seeking Behaviors

To the best of our knowledge, no empirical studies conducted in the Global South have examined the association between openness to experience and telemental health-

seeking behavior. Given the previously discussed positive association between telemental health-seeking attitudes and openness to experience, we believe that openness to experience could also be positively associated with telemental health-seeking behaviors.

After having presented the results of studies from some Global Northen and Global South countries on the potential role of openness to experience and telemental health-seeking attitudes and behaviors, we will discuss the role of public stigma next.

4. Public Stigma

Stigma is a multi-faceted and complex construct (Corrigan et al., 2006; Corrigan et al., 2012; Clement et al., 2015). For the purpose of this study, we will be focusing on public stigma given that this type of stigma has been the most frequently reported in relation to attitudes toward telemental health (Bird et al., 2019; Bleyel et al., 2020; Hadler et al., 2021). Public stigma of mental illness pertains to the negative attitudes and stereotypes people might have towards people with mental illnesses (Rüsch et al., 2005). Public stigma may stem from society's influence on individuals' perceptions in a manner that marginalizes individuals with mental illness and deems them unacceptable (Vogel et al., 2013).

In the following sections, we will present studies pertaining to the association between public stigma and telemental health-seeking attitudes and behaviors in the Global North and Global South.

a. The Global North

i. Public Stigma and Telemental Health-Seeking Attitudes

To the best of our knowledge, only one study conducted in the Global North examined the association between stigma and telemental health-seeking attitudes. However, this study is pertinent as it provides some evidence that public stigma may be negatively associated with patients' attitudes toward telemental health (Bird et al., 2019).

Bird et al (2019) investigated college students' attitudes toward Online Video Counselling (OVC) compared to face-to-face counselling (Bird et al., 2019). Bird et al. (2019) conducted their study on a sample of 588 college students from a Southeastern University (Bird et al., 2019). Results indicated a negative association between public stigma levels and attitudes towards help-seeking. More specifically, Bird et al. (2019) found public stigma to be positively correlated with discomfort/unease with seeking mental health services across both modalities (Wu et al., 2017; Bird et al., 2019). Interestingly, public stigma was found to have a lesser negative impact on college students' attitudes towards OVC compared to face-to-face counselling (Bird et al., 2019). This finding may be explained by some differences between the two modalities. Individuals who seek OVC usually do not have to physically visit a clinic and be exposed to people in a waiting room. Physically visiting a clinic and waiting for mental health professionals may increase the likelihood of being publicly stigmatized (Bird et al., 2019).

In sum, public stigma appears to be negatively associated with attitudes towards telemental health. In other words, the more public stigma an individual perceives towards seeking mental health services, the more likely they will hold a negative attitude towards mental health services (Bird et al., 2019). Additionally, Bird et al. (2019) found stigma to

be more negatively associated with attitudes toward face-to-face counselling compared to OVC. This result might be attributed to having to be physically present for face-to-face therapy, allowing for the potential of being publicly scrutinized/marginalized.

After having discussed the role of public stigma in telemental health-seeking attitudes, we will move to a discussion of public stigma in telemental health-seeking behaviors in the Global North.

ii. Public Stigma and Telemental Health-Seeking Behaviors

Studies conducted in the Global North have shown that perceived public stigma could impede patients' telemental health-seeking behavior (Bird et al., 2019; Bleyel et al., 2020; Hadler et al., 2021).

Bleyel et al. (2020) aimed to identify barriers to mental health specialist video consultations in primary care services. Bleyel et al (2020) conducted semi-structured interviews with thirteen patients *(M* age = 48.7 years) in primary care practices. Based on patients' interviews, Bleyel et al. (2020) reported several barriers to telemental health-seeking. Aside from willingness to use technological tools, 54% of patients expressed that society's negative views towards mental health care (public stigma), were negatively associated with their willingness to participate in mental health video consultations (Bleyel et al., 2020). In fact, half of this study's participants viewed public stigma as a deterrent to participating in telemental health services (Bleyel et al., 2020). In addition to society's negative views of mental illnesses, a lack of psychosocial support appeared to impede patients' acceptance of this telemental health service (Bleyel et al., 2020).

In the same vein, Hadler et al. (2021) conducted a review of the literature examining the experiences of college students with telemental health and their willingness to engage in this modality. Hadler et al. (2021) found public stigma to be a barrier to telemental health-seeking. Hadler et al. (2021) also found public stigma to be associated with a lower likelihood of following through with treatment recommendations and a greater likelihood of dropping out of treatment.

In sum, public stigma appears to hinder patients' telemental health-seeking behavior (Bird et al., 2019; Bleyel et al., 2020; Hadler et al., 2021). Some evidence also suggests that public stigma may be associated with a lower likelihood of following through with treatment recommendations and a greater likelihood of dropping out of treatment (Hadler et al., 2021). After having discussed the role of public stigma in relation to telemental health-seeking behaviors in the Global North, we will now move to that discussion in the Global South.

b. The Global South

i. Public Stigma and Telemental Health-Seeking Attitudes

To the best of our knowledge, no studies conducted in the Global South have examined the association between public stigma and telemental health-seeking attitudes.

ii. Public Stigma and Telemental Health-seeking Behaviors

There is some evidence that public stigma may be negatively associated with patients' telemental health-seeking behavior in the Global South (Ashfaq et al., 2020; Lindegaard et al., 2021; Naal et al., 2021).

In a systematic review on telemental health in the Arab world, Ashfaq et al (2020) identified potential barriers to telemental health in Arab communities (Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Syria etc.; Ashfaq et al., 2020). Ashfaq et al (2020) found stigma to act as a barrier to Arab patients' use of telemental health services. Some community members viewed individuals seeking mental health services as weak, helpless or cursed with unexplainable illnesses (Ashfaq et al., 2020). As such, public stigma associated with mental illness and seeking mental health services may impede patients' acceptance and subsequent use of telemental health (Ashfaq et al., 2020).

In Lebanon, Naal et al. (2021) highlighted several barriers to the implementation of telemental health. Naal et al (2021) conducted a review of the literature and found fear of social/public stigma to negatively affect different aspects of care in Lebanon. Public stigma appears to be rooted in the sociocultural fabric of Lebanese and Arab societies (Merhej, 2019). This public stigma surrounding mental illness in these societies is thought to be stemming from a lack of awareness and understating of mental illness as well as a deep-rooted fear of people with mental illness (Merhej, 2019; Naal et al, 2021). It seems likely that damaging sociocultural beliefs that stem from a lack of awareness and fear could exacerbate public stigma levels among community members which could in turn discourage mental health seeking (Abdallah et al., 2019; Merhej, 2019).

In sum, public stigma appears to be negatively associated with telemental health attitudes and behaviors in some Global North and Global South countries. After having presented the association between public stigma and telemental health-seeking attitudes and behaviors, we will discuss the fifth variable in our conceptual model: Confidence in mental health professionals. Confidence in mental health professionals will be explored in relation

to telemental health-seeking attitudes and behaviors in both the Global North and Global South.

5. Confidence in Mental Health Professionals

Patients' confidence in mental health professionals can be multilayered and generally encompasses two themes. The first theme pertains to patients' trust in services offered while the second pertains to the belief that therapy is beneficial for them (Laugharne & Priebe, 2006). Some researchers have demonstrated how a lack of confidence in mental health services may be negatively associated with telemental health-seeking attitudes and behaviors in the Global North and Global South (Abi Ramia et al., 2018; Ashfaq et al., 2020; Casey et al., 2014; Knerr et al., 2011; Naal et al., 2021; Petersen et al., 2020). In the following sections, we will discuss the potential role confidence in mental health professionals could play in telemental health-seeking attitudes and behaviors.

a. The Global North

i. Confidence in Mental Health Professionals and Telemental Health-Seeking Attitudes

A lack of confidence in mental health professionals could be negatively associated with attitudes toward seeking telemental health in the Global North (Casey et al., 2014; Petersen et al., 2020).

Casey et al (2014) examined perceived barriers to internet and face-to-face psychological treatments for depression. Casey et al (2014) surveyed 45 adult participants in Australia to ask them about their perception of different mental health modalities. The researchers used the Perceived Barriers to Psychological Treatment Questionnaire (PBPT) to

assess participants' perceptions of barriers to psychological treatment (Casey et al., 2014; Mohr et al., 2010). Casey et al (2014) found no significant differences between participants' perceived barriers to telemental health and face-to-face treatment. According to Casey et al. (2014), a lack of confidence in mental health professionals seems to act as a barrier to mental health seeking regardless of the modality used. Thus, one could suspect that individuals who do not trust the therapeutic process and/or do not view it as beneficial are more likely to hold negative attitudes towards telemental health-seeking.

In a systematic review, Jenkins-Guarnieri et al. (2015) discussed patient treatment satisfaction and the therapeutic alliance in telemental health and in-person treatments (Jenkins-Guarnieri et al., 2015). Jenkins-Guarnieri et al. (2015) found patient treatment satisfaction and therapeutic alliance to be positively associated with treatment outcomes (e.g., symptom reduction and increased functionality; Jenkins-Guarnieri et al., 2015). Consistent with the previous literature, Jenkins-Guarnieri et al. (2015) found discomfort and distrust in mental health professionals to hinder the development of a therapeutic alliance, resulting in reduced patient satisfaction (Knerr et al., 2011; Jenkins-Guarnieri et al., 2015). Even though some findings show comparable treatment satisfaction and therapeutic alliance in both telemental health and in-person therapy (Jenkins-Guarnieri et al., 2015), others suggest decreased levels of patient comfort and confidence in mental health professionals in telemental health (Jenkins-Guarnieri et al., 2015).

Studies highlighting reduced confidence in mental health professionals in telemental health were primarily based on group-based treatments (Jenkins-Guarnieri et al., 2015). Further research may be warranted to understand whether decreased patient comfort and confidence in mental health professionals would carry over to individual therapy delivered

via telemental health (Jenkins-Guarnieri et al., 2015). After having discussed the role confidence in mental health professionals could play in telemental health-seeking attitudes in the Global North, we will discuss its potential role in telemental health-seeking behavior.

ii. Confidence in Mental Health Professionals and Telemental Health-Seeking Behaviors

To the best of our knowledge, only a few studies conducted in the Global North examined the association between confidence in mental health professionals and telemental health-seeking behavior. In an attempt to understand perceptions of telemental health, Petersen et al. (2020) sampled 270 college students receiving in-person mental health counselling at a university counselling center in the US (Petersen et al., 2020). Petersen et al. (2020) interviewed patients to evaluate their acceptance of counselling offered via telemental health. Patients reported major communication barriers to the use of telemental health services. More specifically, patients reported feeling that telemental health would make for a less personal connection than face-to-face counselling (Petersen et al., 2020). Some patients reported having a hard time trusting a counsellor they have never met in person and having a hard time opening up at a distance (Petersen et al., 2020).

Confidence in mental health professionals, therefore, appears to be negatively associated with in-person and telemental health-seeking attitudes and behaviors (Casey et al., 2014; Jenkins-Guarnieri et al., 2015; Petersen et al., 2020). Not being able to see a mental health professional in person may stand in the way of forming a connection and establishing trust with that mental health professional. These variables may in turn impede telemental health-seeking and negatively color telemental health-seeking attitudes (Casey et al., 2014; Jenkins-Guarnieri et al., 2015; Petersen et al., 2020). Further research is required to better

understand the role confidence in mental health professionals may play in telemental health-seeking attitudes and behaviors. After having discussed the role confidence in mental health professionals could play in telemental health-seeking attitudes and behaviors in the Global North, we will now discuss its role in the Global South.

b. The Global South

i. Confidence in Mental Health Professionals and Telemental Health-Seeking Attitudes

There is some evidence that a lack of confidence in mental health professionals is negatively associated with attitudes toward seeking telemental health in the Global South (Abi Ramia et al., 2018; Jefee-Bahloul, 2014; Naal et al., 2021).

Abi Ramia et al (2018) found some community members in Lebanon hold negative attitudes toward telemental health services due to a general distrust in health care providers and a belief that therapy may not be effective in treating mental distress. Similarly, Syrian refugees reported being hesitant to use telemental health, due to excepted distortions to the patient-doctor relationship (Jefee-Bahloul, 2014). This distortion could be due to a lack of trust in the effectiveness of health care and mental health providers (Jefee-Bahloul, 2014).

In sum, a lack of confidence in mental health professionals could be negatively associated with patients' attitudes toward seeking telemental health in the Global South (Abi Ramia et al., 2018; Jefee-Bahloul, 2014; Naal et al., 2021). Next, we will discuss the potential role confidence in mental health professionals could play in telemental health-seeking behavior in the Global South.

ii. Confidence in Mental Health Professionals and Telemental Health-Seeking Behaviors

By conducting a systematic review, Ashfaq et al. (2020) aimed to identify potential barriers to telemental health services in the Arab world. General distrust in healthcare providers was frequently reported as a barrier to telemental health services (Ashfaq et al., 2020).

After having presented variables that appear to be associated with telemental health-seeking attitudes and behaviors in the Global North and Global South, we will briefly discuss variables that have been shown to distally affect patient telemental health-seeking attitudes and behaviors. The variables that will be presented next are our study's control variables. Even though control variables are not the primary focus of this study, they are still worth mentioning.

I. Control Variables

In this study, we plan on controlling for the following variables: Previous use of mental health services, and social desirability. Previous use of mental health services may impact one's attitudes towards telemental health depending on the quality of their previous experiences (Connolly et al., 2020). Finally, given the delicate nature of some of our questions, evaluating social desirability seems important (King & Bruner, 2000).

J. Summary of the Literature Review

Based on the previously presented scientific literature, several variables have been shown to be associated with attitudes towards telemental health. These variables include: 1) socio-demographic and participant-related factors such as: a) age, b) structural barriers, and

c) technological skills; 2) recognizing a mental health problem and the need for help; 3) openness to experience; 4) public stigma; and 5) confidence in mental health professionals.

K. Study Aims and Hypotheses

Based on the previously presented literature, several gaps are worth noting. The first one pertains to the limited knowledge of variables that might be associated with attitudes towards telemental health. The scarcity in telemental health-related local and global research could be attributed to the novelty of this modality (Novo & Knezevic, 2019). The few studies that evaluated patients' perception of telemental health were for the most part non-empirical (e.g., systematic reviews, commentaries) and favored qualitative data analyses. While systematic and qualitative data analyses are useful, particularly when trying to understand a new phenomenon, the results obtained from such studies are not necessarily generalizable. With telemental health being a relatively new phenomenon, there is a scarcity of studies evaluating patients' attitudes towards telemental health, particularly in Lebanon.

Most of the studies conducted in the Global North and Global South focused on clinicians' perceptions of telemental health with patients relegated to the background (Cowan et al., 2019; McClellan et al., 2020; Ralston et al., 2020). This gap is further accentuated in the Arab world and particularly in Lebanon. The limited research conducted locally on telemental health-seeking attitudes could be attributed to the scarce resources coupled with socio-economic and financial difficulties Lebanon has been facing lately (Obeid & Saade, 2022). While those limited resources could explain, at least in part, the lack of research on telemental health, they also highlight the need for research on the topic. Given the significant difficulties people in Lebanon have been facing, the need for mental health services is

heightened (Bosqui, 2020). This all rings true given that Lebanese people have been grappling with basic survival needs that may get in the way of telemental health (electricity, internet, etc.). These factors that have been accentuated since the crisis in Lebanon deserve attention to be able to fully and accurately grasp attitudes towards mental health in Lebanon. Lastly, to the best of our knowledge, no study to date has examined the association between public stigma and telemental health use in the Global South and none in Lebanon (Naal et al., 2021). Stigma could play an important role in mental health attitudes and services, evaluating the role public stigma could play in telemental health attitudes seems crucial.

Given these perceived gaps in the scientific literature and the high prevalence rates of mental health disorders among Lebanese people (Karam et al., 2008), the current study aims to identify variables that could be associated with patients' telemental health-seeking attitudes. We expect several variables to be associated with patients' attitudes towards telemental health services. Among those variables are: Age, structural barriers, technological skills, recognizing a mental health problem and need for help, openness to experience, public stigma, and confidence in mental health professionals. In our study, we will be assessing these variables and their potential relationship with tele-mental health seeking attitudes. This thesis will therefore attempt to evaluate the following hypotheses:

- ***Hypothesis 1:*** Older age will be associated with more negative attitudes toward seeking telemental health services.
- ***Hypothesis 2:*** Greater structural barriers (e.g., Internet unavailability) will be associated with more negative attitudes toward seeking telemental health services.
- ***Hypothesis 3:*** Greater technological skills will be associated with more positive attitudes toward seeking telemental health services.
- ***Hypothesis 4:*** Greater recognition of mental health problems will be associated with more positive attitudes toward seeking telemental health services.
- ***Hypothesis 5:*** Higher levels of openness to experience will be associated with more positive attitudes toward seeking telemental health services.
- ***Hypothesis 6:*** Higher levels of public stigma will be associated with more negative attitudes toward seeking telemental health services.
- ***Hypothesis 7:*** Greater confidence in mental health professionals will be associated with more positive attitudes towards seeking telemental health services.

In pursuing these objectives, we aim to foster a better understanding of attitudes toward telemental health services in Lebanon. By better understanding potential barriers and promoters of to telemental health services, we hope to facilitate access to alternatives to traditional mental health services. These alternatives might be particularly relevant in today's day and age.

CHAPTER II

METHODS

A. Participants

We sought to recruit a community sample of English-literate adults in Lebanon aged 18 years old and above. We conducted an a priori power analysis G*Power 3.1.9.6 to determine an appropriate sample size for our study (Faul et al., 2009). The power analysis revealed that we need to recruit around $N = 280$ participants. Our sample size was considered appropriate with a power of 95% ($\alpha = .05$) and a small to medium effect size. To account for missing data, we aimed to recruit approximately ten percent more participants. Altogether we had 300 participants in our study ($N = 300$),

B. Procedures

After obtaining Institutional Review Board (IRB) approval, study participants were asked to fill out a series of questionnaires on Lime Survey. In addition to sharing our survey on multiple social media platforms (WhatsApp, Instagram, Facebook, Twitter etc.), we used a snowball sampling approach. Our participants were mainly recruited online through social media (e.g., Instagram, Facebook, WhatsApp, Twitter and LinkedIn). Hard-copy questionnaires were available for participants opon request; however, none of our participants opted to use them. Additionally, questionnaires were available for participants in English and in Arabic. Our scales were originally all developed in English. In the interest of reaching a more representative pool of participants, we opted to translate our survey into

Arabic. We did so by hiring two translators to conduct a front and back translation of our scales. These translators were students recruited from the Arabic department at AUB and were versed in English, Arabic and translation. In doing a front and back translation we were able to address any potential discrepancies between our English and Arabic surveys. Additionally, our contact information was provided to participants in case they had any inquiries related to our study or wished to be debriefed. Participation lasted between 15 and 20 minutes.

Participants were incentivized to participate in our study by the possibility to win a cash prize through a lottery compensation system. To enter the draw for a possibility to win the cash prize participants were required to send a screenshot (if done online) or a photo (if done on paper) of their final page upon completion of the survey with the exact completion date and time. This screenshot/photo had to be sent to: telementalhealthaub@gmail.com. We had 10 winners. Each winner was entitled to 1,000,000 LBP. This cash amount was awarded to the winners by the master's student at a convenient time and place for the participants. Winners of the cash prize were contacted via a response to their original email to notify them of their winnings. Survey response data on our computer will be permanently deleted after the seven-year period has elapsed.

To take part in our study, participants were asked to fill out several questionnaires (See Appendix I for English and Arabic versions). The questionnaires were presented to participants in random order on LimeSurvey. We did so to control for order effect, i.e., we were interested in ensuring that participants' responses were not influenced by the order of questions presented to them (Bowling, 2005). The questionnaires we used will be

elaborated on further in the next section which pertains to all the measures used in our study.

C. Measures

In the following sections, we will be discussing the measures we used in our study in detail. We will be elaborating on how variables were measured, potential score ranges, and when applicable, Cronbach alphas. Our actual score ranges and scale Cronbach alpha values will be presented in the results section.

1. Independent Variable Measures

a. Sociodemographic Questionnaire

Our sociodemographic questionnaire included several variables that have been found to be associated with telemental health use in the scientific literature (Beck & Beck, 2011; Burke et al., 2015; Chiauzzi et al., 2020, Cowan et al., 2019; Fischer et al., 2020; Jefee-Bahloul, 2014; Madigan et al., 2021; Musiat et al., 2014; Vera San Juan et al., 2021). The sociodemographic and participant-related factors that will be evaluated in this thesis are i. age, ii. structural barriers, and iii. technological skills (See Appendix A, Section I).

i. *Age* was determined based on a single item question: "What is your age?"

ii. *Structural barriers* evaluated in this thesis were found to be pertinent in the telemental health literature across the Global North and Global South (Berry & Lai, 2014; Chiauzzi et al., 2020; Cowan et al., 2019; Huilgol et al., 2021; Madigan et al., 2021; Vera San Juan et al., 2021). Based on a review of the scientific literature and our clinical experience in Lebanon, we decided to focus on: electricity-related issues, internet availability, bandwidth, literacy, technological skills, payments online, and access to materials and a quiet place. Our structural barriers questionnaire consisted of 7

items, which were developed by us. Participants were asked to rate those items on a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. Examples of items include: “I have sufficient access to the internet for telemental health use”, “My internet connection is stable enough for telemental health use” and “I cannot make the time for telemental health use on a regular basis (e.g., weekly or bi-weekly)” (See Appendix A; Section-VI). A total score was computed based on individual ratings on each item on the scale. To score this questionnaire, we reverse-scored all items except negatively keyed items. After doing so, a higher score obtained on the structural barrier questionnaire indicated a greater experience of structural barriers while lower scores will indicate a lesser experience of structural barriers. The total structural barriers score will range between 7 and 35.

iii. *The technological skills scale* we used focuses on technological literacy/knowledge. Our choice was also informed by the scientific literature (Almoshmosh et al., 2020; Burchert et al., 2019; Costa et al., 2021; Eisner et al., 2019) coupled with our clinical experience in the Lebanese context. This scale was developed by us, the research team. We evaluated participants’ technological skills with a 3-item scale. Participants were asked to rate items on a scale from 1-10, a score of 1 being the lowest and a score of 10 being the highest. Examples of items included in the scale are “On a scale from 1 to 10 how would you rate your technology knowledge/literacy in the context of telemental health use (using e.g., phone, tablet, laptop, computer etc. for mental health purposes)?”, and “On a scale from 1 to 10 how comfortable are you in resolving technological issues that may arise during telemental health use?” (See Appendix A; Section-VII). Similar to the structural barriers scale, a total score was computed based

on individual ratings on each item presented in the scale. The total technological skills score ranged between 3 and 30, with higher scores indicating greater technological skills and lower scores indicating lower technological skills.

b. Recognizing a Mental Health Problem and the Need for Mental Help Measure

Our fourth independent variable is recognizing a mental health problem and the need for psychological help. Under this construct, we will be measuring two variables. These two variables are the subjective recognition of the problem and need for help as well as the objective experience of mental distress (the objective need for help). We have measured this construct by pairing the subjective measure of recognition of a mental health problem and the need for help with a measure of objective mental distress. We believe that including both an objective and subjective measure under this construct is important as people tend to be biased in their own self-report, especially when it comes to their own need for mental help (Latkin et al., 2017). Those seeking telemental health services are often those that need them the most (Kern et al., 2018; Lal et al., 2015). We opted to use an objective clinical measure of mental distress to root this recognition construct in clinical understanding.

To evaluate the recognition of the problem and the need for mental help in a subjective manner, we asked participants the following question: "Over the past week, have you had mental health problems/difficulties you need help with?" (See Appendix A- Section III). The answers to this question are binary (Yes/No) with a follow-up question in case the answer was yes (See Appendix A- Section III). To evaluate mental distress objectively, we asked participants to fill out the DASS-21 questionnaire (DASS-21;

Lovibond & Lovibond, 1995; See Appendix B). The DASS-21 is a 21-item scale that evaluates depression symptoms, anxiety symptoms, and stress levels. We selected this questionnaire given the high prevalence rate of stress, anxiety and depressive symptoms internationally and locally (Karam et al., 2006; Karam et al., 2019; Obeid & Saade, 2022). Mental distress was measured on a continuum, i.e., higher scores indicate greater mental distress. Participants were asked to indicate to what extent statements applied to them (1: did not apply to me at all, 2: a statement that applied to me to some degree, or some of the time, 3: a statement that applied to me to a considerable degree or a good part of the time and 4: a statement that applied to me very much or most of the time). Examples of items tapping into stress, anxiety and depression respectively in DASS-21 are: "I found it hard to wind down", "I was aware of dryness of my mouth" and "I couldn't seem to experience any positive feeling at all" (See Appendix B). A total score of mental distress was computed by summing all items. Mental distress scores were expected to range between 21 and 84. Each construct score (stress, anxiety and depression) within the larger construct of mental distress was computed by summing individual items that tap into the said construct. In other words, a total score for stress was computed by summing all items tapping into stress and the same was done for anxiety and depression items. The total scores of these three constructs in the DASS-21 were expected to range between 0 and 21. The DASS-21 has been shown to have Cronbach's α values ranging between acceptable and very good α (α = .81 for the depression scale, .89 for the anxiety scale and .78 for the stress scale; Coker et al., 2018).

c. Extra Short Form of Big Five Test-2xs/Openness to experience

Our fifth independent variable is openness to experience. The Big Five Personality Inventory was used to evaluate participants' openness to experience (Satow, 2021). For the purpose of this thesis, we only used 3 items pertaining to openness to experience (See Appendix C; BFT-2XS; Soto & John, 2017). Each item provided in this questionnaire will be rated on a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. Examples of items included in this scale are: I am someone who: "Is fascinated by art, music, or literature." and the negatively-keyed item "Has little interest in abstract ideas" (See Appendix C). To score the BFT-2XS, we reverse-scored all negatively-keyed items. Then, we computed a total score based on individual ratings on each item on the scale (with a minimum score of 3 and a maximum score of 15). Higher scores obtained on the extra short Big Five form indicate a greater openness to experience while lower scores indicate a lower openness to experience. Finally, BFT-2XS appears to have acceptable internal consistency with Cronbach's α for the scale ranging between .61 and .63 (Soto & John, 2017).

d. Public stigma Measure

Our sixth independent variable is public stigma. To assess public stigma, we have, in collaboration with Dr. Badaan developed a 10-item scale pertaining to public stigma (See Appendix D). Participants were asked to rate each item on a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. Examples of items in this questionnaire include "If someone I know has a mental illness and other people knew of it, people would think this person is dangerous.", and "If someone I know has a mental illness and other

people knew of it, people would be terrified of this person.". One of our items is negatively keyed: "If someone with mental illness opens up about their experience with mental illness they will be praised by society." To score this questionnaire, we reverse-scored the negatively-keyed items. We computed a total score by summing individual scores (with a minimum score of 9 and a maximum score of 45). Higher scores obtained on the public stigma scale indicated higher levels of public stigma, while lower scores indicated lower public stigma.

e. Confidence in Mental Health Professionals Measure

To assess our seventh and final independent variable, we developed five items in our sociodemographic questionnaire under the "Confidence in Mental Health Professionals" subheading (See Appendix A-V). Participants were asked to indicate on a scale from 1 to 10 to what extent they agree with a number of items. Examples of items included are: "On a scale from 1 to 10 how well trained do you think mental health professionals are in terms of adult mental health problems?", "On a scale from 1 to 10 how comfortable are you discussing your mental health with a mental health professional?", and "On a scale from 1 to 10 how helpful would you say mental health professionals are in answering questions pertaining to your mental health problem(s)?" (See Appendix A-V). A total score was computed by summing individual scores (with an expected minimum score of 5 and a maximum score of 50). Higher scores on the confidence in mental health professionals questionnaire were indicative of greater confidence in mental health professionals while lower scores were indicative of lower confidence in mental health professionals.

2. Control Variables Measures

a. Previous Use of Mental Health Services Measure

Given that previous use of mental health services may impact one's attitudes towards telemental health depending on the quality of their previous experiences (Connolly et al., 2020), we decided to control for participants' previous use of mental health services in our study. To assess participants' previous use of mental health services, we have included a number of items in the sociodemographic questionnaire under the subheading: "Previous Use of Mental Health Services" (See Appendix A-V). The first item in this subheading: "During the past three years, have you ever consulted a mental health professional (e.g., a psychologist, counsellor, or social worker c) for any psychological, emotional or academic/work problem you are experiencing (e.g., feeling worried, feeling sad, physical symptoms that have no medical explanation such as tension, insomnia, pounding heart, or fatigue)?" Responses to this question are binary (Yes/ No). This Yes/No question is used to indicate participant's previous mental health use. If the participant indicated that they received mental health services, we will ask them to indicate the specific service(s) they sought from a selected list (See Appendix A-V).

b. Short Version of The Balanced Inventory of Desirable Responding/Social Desirability Measure

Given that we will be asking participants delicate questions, we had decided to control for social desirability. To evaluate social desirability, we had used a four-item short form-version of the balanced inventory of desirable responding (See Appendix E; BIDR;

Hart et al., 2015). The internal consistency of the short version of the BDIR scale has been shown to be excellent with Cronbach's α = .98 (Hart et al., 2015). However, for the sake of transparency, we decided to drop this measure from our data as it yielded a poor α in our reliability analysis. This will be discussed further in our results section.

3. Dependent Variable Measure

a. Attitude Toward Telemedicine in Psychiatry and Psychotherapy Questionnaire - Laypeople Version

To assess our dependent variable, we adapted the Attitude Toward Telemedicine in Psychiatry and Psychotherapy Questionnaire-Laypeople Version Scale (ATiPP; Tonn et al., 2017; See Appendix F). The ATiPP is an 8-item measure. Participants were asked to rate each item on a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree (See Appendix F). Given that the ATIiPP includes both psychotherapy and telemedicine, we decided to limit its focus to telemental health. Our decision was driven by a desire to align it better with our study objectives and minimize participants' confusion. For instance, the original ATiPP item "Generally, telemedicine is a good addition to the medical services." becomes: "Generally, telemental health is a good addition to mental health services." Other items include "For psychiatric or psychotherapeutic issues or mental illness, patient information via telemental health is very helpful.", and "A successful treatment of the patients with mental illness via telemental health is possible." A total score was computed by summing individual scores on all individual items (with a minimum score of 8 and a maximum score of 40; ATiPP; Tonn et al., 2017). Higher scores indicated more positive attitudes toward seeking telemental health while lower scores indicated a more

negative attitude toward seeking telemental health. Finally, the ATiPP has been shown to have good internal consistency with Cronbach's $\alpha > .80$ (ATiPP; Tonn et al., 2017).

D. Pilot Study

We conducted a pilot study, where 12 adults filled out the survey (6 participants filled out the English version and 6 participants filled out the Arabic version). As expected, the time of the survey was around 15-20 minutes. In the English version, it took participants around 14 minutes on average to fill out the survey. In the Arabic version, it took participants around 16 minutes on average to fill out the survey. Participants in the pilot study provided comments which were noted and later addressed. The changes to our survey after receiving feedback from our pilot study participants were minimal, as we opted to leave validated scales unchanged to preserve their validity. Based on participant feedback on both survey versions, we hid conditional questions when relevant (e.g., if a participant reported not experiencing mental health difficulties, the follow-up question relating to the kinds of mental health difficulties they have experienced became hidden). Additionally, based on participant feedback on the Arabic version, we indented questions and answer options to the right.

CHAPTER III

RESULTS

A. Sample Descriptives

In this study, we have recruited two samples. One sample of participants completed the survey in English and one in Arabic. These two samples will be referred to as the English and Arabic samples respectively. The English sample included 232 participants while the Arabic sample included 68 participants. Participants were constituted of adults residing in Lebanon at the time of the survey. In the English sample, participants' ages ranged between 18 and 59 years old (M = 25.53, SD = 8.831), in the Arabic sample participants' ages ranged from 18 and 79 years old (M = 40.56, SD =14.07). Even though participants were given the option of participating in our study on paper, all participants filled out the survey on an electronic device. Sample descriptives are further elaborated on in Table 3.

Table 1. *Sample Descriptives*

3.1 English Sample

		M	SD	N	%
Age (years)		25.53	8.831	232	
Sex	Male			46	19.8
	Female			182	78.4
	Prefer not to say			4	1.7
Language(s) spoken by the participants	English			232	100
	Arabic			224	96.6
	French			96	41.4
	Spanish			10	4.3
	Other			15	6.4
Relationship status	Part of a couple/Married			80	34.5
	Separated			4	1.7
	Single			137	59.1
	Divorced			5	2.2
	Prefer not to say			6	2.6
Educational level	Grade 12 or Baccalaureate			39	16.8
	Some College Education but No Degree			43	18.5
	Bachelor's Degree (e.g., BA, BS, DEA)			95	40.9
	Master's Degree e.g., MS, MA, Med, DESS)			46	19.8
	Doctorate (PhD, MD, EdD)			3	1.3
	Post Doctoral Degree			3	1.3
	Medical Degree			3	1.3
Household income	Our household income covers our needs well, and we can save from it			41	17.7

	Our household income covers our needs, but we cannot save from it	108	46.6
	Our household income does not cover our needs, and we face difficulties meeting those needs	60	25.9
Family members residing with participants at home	1	10	4.3
	2	24	10.3
	3	46	19.8
	4	49	21.1
	5	57	24.6
	6	30	12.9
	7	6	2.6
	8	5	2.2
	9	1	0.4
	10	1	0.4
	11	1	0.4
	14	2	0.9
	Working	111	47.8
Working status	Not working	121	52.2
	Full time	71	63.4
Working schedule	Part time	35	31.3
	Other	3	1.3
Presence of mental health problem over the past week			
	Yes	120	51.7
	No	96	41.4
	Prefer not to say	16	6.9
Type of mental health problem over the past week			
	Anxiety	80	34.5
	Depression	58	25.0

	Bipolarity	21	9.1
	Hyperactivity/Inattention	27	11.6
	Trauma	16	6.9
	Eating problems	34	14.7
	Schizophrenia or psychosis	2	0.9
	Obsessions and/or compulsions	17	7.3
	Substance related problems	7	3
	Sleep related problems	36	15.5
	Neurocognitive problems	3	1.3
	Other		
Previous use of mental help	Yes	81	34.9
	No	151	65.1
Type of mental help used	Counsellor	18	7.8
	Clinical Psychologist/ Psychotherapist	62	26.7
	Psychiatrist	4	1.7
	Life Coach	11	4.7
	Social Worker	4	1.7
	Alternative professional (Priest, Sheikh, or Traditional Healer)	4	1.7
Accessing mental health services in a country aside from Lebanon	No	74	31.9
	Yes	7	3.0

3.2 Arabic Sample

Items	Item options	Mean	Standard Deviation	N	%
Age (years)		40.56	14.076	68	
Sex	Male			13	19.1
	Female			55	80.9
Language(s) spoken by participants	English			28	41.2
	Arabic			68	100
	French			25	36.8
	Spanish			1	1.5
Relationship status	Part of a couple/Married			44	64.7
	Separated			2	2.9
	Single			16	23.5
	Divorced			3	4.4
	Widowed			3	4.4
Educational level	Less than Grade 12 or Baccalaureate			10	14.7
	Grade 12 or Baccalaureate			4	5.9
	Vocational Degree or Skill-Based Training			2	2.9
	Some College Education but No Degree			10	14.7
	Bachelor's Degree (e.g., BA, BS, DEA)			27	39.7
	Master's Degree e.g., MS, MA, Med, DESS)			10	14.7
	Doctorate (PhD, MD, EdD)			5	7.4
Household income	Our household income covers our needs well, and we can save from it			15	22.1
	Our household income covers our needs, but we cannot save from it			35	51.5

	Our household income does not cover our needs, and we face difficulties meeting those needs	14	20.6
Family members residing with you at home	1	6	8.8
	2	9	13.2
	3	13	19.1
	4	21	30.9
	5	13	19.1
	6	5	7.4
	8	1	1.5
Working status	Working	42	61.8
	Not working	26	38.2
Working schedule	Full time	30	71.4
	Part time	12	28.6
Presence of mental health problem over the past week	Yes	20	29.4
	No	44	64.7
	Prefer not to say	4	5.9
Type of mental health problem over the past week	Anxiety	12	17.6
	Depression	10	14.7
	Bipolarity	5	7.4
	Hyperactivity/Inattention	4	5.9
	Trauma	1	1.5
	Eating problems	2	2.9
	Obsessions and/or compulsions	1	1.5
	Sleep related problems	5	7.4

Previous use of mental help	Yes	11	16.2
	No	57	83.8
Type of mental help used	Counsellor	2	2.9
	Clinical Psychologist/ Psychotherapist	5	7.4
	Psychiatrist	2	2.9
	Life Coach	1	1.5
	Social Worker	1	1.5
Accessing mental health services in a country aside from Lebanon	No	9	13.2
	Yes	2	2.9

B. Participants in the Two Datasets

In both samples, most participants were female (English: 78.4%; Arabic: 80.9%). On average participants were younger in the English sample (M = 25.53, SD = 8.83) compared to the Arabic sample (M = 40.56, SD =14.07). In the English sample, most participants reported being fluent in Arabic (96.6%) while in the Arabic sample, less than half the participants reported being fluent in English (41.2%). In the English sample, most participants reported being single (59.1%), compared to the Arabic sample, where most participants reported being part of a couple or being married (64.7%). Across both samples, the most common level of education reported by participants was a bachelor's degree (English: 40.9%; Arabic: 39.7%). Similarly, across both samples, the most common household income covered participants' needs but was enough to be saved from (English: 46.6%; Arabic: 51.5%). In the Arabic sample, most of the participants reported working at the time of the study (61.8%) while in the English sample, slightly less than half of the participants reported working at that time (47.8%). In both samples most participants who were working reported working full-time (English: 63.4%; Arabic: 71.4%). In both samples, most participants had 4-5 family members residing with them (English: 21.1-24.6%; Arabic: 30.9%-19.1% had 4-5 members respectively). In the English sample, over half of the participants reported having a mental health problem over the past week (51.7%). In the Arabic sample, less mental health problems were reported by participants at the time of the survey (29.4%). In both samples, the most comment type of mental health problem experienced by participants was anxiety (English: 34.5%; Arabic: 17.6%) followed by depression (English: 25%; Arabic 14.7%). Despite mental health problems being reported in both samples (more so in the English sample), only a minority of participants

had previously used mental health services (English: 34.9%; Arabic 16.2%). Most participants had reported visiting a clinical psychologist/psychotherapist (English: 26.7%: Arabic: 7.4%) in Lebanon (English: 31.9%; Arabic: 13.2%).

After having described some of the similarities and differences between our sample we will move to t-tests. We have chosen to compare our English and Arabic samples by comparing sociodemographic variables that may differ across our samples. These sociodemographic variables are: age, educational level and household income. We conducted an unequal variance t-test (Welch's t-test) to compare our English and Arabic samples. We opted to use an unequal variance t-test as our English and Arabic samples were of different sizes ($N = 232$, $N = 68$, respectively).

A significant difference in age was noted between the English ($M = 25.53$, $SD = 8.83$), and the Arabic sample ($M = 40.56$, $SD = 14.07$), $t\ (240) = 8.35$, $p < .05$. No significant difference in household income was noted between the English ($M = 1.88$, $SD = .907$) and Arabic samples ($M = 1.87$, $SD = .809$), $t\ (1) = .08$, $p < .05$. Educational levels did not differ significantly between the English ($M = 4.63$, $SD = 1.46$) and Arabic sample ($M = 4.32$, $SD = 1.78$), $t\ (4) = 1.32$, $p < .05$. Aside from age, no significant differences were noted in terms of sociodemographic variables in the English and Arabic samples. Based on the results obtained, we have decided to combine the two datasets ($N = 300$). Sample descriptives for combined data are presented in Table 3.3. In the coming sections we will be discussing analyses run on the Arabic, English and combined samples. The discussion of the three samples will be restricted to descriptive analysis while the main analyses discussion will focus only on the combined sample.

3.3 Combined Sample

		Mean	Standard Deviation	N	%
Age (years)		28.93	12.016	300	
Sex	Male			59	19.7
	Female			237	79.0
	Prefer not to say			4	1.3
Language(s) spoken by participants	English			297	99
	Arabic			252	84
	French			121	40.3
	Spanish			11	3.7
	Other			15	5.0
Relationship status	Part of a couple/Married			124	41.3
	Separated			6	2.0
	Single			153	51.0
	Divorced			8	2.7
	Widowed			3	1.0
	Prefer not to say			6	2.0
Educational level	Less than Grade 12 or Baccalaureate			10	3.3
	Grade 12 or Baccalaureate			43	14.3
	Vocational Degree or Skill-Based Training			2	.7
	Some College Education but No Degree			53	17.7
	Bachelor's Degree (e.g., BA, BS, DEA)			122	40.7
	Master's Degree e.g., MS, MA, Med, DESS)			56	18.7
	Doctorate (PhD, MD, EdD)			8	2.7
	Post Doctoral Degree			3	1.0
	Medical Degree			3	1.0

Household income	Our household income covers our needs well, and we can save from it	56	18.7
	Our household income covers our needs, but we cannot save from it	143	47.7
	Our household income does not cover our needs, and we face difficulties meeting those needs	74	24.7
Family members residing with participant at home	1	16	5.3
	2	33	11.0
	3	59	19.7
	4	70	23.3
	5	70	23.3
	6	35	11.7
	7	6	2.0
	8	6	2.0
	9	1	.3
	10	1	.4
	11	1	.3
	14	2	.7
Work status	Working	153	51.0
	Not working	147	49.0
	Full time	101	65.6
Work schedule	Part time	47	30.5
	Other	3	1.0
Presence of mental health problem over the past week	Yes	140	46.7
	No	140	46.7
	Prefer not to say	20	6.7

Type of mental health problem over the past week	Anxiety	92	30.7
	Depression	68	22.7
	Bipolarity	26	8.7
	Hyperactivity/Inattention	31	10.3
	Trauma	17	5.7
	Eating problems	36	12.0
	Schizophrenia or psychosis	2	0.7
	Obsessions and/or compulsions	18	6.0
	Substance related problems	7	2.3
	Sleep related problems	41	13.7
	Neurocognitive problems	3	1.0
	Other		
Previous use of mental help	Yes	92	30.7
	No	208	69.3
Type of mental help used	Counsellor	20	6.7
	Clinical Psychologist/ Psychotherapist	67	22.3
	Psychiatrist	6	2.0
	Life Coach	12	4.0
	Social Worker	5	1.7
	Alternative professional (Priest, Sheikh, or Traditional Healer)	4	1.3
Accessing mental health services in a country aside from Lebanon	No	83	27.7
	Yes	9	3.0

C. Preliminary Analyses

We used SPSS version 26 to analyse our data. We inspected our raw data and identified three missing responses. Case numbers 375 and 430 had not answered questions pertaining to their relationship status, educational level and working status in the English dataset. In the Arabic dataset, case number 133 had not answered questions related to their educational level and household income.

Little's Missing Completely at Random (MCAR) test was run and was not significant, $p > .05$. This demonstrates that the pattern of missing values within the two datasets was completely at random. In line with best practice guidelines in clinical psychology, three participants' data was deleted (Kang, 2013). More specifically, two participants' responses were deleted from the English dataset and one participant's responses were deleted from the Arabic dataset.

D. Psychometric Properties

We ran exploratory factor analyses (EFA) on the scales used in our study. EFA was conducted for the following scales in the combined dataset: a) confidence in mental health professionals, b) structural barriers, c) technological skills, d) depression anxiety stress/mental distress (DASS-21), e) extra short form of the big five test-2XS: openness to experience items (BFT-2XS), f) public stigma and g) attitude toward telemedicine in psychiatry and psychotherapy questionnaire-laypeople version (ATiPP). The pattern matrices of these analyses are presented in Appendix II. We chose to run an EFA on the combined data as it is the only dataset that may provide us with a sufficient sample size (N = 300) to run a factor analysis.

1. Statistical Assumptions for EFA

Bartlett's test of sphericity was significant for all of our scales: confidence in mental health professionals, structural barriers, technological skills, DASS-21, BFT-2XS, public stigma and ATiPP (X^2 (10) = 1108.918, $p < .05$; $X^2(21) = 464.902$, $p < .05$; $X^2(3) = 451.828$, $p < .05$; $X^2(210) = 2908.849$ $p < .05$; $X^2(3) = 11.030$, $p < .05$; $X^2(36) = 1256.353$, $p < .05$; $X^2(28) = 578.229$, $p < .05$, respectively). Additionally, Kaiser-Meyer-Olkin (KMO) values were above .70 for: confidence in mental health professionals, structural barriers, DASS-21, public stigma and ATiPP (KMO = .885; KMO = .768; KMO = .942; KMO = .901, KMO = .809, respectively). KMO values were below .7 for the following scales: technological skills, and BFT-2XS (KMO = .648, KMO = .545, respectively). The measures of sampling adequacy (MSA) observed on the anti-image correlation matrices did not exceed .50 for any of our scales. That said, the determinant was greater than .00001 for all our scales. Lastly, it is worth mentioning that we did not note any multicollinearity problems, as the inter-item correlations did not exceed .80. Since not all EFA assumptions were met for all our scales, the results of EFA need to be interpreted with caution.

2. Results of the EFA

As mentioned earlier, the EFA assumptions were not met. This may be due to sizing, cultural, and linguistic differences between our samples and the samples used in the literature (Coker et al., 2018; Soto & John, 2017; Tonn et al., 2017). Since the assumptions of factor analysis have not been met, the results obtained based on the EFA analysis need to be interpreted with caution. EFA on its own may not be sufficient to address poorly loaded

items. As such, we have decided to pair our EFA analysis with reliability analysis to gather more information on our scales.

a. Confidence in Mental Health Professionals Scale:

We conducted a factor analysis with Maximum-Likelihood extraction and Direct Oblimin rotation. This factor analysis was conducted on the 5 items of the confidence in mental health professionals scale. One factor was extracted based on eigenvalues greater than one. The factor extracted represents *confidence in mental health professionals.* Based on the rotated factor matrix, all 5 items loaded strongly onto that factor that explained 76.525 % of the variance in confidence in mental health professionals.

b. Structural Barriers Scale:

Next, we conducted a factor analysis with Maximum-Likelihood extraction and Direct Oblimin rotation on the 7 items included in the structural barriers scale. Without imposing any restrictions on the number of factors to be extracted, three factors were extracted based on eigenvalues greater than one. The extraction of three factors does not align with our original intention when developing this scale. More specifically, when developing this scale, we intended it to measure a single factor i.e., *structural barriers*. Based on the factors extracted from our EFA, the first factor extracted appears to explain most of the variance in the dataset. The first factor extracted explains 39.194 % of the variance, while the second and third factors extracted explain 16.750 % and 14.351 % of the variance, respectively. The structural barriers scale items loaded more strongly onto the first factor while loading weakly onto the other two. We decided to run the EFA again

whilst restricting the analysis to one factor only. This decision was attributed to several reasons: a) We had developed this scale with the intention of measuring one factor, b) one factor explained most of the variance and c) most items loaded more strongly onto that factor. The factor we were interested in represents *structural* barriers. The results of EFA with factor restriction revealed that items 5 "I cannot make the time for telemental health use on a regular basis (e.g., weekly or bi-weekly)", 6 "I can pay for telemental health services via online banking (e.g., Credit Card, Debit Card, Virtual Visa Card, etc.)" and 7 "I have the privacy/space needed for telemental health use" poorly loaded onto the factor. If poorly loading items are deleted from the scale, the resulting Cronbach's α of the remaining items within the scale does not increase significantly. As such, we have decided to not delete any items from the structural barriers scale.

c. Technological Skills Scale

Next, we conducted a factor analysis with Maximum-Likelihood extraction on the 3 items of the technological skills scale. One factor was extracted based on eigenvalues greater than one. This extracted factor represents *technological skills*. Based on the rotated factor matrix, all 3 items loaded strongly onto that factor explained 75.839 % of the variance in technological skills.

d. Depression Anxiety Stress/Mental Distress Scale:

We also conducted a factor analysis with Maximum-Likelihood extraction and Direct Oblimin rotation on the 21 items of the depression anxiety stress scale. Without any factor restriction and based on eigenvalues greater than one, four factors were extracted.

The presence of more than 3 factors contradicts the hypothesized structure developers intended for this scale (Coker et al., 2018; Lovibond & Lovibond, 1995). DASS-21 is meant to measure mental distress by tapping into 3 separate factors (depression, anxiety and stress; Lovibond & Lovibond, 1995). Based on the factors extracted from our EFA, it appears that the first factor extracted is explaining most of the variance. The first factor extracted explains 42.164% of the variance. The greatest variance explained by the other factors was that explained by the second factor (6.661%). Also, items of the DASS-21 scale across both datasets loaded more strongly on the first factor while loading weakly onto the other factors. We suspected one factor is likely explaining most of the variance as opposed to the three separate constructs of depression, anxiety, and stress possibly due to the high correlations between these items within our sample. The factor likely explaining most of the variance represents *mental distress*. Then, we decided to run the EFA again whilst restricting the analysis to one factor only. This decision was attributed to several reasons: a) the high correlations between depression, anxiety, and stress items within our sample, b) EFA revealing that one factor explained most of the variance and c) most items loaded strongly onto that factor. Thus, when considering the results of DASS-21 we are interested in the overall continuous measure of mental distress exhibited by participants. The results of EFA with factor restriction revealed that item 2 “I was aware of dryness of my mouth” poorly loaded onto the factor. If poorly loading items are deleted the resulting Cronbach’s α of the remaining items within the scale does not increase to a significant extent. Therefore, we have chosen to refrain from deleting any items from this scale.

e. Public Stigma Scale

Next, we conducted a factor analysis with Maximum-Likelihood extraction and Direct Oblimin rotation on the 9 items of the public stigma scale. Without any factor restriction, two factors were extracted based on eigenvalues greater than one. The extraction of two factors contradicts the hypothesized structure we had in mind when developing this scale. More specifically, when developing this scale, we intended to measure public stigma as a single factor. Based on the factors extracted from our EFA, it appears that the first extracted factor explains most of the variance in both datasets. The first factor extracted explained 52.062% of the variance while the second factor extracted only explained 11.258% of the variance. PSS items loaded more strongly on the first factor while loading weakly on the second. We decided to run the EFA again whilst restricting the analysis to one factor only. This decision was attributed to several reasons: a) we developed this scale with the intention to measure one factor, b) one factor explained most of the variance and c) most items loaded stronger onto that factor. This factor represents *public stigma*. The results of EFA with factor restriction revealed that item 9 poorly loaded onto the factor. If item 9 was deleted the resulting Cronbach's α of the remaining 8-item scale does not increase to a significant extent. Therefore, we have chosen to refrain from deleting any items from this scale.

f. Openness to Experience Scale

We also conducted a factor analysis with Maximum-Likelihood extraction on the 3 items of the extra short form of the big five test-2XS: openness to experience. One factor was extracted based on eigenvalues greater than one. This factor represents *openness to*

experience. Only item 1 loaded strongly onto the factor that explained 45.135 % of the variance. Items 2 “Has little interest in abstract ideas” and 3 “Is original, comes up with new ideas” loaded poorly onto the extracted factor.

As will be described in further detail in the coming section, we have paired our EFA with reliability analysis for all our scales. For the openness to experience scale specifically, we found that Cronbach’s α values after the deletion of poorly loaded items (2 and 3) do not increase to a significant extent in the English dataset. However, upon deletion of item 2 in the Arabic dataset, we noticed a pertinent change in Cronbach’s α values (from α = -1.253 to α =.475). In the original BFT-2XS scale item 2 is negatively keyed and intended to be reverse coded, therefore items 1 and 3 ought to be negatively correlated with item 2. However, after inspection of inter-item correlations for BFT-2XS in our Arabic sample, we noticed that all three items were positively correlated. We attribute the negative Cronbach’s α in the Arabic openness to experience scale to two potential reasons. First, there may be an issue with mistranslation in item 2. Item 2 was translated from “Has little interest in abstract ideas” to "لدي اهتمام قليل بالأفكار التجريدية". Second, participants here may be blindly agreeing to everything which may have created a bias in responding. Based on the aforementioned potential translation and response bias problems along with the results from the EFA and the reliability analysis, we have decided to delete item 2 in both the English and Arabic datasets.

g. Attitudes Towards Telemental Health Scale

Next, we conducted another factor analysis with Maximum-Likelihood extraction and Direct Oblimin rotation on the 8 items of the attitudes towards telemental health scale.

Without any factor restriction, two factors were extracted based on eigenvalues greater than one. The presence of two factors contradicts the hypothesized structure developers have for this scale (Tonn et al., 2017). Tonn et al. intended for this scale to measure laypersons' attitudes towards telemental health as a single factor. Based on the factors extracted from our EFA, it appears that the first extracted factor explains most of the variance. The first factor extracted explains 40.528% of the variance, while the second factor only explains 14.013% of the variance in the English and Arabic dataset respectively. Also, ATiPP items loaded more strongly on the first factor while loading weakly onto the second. We decided to run the EFA again whilst restricting the analysis to one factor only. This factor represents *attitudes towards telemental health*. This decision was attributed to several reasons: a) this scale was developed with the intention to measure one factor, b) one factor explained most of the variance and c) most items loaded stronger onto that factor. The results of EFA with factor restriction revealed that only item 7 "Online therapy via telemental health is only sensible as an addition to face-to-face therapy" poorly loaded onto the factor. If item 7 was deleted in either dataset the resulting Cronbach's α of the remaining 7 items within the scale does not increase to a significant extent. Therefore, we refrained from deleting any items from this scale.

E. Reliability Analysis

All of our scales except two have good internal consistency as conveyed by Cronbach's α values exceeding .70. Reliability analyses revealed that confidence in mental health professionals scale, structural barriers scale, technological skills scale, depression anxiety stress scale (DASS-21), public stigma scale and attitudes toward telemental health

scale (ATiPP) all had good internal consistency in our datasets. As mentioned earlier, two of our scales had poor internal consistency. These scales are openness to experience and social desirability measures. The openness to experience scale had low reliability across the English and Arabic datasets with a Cronbach's α of .401 and .475 respectively. Similarly, the social desirability scales we used had low reliability across the English and Arabic datasets with a Cronbach's α of .446 and .309 respectively. As such, we chose to delete the social desirability data (a control variable) but kept our openness to experience data as openness to experience is a main variable in our conceptual model. Further results of the reliability analysis are presented in table 1.

Table 2. *Reliability Analysis*

1.1 English Dataset

Scale	Cronbach's α
Confidence in mental health professionals scale	.913
Structural barriers scale	.676
Technological skills scale	.819
Mental distress measure/ depression anxiety stress scale (DASS-21)	.933
Openness to experience scale (BFTXS)	.401
Public stigma scale (PSS)	.835
Attitudes toward telemental health (ATiPP)	.775

1.2 Arabic Dataset

Scale	Cronbach's α
Confidence in mental health professionals scale	.939
Structural barriers scale	.783
Technological skills scale	.876
Mental distress measure/ depression anxiety stress scale (DASS-21)	.919
Openness to experience scale (BFTXS)	.475
Public stigma scale (PSS)	.917
Attitudes toward telemental health (ATiPP)	.771

1.3 Combined Dataset

Scale	Cronbach's α

Confidence in mental health professionals scale	.921
Structural barriers scale	.707
Technological skills scale	.835
Mental distress measure/ depression anxiety stress scale (DASS-21)	.929
Openness to experience scale (BFTXS)	.413
Public stigma scale (PSS)	.917
Attitudes toward telemental health (ATiPP)	.772

F. Normality

After having discussed the results of our reliability analysis, we will explore our data's normality. We inspected the *z*-scores of skewness and kurtosis along with histograms to test the normality of our scales' distributions. The *z*-scores of skewness and kurtosis did not fall between -2 and +2 for most of our scales. According to the z-scores of skewness and kurtosis coefficients and the histogram plots, not all our scales appeared to be normally distributed (See Appendix III). That said, regression analyses are resistant to violations of normality (Li et al, 2012) and our residuals are normally distributed (Kozak & Piepho, 2017). We will discuss the distribution of the residuals further down in section I. Assumptions of Multiple Regression Analysis.

G. Univariate and Multivariate Outliers

Next, we will discuss univariate and multivariate outliers. First, we examined univariate outliers using *z*-scores and boxplots. In the Arabic dataset, we found two univariate outliers for the 9th item of the Depression Anxiety Stress Scale (DASS-21; case numbers 112 and 185). This was not the case for the English dataset.

After the examination of univariate outliers, we will discuss multivariate outliers. We examined multivariate outliers in our datasets using Mahalanobis distance and the probability rule of less than .001 (Ghorbani, 2019). More specifically, if *p*-vales associated with the computed Mahalanobis distance are less than .001, a data point is considered a multivariate outlier. Upon inspection of both datasets, we did not find multivariate outliers. After having combined the data from both datasets (English and Arabic), we identified two multivariate outliers (case numbers 162 and 558). Additionally, we computed Cook's

distance. Cook's distance was found to be less than 1, indicating that the extracted outliers were not influential cases (Tabachnick & Fidell 2013, p.75). As such, we did not omit these outliers from our datasets, as they did not appear to influence our data.

H. Scale Descriptives

Several means were found to be above the midpoint of our scales. The midpoint scores along with the standard deviations of our scales across the three samples will be presented next. Confidence in mental health professionals: (English sample = 27, Arabic sample = 37.5, combined sample = 27.5); strucutural barriers scale: (English sample = 20, Arabic sample = 22, combined sample = 20); technological skills measure (English sample = 16.5, Arabic sample = 16.5, combined sample = 16.5); DASS21: (English sample = 51.5, Arabic sample = 46.5, combined sample = 51.5); BFTXS: (English sample = 6, Arabic sample = 6, combined sample = 6); PSS: (English sample = 28.5, Arabic sample = 26.5, combined sample = 26.5); and ATiPP: (English sample = 24, Arabic sample = 23, combined sample = 24). The means for the confidence in mental health professionals scales (English: M = 30.54, SD = 9.45; Arabic: M = 31.63, SD = 10.65), structural barriers scales (English: M = 19.06, SD = 4.30; Arabic: M = 20.02, SD = 4.43), public stigma scales (PSS; English: M = 28.91, SD = 6.51; Arabic: M = 24.72, SD = 8.46), openness to experience scales (BFT-2XS; English: M =7.66, SD = 1.51; Arabic: M = 7.73, SD = 1.28), and technological skills scales (English: M = 18.34, SD = 6.06; Arabic: M = 16.75, SD = 6.58) all fell above the midpoint. The results obtained indicate that on average, participants in this study reported having confidence in mental health professionals, experiencing structural barriers to care, perceiving public stigma associated with mental illness, being open to new

experiences and having technological skills. Additionally, the means for the DASS (English: *M* =41.81, *SD* = 13.33; Arabic: *M* = 40.63, *SD* = 11.55) and attitudes towards telemental health (ATiPP; English: *M* = 28.18, *SD* = 4.66; Arabic: *M* = 28.70, *SD* = 4.52) were well above the midpoint. These results indicate that our participants tended to report higher levels of mental distress while holding positive attitudes towards telemental health. Our variables' means, medians, ranges, and standard deviations (SDs) are presented in more detail in Table 2.

Table 3. *Scale Descriptives*

2.1 English Scales

	M	SD	Median	Range
Confidence in mental health professionals	30.54	9.45	32.00	5.00-49.00
Structural barriers	19.06	4.30	19.00	8.00-32.00
Technological skills	18.34	6.06	19.00	3.00-30.00
Objective measure of recognition of the mental problem and need for help/The depression anxiety stress (DASS-21)	41.81	13.33	39.00	21.00-82.00
Openness to experience (BFTXS)	7.66	1.51	8.00	2.00-10.00
Public stigma (PSS)	28.91	6.51	29.00	13.00-44.00
Attitudes toward telemental health (ATiPP)	28.18	4.66	29.00	8.00-40.00

2.2 Arabic Scales

	M	SD	Median	Range
Confidence in mental health professionals	31.63	10.65	33.00	7.00-50.00
Structural barriers	20.02	4.43	20.00	13.00-31.00
Technological skills	16.75	6.58	17.00	3.00-30.00
Objective measure of recognition of the mental problem and need for help/The depression anxiety stress (DASS-21)	40.63	11.55	39.50	22.00-71.00
Openness to experience (BFTXS)	7.73	1.82	8.00	2.00-10.00
Public stigma (PSS)	24.72	8.46	25.50	9.00-44.00
Attitudes toward telemental health (AtiPP)	28.70	4.52	30.00	8.00-38.00

2.3 Combined Scales

	M	SD	Median	Range
Confidence in mental health professionals	30.79	9.72	33.00	5.00-50.00
Structural barriers	19.28	4.34	19.00	8.00-32.00
Technological skills	17.98	6.21	19.00	3.00-30.00
Objective measure of recognition of the mental problem and need for help/The depression anxiety stress (DASS-21)	41.54	12.94	39.00	21.00-82.00
Openness to experience (BFTXS)	7.68	1.59	8.00	2.00-10.00
Public stigma (PSS)	27.96	7.20	29.00	9.00-44.00
Attitudes toward telemental health (AtiPP)	28.30	4.63	29.00	8.00-40.00

I. Participant Telemental Health Seeking Preferences

In our survey, participants were asked to rank their preferences for different telemental health modalities on a scale from 1-10. Participants were asked how likely they were to use synchronous versus asynchronous telemental health services. A score of 1 on this scale is indicative of the lowest preference for a certain modality while a score of 10 is indicative of the greatest preference for a certain modality. The results obtained indicated that on average participants tended to prefer synchronous over asynchronous telemental health services. As mean scores for synchronous telemental health preferences (M = 5.60, SD = 2.46) were higher than mean scores for asynchronous telemental health preferences (M = 4.93, SD = 2.48).

J. Multiple Regression Assumptions

In Appendix IV are the histogram, p-p plot and scatterplot for attitudes towards telemental health (ATiPP). Based on these analyses, our data meets the normality, linearity, homoscedasticity and absence of multicollinearity assumptions.

The histogram of residuals indicates that our data is normally distributed (Figure 9). The data also meets the assumption of linearity as residuals are well-lined in the p-p plot in Figure 10. Additionally, a plot of each of the independent variables against our dependent variable reveals a linear relationship between each independent and our dependent variable (graphs can be found in the appendix). Based on the random pattern of scatter observed in the scatterplot in Figure 11, the data appears to meet the homoscedasticity assumption. The assumption of independence of errors was also met since the value of Durbin-Watson (i.e., 2.018) is close to 2, showing no autocorrelation between the residuals and the dependent

variable. Finally, the examination of the correlation matrix showed that the correlations between variables did not exceed .80, VIF values did not exceed 10, and the Tolerance values were all above .20. The aforementioned indicates that there are no singularity or multicollinearity problems in the data.

In the following sections, we will be going over the results of our main analyses (correlation and regression). Results will be presented on analyses that were run on the combined sample ($N = 300$).

K. Correlation Analyses

The correlation matrix depicting the correlations between our variables is displayed in Table 4. The following section will highlight the significant correlations observed between our independent variables and attitudes towards telemental health. For further information on significant correlations between our variables, please refer to Table 4.

Upon inspection, we found a number of significant correlations between our independent variables and our dependent variable. Age seems to be positively correlated with attitudes towards telemental health ($r = .149$, $p = .01$). Surprisingly, older adults tended to have more positive attitudes towards telemental health compared to younger adults. This finding is not consistent with the literature and will be elaborated on in the discussion section. Inversely, we found a negative correlation between structural barriers and attitudes towards telemental health ($r = -.328$, $p < .001$). Lastly, our results highlight a positive correlation between technological skills and attitudes towards telemental health ($r = .236$, $p < .001$). In sum, the results obtained indicate that adults in Lebanon tend to have more positive attitudes towards seeking telemental health services the older they are, the fewer structural barriers they experience, and the more skilled in technology they are.

After having presented the significant correlations between our independent variables and our dependent variable, we will go over all other significant correlations (independent variables among themselves and with our control variable). Age appeared to be negatively correlated with the subjective recognition of a mental health problem and the need for help (r = -.254, p < .001), the previous use of mental health services (r = -.254, p < .001), and mental distress (r = -.163, p = .005). Compared to older adults, younger people were more likely to recognize the experience of a mental health problem and the need for mental help (subjectively), as well as having higher levels of mental distress (objectively measured). Additionally, younger adults who seemed to be struggling with mental health problems tended to have previously used mental health services. Along the same line, the subjective experience of a mental health problem and the need for help were positively correlated with previous mental health use (r = .116, p = .045), structural barriers (r = .180, p < .01), and mental distress (r = .379, p < .001). Our results show that participants who reported experiencing a mental health problem and needing help (subjectively) had faced structural barriers in receiving care. Those same adults tended to objectively experience mental distress and have previously used mental health services. Additionally, previous mental health use was positively correlated with confidence in mental health professionals (r = .120, p = .038), technological skills (r = .127, p = .027), and objective mental distress (r =.148, p = .01). These findings reveal that participants who reported having used mental health services in the past have experienced mental distress coupled with greater confidence in mental health professionals. Those same adults also tended to have good technological skills. As for confidence in mental health professionals, this variable appeared to be negatively correlated with structural barriers (r = -.299, p < .001), objective mental distress

(r = -.167, p = .004), and public stigma (r = -.152, p = .008). This shows that participants who reported greater confidence in mental health professionals tended to experience less structural barriers, less public stigma, and lower levels of mental distress. Also, structural barriers appeared to be negatively correlated with technological skills (r = -.356, p < .001), and openness to experience (r = -.135, p = .019). Inversely, structural barriers appeared to be positively correlated with mental distress (r = -.163, p < .001). This means that participants who reported experiencing structural barriers to telemental health care tended to have greater levels of mental distress. Finally, technological skills appeared to be positively correlated with openness to experience (r = .221, p < .001). These findings indicate that participants who reported experiencing structural barriers to telemental health care tended to have poor technological skills and lower levels of openness to experience.

Table 4. *Correlation Matrix*

Variables	1	2	3	4	5	6	7	8	9	10
1. Age	-									
2. Recognition of mental health problem and need for help (subjective)	- .254***	-								
3. Previous mental health use	- .245***	.116*	-							
4. Confidence in mental health professionals	.007	-.013	.120*	-						
5. Structural barriers	-.034	.180**	-.109	- .299***	-					
6. Technological skills	-.104	-.019	.127*	.298***	-.356***	-				
7. Mental distress (objective)	-.163**	.379** *	.148*	-.167**	.183**	-.087	-			
8. Openness to experience	-.059	-.027	.096	.107	-.135*	.221***	.006	-		
9. Public stigma	-.005	.049	.019	-.152**	-.036	.032	.047	-.060	-	
10. Attitudes towards telemental heath	.149**	-.027	.037	.108	-.328***	.236***	.049	.091	.111	-

*p<.05
**p<.01
***p<.001

L. Multiple Regression

To test our hypotheses, we conducted a multiple regression, using the "enter" method, with attitudes towards telemental health services as our dependent variable. Our model included all our independent, dependent, and control variables. All variables were treated as continuous. Additionally, all variables were entered at once into the model as we did not have theoretical reasons for entering them in steps (hierarchical regression model). As previously mentioned, we were interested in evaluating the potential associations between age, structural barriers, technological skills, subjective experience of a mental health problem and need for help, objective mental distress, openness to experience, public stigma, confidence in mental health professionals and telemental health seeking attitudes. In the following paragraphs, we will be discussing the findings obtained based on our regression analyses.

The independent and control variables significantly explained 17.9% of the variance in attitudes towards telemental health ($R^2 = .179$, F (9, 290) = 7.02, $p < .001$). The model summary, including R, R^2, adjusted R^2, standard error of the estimate and R^2 change can be found in Table 5.

Table 5. *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.423	.179	.153	4.26378

The regression coefficients of our model including unstandardized regression coefficients (*B*), its standard error, the standardized coefficients and its t value (β and *t*) are presented in Table 6. Among our sociodemographic independent variables, age was found to be positively associated with attitudes towards telemental health (β = .184, *t* =3.23, *p* =.001). Inversely, the experience of structural barriers was found to be negatively associated with attitudes towards telemental health (β = -.283, *t* = 4.77, *p* <.001). Lastly, technological skills and mental distress were both positively associated with attitudes towards telemental health (β = .146, *t* = 2.43, *p* = .015) and (β = .139, *t* = 2.33, *p* = 0.02), respectively. These results indicate that older participants, who experience fewer structural barriers, have good technological skills, and who suffer from mental distress are more likely to have positive attitudes towards seeking telemental health services.

The strongest association between a variable and attitudes towards telemental health seeking was that between structural barriers and attitudes (β = -.283, *t* = 4.77, *p* <.001). This is an interesting finding, as it appears that a major predictor of attitudes is systemic in nature. Structural barriers are more strongly associated with telemental health seeking attitudes even more so than internal/personal factors (age, technological skills and mental distress). When beginning to think about the feasibility and promotion of telemental health in Lebanon, barriers need to be addressed at a structural level. Upon further exploration of

each structural barrier, it appears that two barriers may be of great pertinence in our Lebanese community sample. These structural barriers include difficulty making online payments for telemental health services (*M = 3.75*) and a lack of privacy and space to use telemental health services (*M* = 2.93*)*. Identifying which structural barriers are of important can have some pertinent implications, as it can help shed some light on what we, as a country need to target to promote telemental health use.

Table 6. *Regression Coefficients*

	Unstandardized Coefficients		Standardized Coefficients	t	Sig	95.0% Confidence Interval for B	
Model 1	B	Std. Error	β			Lower Bound	Upper Bound
(Constant)	25.022	2.711		9.229	.000	19.686	30.359
Age	.071	.022	.184	3.228	.001**	.028	.114
Recognition of a mental health problem and the need for help (s subjective)	.115	.451	.015	.255	.799	-.773	1.003
Previous Mental Health Use	.015	.566	.001	.026	.979	-1.099	1.129
Confidence in Mental Health Professionals	.015	.028	.032	.557	.578	-.039	.07
Structural Barriers	-.301	.063	-.283	-4.771	.000***	-.426	-.177
Technological Skills	.109	.045	.146	2.433	.016*	.021	.198
Mental Distress (objective)	.05	.021	.139	2.332	.020*	.008	.091
Openness to Experience	.095	.16	.032	.591	.555	-.221	.41
Public Stigma	.062	.035	.097	1.783	.076	-.006	.131

*p<.05
**p<.01
***p<.001

CHAPTER IV

DISCUSSION

In this study, we were interested in the association between age, structural barriers, technological skills, subjective recognition of a mental health problem, the need for help, mental distress, openness to experience, public stigma, confidence in mental health professionals and telemental health seeking attitudes. A total of 300 participants between the ages of 18 and 79 years residing in Lebanon completed our questionnaire either in English or in Arabic. Next, we present a summary of the results obtained in this study.

A. Interpretations of Findings

We will begin by discussing the results of our correlation and regression analyses. We conducted correlation and multiple regression analysis to identify variables associated with telemental health seeking attitudes in the Lebanese community. In the following section, we will be going through each of our seven hypotheses and elaborate on significant associations between our variables. We will be exploring hypotheses that were met, those that were not met, and highlighting some surprising yet interesting findings.

In our first hypothesis, we expected older age to be associated with more negative attitudes toward seeking telemental health services. However, in our study, age was found to be positively associated with telemental health seeking attitudes. In our sample, it appears that older age is associated with more positive attitudes towards telemental health seeking. Contrary to our findings, age across the Global North and Global South appears to

be negatively associated with telemental health seeking attitudes (APA, 2021; Fischer et al., 2020; Jefee-Bahloul, 2014; Rohland et al., 2000; Werner, 2004). In other words, the older an individual gets, the less likely they are to have a positive attitude towards telemental health seeking. Throughout the literature, there appeared to be a significant difference between the mean ages of individuals who endorsed the use of telemental health services (*M* age = 50 years) and those who did not endorse such services (*M* age = 59.9 years; Rohland et al., 2000). In 2020, the APA reported that younger adults (aged 18-39 years old) in the US were more likely to support telemental health services compared to older ones (aged 65 and older; APA, 2021). The APA's findings do not align with our results. Our unexpected results may be due to two main reasons. First, our sample ($N = 300$) mainly included relatively young adults ($M = 28.93$ years old). Additionally, our sample contained a small percentage of older adults. Only 1.3% of our sample were 65 years old and above, and only 2% were aged 60 years old and above. This small variability in our participants' ages may have skewed the association between age and attitudes towards telemental health use. Had more older adults been included; different results could have been obtained. In addition to our relatively young sample, age may be viewed as a proxy variable. Upon further inspection of our dataset, we found that age appeared to be positively correlated with education level ($r = .164$, $p < .001$). One may view age as a proxy variable to educational level. Since age and education are positively correlated and age is correlated and associated with telemental health seeking attitudes, one would think that educational level may be related to telemental health seeking attitudes. We further inspected our data and did not find educational level to be associated with attitudes towards seeking this modality. As educational level is not one of our main variables and was not significantly

correlated or associated with attitudes, we excluded it from our model. Perhaps with a larger sample size the potential influence of education level would be more pertinent. Future researchers ought to consider educational level when it comes to telemental health-seeking attitudes, as education may play an interesting role with age. Next, we will discuss our second hypothesis which pertains to structural barriers.

In our second hypothesis, we expected greater structural barriers (e.g., Internet unavailability) to be associated with more negative attitudes toward seeking telemental health services. As expected, our results indicate that structural barriers are negatively associated with attitudes towards telemental health. Thus, the more barriers to telemental health care people experience, the less likely they are to hold positive attitudes towards seeking telemental health services (more likely to hold negative attitudes). Amongst those structural barriers, the following were found to be pertinent in Lebanon: electricity-related issues, internet-related issues (availability, bandwidth, literacy, and technological support), difficulties with payments online, absence/scarcity of materials needed for telemental health services and the absence of a quiet place. This result aligns with those of previous studies conducted in the Global North and Global South (Almoshmosh et al., 2020; Berry & Lai, 2014; Burchert et al., 2019; El Hayek et al., 2020; Huilgol et al., 2021; Knaevelsrud et al., 2015; Lal et al., 2015). Despite a different pattern of structural barriers appearing across the Global North and Global South, many researchers have noted some or all of the aforementioned structural barriers as patient-reported barriers to telemental health use (Almoshmosh et al., 2020; Berry & Lai, 2014; Burchert et al., 2019; El Hayek et al., 2020; Huilgol et al., 2021; Knaevelsrud et al., 2015; Lal et al., 2015). Next, we will discuss our third hypothesis which relates to technological skills.

According to our third hypothesis, we expected greater technological skills to be associated with more positive attitudes toward seeking telemental health services. In congruence with our hypothesis, technological skills were positively associated with attitudes towards telemental health. Consistent with our findings, poor technological skills/technological literacy seem to be the most frequently reported technology-related barriers to telemental health use in the Global North (Eisner et al., 2019; Costa et al., 2021). Ashfaq et al (2020) also discussed the role technological skills often play as a barrier to telemental health use in some Global South countries (Ashfaq et al., 2020). Ashfaq et al (2020), argued that the stronger a person's technological skills, the more likely they are to have positive attitudes towards telemental health services. This finding is expected, as a minimum of technological skills may be essential to be able to use telemental health services (Sapci & Sapci, 2019). Along the same line, we suspect that having poor technological skills may hinder one's ability to use telemental health services, which may reflect negatively on telemental health seeking attitudes. After having discussed our third hypothesis, next, we will discuss our fourth hypothesis pertaining to the recognition of a mental health problem and the need for help.

Based on our fourth hypothesis, we expected greater recognition of a mental health problem and the need for help to be associated with positive attitudes towards telemental health use. As a reminder, the recognition of a mental health problem and the need for help construct was evaluated using two different measures. We have measured this construct by pairing the subjective measure of recognition of a mental health problem and the need for help with an objective measure of mental distress (i.e., the objective need for help). While subjective recognition was measured by asking participants the following binary question:

"Over the past week, have you had mental health problems/difficulties you need help with?" (See Appendix A- Section III)", objective mental distress was measured with the DASS-21 questionnaire. We believe that including both an objective and a subjective measure of this construct is important as people tend to be biased in their own self-reporting (Latkin et al., 2017). Based on our hypothesis, we expected the entire construct of recognition of a mental health problem and need for help to be positively associated with telemental health seeking attitudes (both the objective and subjective measures). This was not the case. Our results reveal that only one of our two variables in the recognition of a mental health problem and need for help construct appears to be associated with telemental health seeking attitudes. This variable is objective mental distress. In our study, objective mental distress appeared to be positively associated with telemental health seeking attitudes. Contrary to what has been found in the literature, subjective recognition did not appear to be associated with telemental health seeking attitudes. Recognition of a mental health problem and the need for help is thought to be positively associated with telemental health seeking attitudes across the literature (Abi Ramia et al., 2018; Kern et al., 2018; Lal et al., 2015). To the best of our knowledge, the association between mental distress and telemental health seeking attitudes has not been thoroughly studied empirically. However, we believe it is of clinical importance to do so as those seeking telemental health services are often those who need them the most (Kern et al., 2018; Lal et al., 2015). After having discussed our fourth hypothesis, next, we will discuss our fifth hypothesis which relates to openness to experience.

We had hypothesized that higher levels of openness to experience would be associated with more positive attitudes towards telemental health use. Our analyses

revealed no significant association between openness to experience and telemental health seeking attitudes. This finding runs contrary to our hypothesis and the literature across some Global North and Global South countries (Atik & Yalçin, 2011; Bathje et al., 2014; Levallius et al., 2020). Telemental health is a relatively new therapy dispensing modality that is thought to require a minimum of openness to experience on the part of the user (Levallius et al., 2020). There are some reports of positive correlations between openness to experience and telemental health seeking attitude in the literature. For instance, Bathje et al. (2014) found that Korean college students with high openness experience were more likely to have favorable attitudes towards both in-person and telemental health services (Bathje et al., 2014). According to Atik and Yalçin (2011), Turkish college students with greater openness to experiences reported more favorable attitudes toward in-person counselling and/or therapy (Atik & Yalçin, 2011). Despite these previous findings, we did not find any significant correlation or association between openness to experience and telemental health seeking attitudes. Next, we will discuss our sixth hypothesis pertaining to public stigma.

According to our sixth hypothesis, higher levels of public stigma will be associated with more negative attitudes towards telemental health use. Our findings revealed no significant association between public stigma and telemental health seeking attitudes. As mentioned in our literature review, there is a dearth of studies that have evaluated the association between public stigma and telemental health seeking attitudes. A study by Bird et al. (2019) revealed a negative association between public stigma levels and attitudes toward help-seeking. More specifically, Bird et al. (2019) found public stigma to be positively associated with discomfort/unease with seeking mental health services across both face-to-face and online video conferencing (Wu et al., 2017; Bird et al., 2019). In

Lebanon, Naal et al. (2021) highlighted several barriers to the implementation of telemental health use. Naal et al (2021) conducted a review of the literature and found fear of social/public stigma to negatively impact different aspects of care. Additionally, given the prevalence of public stigma that often accompanies mental health services in Lebanon (MoPH, 2015; Naal et al, 2021), it was proposed that individuals who might have privacy concerns or fear of accessing in-person services, may have a preference for telemental health services (Mahmoud et al., 2019; Mahmoud & Vogt, 2019; Sunjaya et al., 2020). Telemental health services might motivate patients to seek treatment in a manner that maximizes privacy by allowing sessions to be conducted from the comfort of the patients' homes (Mahmoud et al., 2019; Mahmoud et al., 2019). Despite the importance of these previous findings, we did not find any significant association between public stigma and telemental health seeking attitudes. Also, the majority of our participants were at least BA/BS holders. This may be one of the reasons why perceived public stigma levels among our participants fell just slightly above the midpoint of the scale. In the Arab world, mental illness stigma still prevails (Ciftci et al., 2013; Al-Awadhi et al., 2017). This is especially true in Lebanon (Naal et al., 2021; Karam et al., 2006). The public stigma surrounding mental illness and seeking help may be stemming from misconceptions and a lack of awareness about these issues (Naal et al., 2021). Next, we will discuss our final hypothesis which relates to confidence in mental health professionals.

According to our seventh and last hypothesis, greater levels of confidence in mental health professionals will be associated with more positive attitudes towards telemental health seeking. Our findings revealed no significant association between confidence in mental health professionals and telemental health seeking attitudes. However, some

researchers have demonstrated how a lack of confidence in mental health services could be negatively associated with telemental health-seeking attitudes and constitute a barrier to the use of this modality (Abi Ramia et al., 2018; Ashfaq et al., 2020; Casey et al., 2014; Knerr et al., 2011; Naal et al., 2021; Petersen et al., 2020). Asfaq et al (2020) reported that general distrust in healthcare providers was frequently reported as a barrier to telemental health services in the Arab world (Ashfaq et al., 2020). To the best of our knowledge, most of the Global North literature on confidence in mental health professionals when it comes to telemental health seeking attitudes is theoretical in nature. Despite what has been theorized, we did not find any association between confidence in mental health professionals and telemental health seeking attitudes.

In sum, the results obtained from this study indicate that four variables seem to be associated with telemental health seeking attitudes. These variables are: age, structural barriers, technological skills, and mental distress. Participants who experience fewer structural barriers, have technological skills, and suffer from mental distress are more likely to have positive attitudes towards seeking telemental health services.

B. Implications

Throughout this thesis, we have focused on attitudes towards telemental health services as opposed to actual mental health seeking behavior. Attitudes often predict and precede actual service use (Mojtabai et al., 2002; O'connor et al., 2014; Vanheusden et al., 2009). We believe that understanding telemental health attitudes of a community sample in Lebanon is an integral step when it comes to addressing potential barriers to telemental health use. With the novelty and the need for telemental health services today, addressing

patient-related barriers to telemental health is important. This is especially pertinent in a country like Lebanon, that has witnessed significant adversity, particularly in the last few years (Obeid & Saade, 2022).

1. Potential Telemental Health Users

In our sample, we found that people who experienced fewer structural barriers are more likely to have positive attitudes towards telemental health, and therefore may be more inclined to use it (Mojtabai et al., 2002; O'connor et al., 2014; Vanheusden et al., 2009). Additionally, people with greater technological skills are more likely to have positive attitudes towards telemental health use and thus may be more likely to seek it out. Also, people who suffer from mental distress are more likely to have positive attitudes towards seeking telemental health services and may be more likely to use these services. Finally, we have found that older adults are likely to have positive attitudes toward telemental health use, however, this finding needs to be interpreted with caution. Therefore, when considering who may be more inclined to use telemental health services in Lebanon, three main themes arise. In short, people are more likely to endorse and potentially use services the fewer structural barriers they experience, the greater technological skills they possess, and the greater the mental distress they experience (indicative of their need for help).

When asked about their preference for a telemental health modality, a greater percentage of our participants reported a preference for synchronous over asynchronous telemental health services. This finding is of value, as it seems that potential telemental health users in Lebanon may prefer receiving telemental health treatment in real time.

Developing a deeper understanding of who may use telemental health services and preferences towards a certain modality is pertinent. This finding could help with the

successful dissemination of this mental health dispensing modality. This understanding can also help lay the ground for researchers and clinicians to address existing barriers to telemental health use in Lebanon. In the next section, we will elaborate on what barriers may inhibit telemental health use in Lebanon.

2. Telemental Health Barriers to be Addressed

After having discussed the profile of potential telemental health users, we will now discuss two main barriers that ought to be addressed to facilitate telemental health use in Lebanon. As discussed throughout our results and discussion sections, these are some of the sociodemographic variables that were found to be associated with telemental health seeking attitudes: technological skills and structural barriers.

Technological skills appear to be positively associated with telemental health seeking attitudes. People with poor technological skills are likely to hold more negative views towards telemental health use and be less likely to use such services. Thus, poor technological skills may act as a barrier to telemental health use. This barrier can be addressed by making the telemental health process as user-friendly as possible. This can be accomplished by taking into account the various technological skill levels that potential users may be at. A step-by-step video or audio tutorial along with an in-person guide to help teach users how to use telemental health services may be warranted. Potential users can be taught the basics of what telemental health services entail and should have the option of tech support in case a problem arises. To best aid users and clinicians in navigating telemental health sessions and potential emergency interruptions, tech support should be always available. Ensuring patients receive mental health care regardless of their

technological experience and geographical location should be prioritized (Naal et al., 2021). Continuing to develop online telemental health platforms may be especially useful to enhance access to such services. Building on the work of previous clinicians and researchers who have already begun to test telemental health feasibility in Lebanon is imperative (SbS; Abi Ramia et al., 2018; Burchert et al., 2019; Van't Holf et al., 2021). To this end, governmental, and non-governmental institutions may need to work together to optimize the development, implementation, and sustainability of telemental health in Lebanon (Naal et al., 2021). In terms of technology, thoroughly reviewing the clinical guidelines for the implementation of telemental health is recommended. These guidelines are those developed by the American Telehealth Association (ATA) and the American Psychiatric Association (APA). Along with those guidelines, telemental health should still be tailored and individualized to the Lebanese people. The following may need to be taken into consideration: cultural aspects, minimum acceptable infrastructure, privacy and security concerns, ethical issues, remote prescribing of medication, emergency and crisis planning, etc. (Naal et al., 2021). Next, we will discuss structural barriers to telemental health and propose some recommendations.

The second potential barrier to telemental health use is structural barriers. People who experience structural barriers to telemental health use are likely to have more negative views towards such services and may be less likely to use them. Experiencing structural barriers may act as a barrier to telemental health use. Consistent with the literature from the Global North and South the following constitute structural barriers to telemental health use: electricity-related issues, internet-related concerns, payments online, and access to technology and a quiet place. The presence of these barriers appears to influence users' and

their willingness to use telemental health services. Addressing structural barriers is essential to facilitate telemental health services to those who need them most. As reported earlier in this thesis it appears that two facets of strutral barriers may be of greater pertinence in our Lebanese community sample. These structural barriers include difficulty making online payments for telemental health services and a lack of privacy and space to use telemental health services. Internet-related concerns along with access to technology and a quiet place can be addressed by creating selective spaces for telemental health users. These spaces should have the necessary technology, a stable internet connection, and private spaces to conduct sessions while preserving confidentiality. We realize that the advantages of telemental health over traditional mental health services include greater and easier access. Partly due to the disparity in structural barriers, not everyone will have equal access to telemental health. Therefore, designing private spaces for comfortable telemental health use may be a good place to start. Several opportunities exist to integrate telemental health into settings where traditional mental health services are usually delivered in Lebanon. These include but are not limited to: primary healthcare centers, hospitals, community centers, private clinics as well as religious and community centers. Naal et al (2020) suggested that having spaces for telemental health services in primary health care centers may enhance the appeal of mental health services in Lebanon (Naal et al., 2020). This may be especially useful in areas with limited specialized mental health professionals. This may be the case in many regions across Lebanon considering the recent socio-economic crises, and the ensuing brain drain. Some of the losses in the healthcare system include psychiatrists and other mental health professionals (Islam et al., 2021). The goal of these suggested centers is to provide a safe and private space for telemental health users residing in remote areas. In

doing so, clinicians would provide specialized mental health services to their patients who may otherwise not be able to receive care. As for the issue of difficulties with online payments in Lebanon, this may be attributed to ongoing issues with Lebanese banks that have limited or in some cases, eradicated access to online payments (Devi, 2020). Online banking and specifically access to credit and debit cards is of great pertinence to online payments, which unfortunately is not applicable for many of the Lebanese community. We suggest payments for telemental health services can be processed by using alternatives to credit and debit cards. Those include but are not limited to OMT, BoB Finance, WISH MONEY, and MoneyGram. Next, we will discuss the potential implications of telemental health in Lebanon.

3. Potential Telemental Health Implications in Lebanon

In Lebanon, the treatment gap (between individuals needing mental health services and those actually receiving them) was estimated at 90% (Shehadeh et al., 2020). Mental health challenges represent a major public health issue in Lebanon (Naal et al., 2021). There appears to be a lack of necessary infrastructure, human and financial resources to respond to the Lebanese population's mental health needs (El Chammay, 2016). Additionally, the Ministry of Public Health (MoPH) in Lebanon reported on additional limitations when it comes to mental health care in Lebanon. Those limitations include but are not limited to: deficiencies in psychiatric hospitals, beds, supplies, and shortages of mental health professionals (MoPH, 2015). These existing issues are exacerbated by the negative repercussions of the Lebanese civil war, internal economic and political instability, regional armed conflicts, and consequent refugee crisis (Karam et al., 2016) the devastating impact of the Beirut port explosion (El Khoury et al., 2022), and the ongoing

economic crisis and the COVID-19 pandemic (Obeid & Saade, 2022). This constellation of factors, some unique to Lebanon and some more global, justifies the need for mental health services and alternative forms of accessing these mental health services. The current mental health care system in Lebanon is compromised in its ability to cater to the overall population's needs. This is evidenced by the existing massive treatment gap in mental health care in Lebanon. With such a wide treatment gap and such devastating circumstances, there is a dire need for an alternative to traditional mental health care in Lebanon. In line with Naal et al (2021)'s work, we propose that telemental health may mitigate this wide gap. With the expressed interest in telehealth by the Ministry of Public Health (MoPH, 2018) and the growing global momentum around some telemental health opportunities in Lebanon (SbS; Abi Ramia et al., 2018; Burchert et al., 2019; Van't Holf et al., 2021), there seems to be great promise and adaptability of this mental health delivery modality. Telemental health has the potential to add significant dimensions to mental health services in Lebanon by mitigating the treatment gap and addressing potential increases in mental health demand following the recent crises (Obeid & Saade, 2022). We will discuss and build on some patient-level, and clinical implications of telemental health in Lebanon next.

a. Patient-Level Implications:

Telemental health services may offer various benefits for patients in Lebanon. They may reduce or eliminate patients' need to commute, which alleviates the burden, time, and cost of travel (O'Reilly et al., 2007). This is particularly useful for individuals who live in remote and rural areas. In Lebanon, telemental health may also be useful for individuals

living in urban areas due to significant congestion and traffic problems in the country (Saroufim & Otayek, 2019; Syed et al., 2013). This is particularly useful in the current Lebanese context given the skyrocketing gas prices and the resulting limitations to transportation and mobility (Cohen, 2022). Furthermore, telemental health may be key in aiding patients with restricted mobility due to physical or mental limitations impeding their ability to travel (Seritan et al., 2019). Telemental health may allow patients to seek treatment with professionals outside of Lebanon, thus widening the pool of available professionals and specialists. Finally, telemental health may reduce waiting times for patients between appointments, facilitating access to timely treatment (Naal et al., 2021). In addition to the various patient-level implications, telemental health also may have some interesting clinical-level implications.

b. Clinical-Implications:

Utilizing telemental health to enhance access to care may have valuable clinical implications in Lebanon. Naal et al (20201) suggested that investing in telemental health, especially in outpatient community settings may help early identification and treatment of mental health disorders, avoid symptom deterioration, and reduce the need to seek urgent care in inpatient settings (Naal et al., 2021). Telemental health can also be delivered in a hybrid format (remote and in-person care in parallel). The utility and flexibility of telemental health services are especially useful during emergencies and crises. The most recent global pandemic allowed for the global use of telemental health in a massive way (Appleton et al., 2021). The availability of telemental health as part of mental health care can be especially relevant in Lebanon. This is due to the sporadic socio-political challenges

that Lebanon often faces, which typically result in periods of armed conflicts, road blockages, and fuel crises that restrict mobility and safe travel (Cohen, 2022; Garda, 2020).

In short, telemental health as a mental health dispensing modality has the potential to mitigate many of the challenges we face in traditional mental health care in Lebanon today. By evaluating potential users' attitudes towards telemental health, we have identified potential barriers that need to be addressed to make telemental health use more accessible in Lebanon.

C. Limitations and Future Directions

Although not all of our results were consistent with our hypotheses, this study includes new interesting findings that highlight potential barriers to telemental health use in Lebanon. However, our study is not without its limitations. We will be sharing our study's perceived limitations next.

In our study, we used a cross-sectional design that does not allow us to make any causal inferences about the potential relationship between our variables. Using a longitudinal design is worth considering. Additionally, we only used a quantitative data collection method which could limit participants' expression of their attitudes towards telemental health use. In the future, we would recommend for researchers use both qualitative and qualitative data collection methods. In addition to the discussed limitations in our study's design and methodology, some limitations regarding sample recruitment are worth noting. Our participants were chosen using a convenience and snowball approach, limiting the external generalizability of our findings. This is especially pertinent when it comes to the lack of age disparity in our sample. Our sample was mainly constituted of

relatively young adults (M = 28.93 years old) and only a small percentage of older adults. To better understand the association between age and telemental health seeking attitudes, we would advise future researchers to seek greater diversity in their participants' ages. Also, the majority of our participants were BA/BS holders, and had, for the most part, a decent household income that covered their needs, limiting the external generalizability of our findings.

Additionally, there are also some limitations related to the measures we used. Most of the scales we used were primarily developed for research in Global North contexts. After running reliability analyses, we found that some of our measures had poor internal consistency. This provides further evidence of the importance of developing and validating culturally sensitive scales (Daouk-Öyry & Zeinoun, 2017; Zeinoun et al., 2021). Based on the poor alphas obtained, we decided to omit the social desirability scale from our conceptual model as its role was limited to being a control variable. To control for social desirability, future researchers should use more implicit or indirect questions and include a measure of social desirability with strong internal consistency (Latkin et al., 2017; Meisters et al., 2020). Similarly, despite the openness to experience scale having a poor alpha, we still decided to keep it, as it constituted a main independent variable. Lastly, the measures we used were mostly based on self-report, potentially injecting some bias.

Ultimately, to best understand the association between barriers to telemental seeking and seeking out these services, an intervention study may be warranted. The purpose of our study was to better understand what variables could be associated with telemental health seeking attitudes. A longitudinal intervention study measuring telemental health use over time could be insightful, as it would allow for a more comprehensive and

empirical understanding of potential barriers to telemental health use in Lebanon. As discussed throughout this thesis, even though attitudes often precede help-seeking behaviors (Wamser-Nanney & Campbell, 2020); attitudes are not the same as help-seeking behaviors.

Additionally, it might be interesting to evaluate if attitudes towards telemental health use may differ based on the type of mental health challenges a person may be facing. As mentioned earlier, to the best of our knowledge, our study is one of the few that have evaluated the association between mental distress and telemental health seeking attitudes empirically. Ultimately, our goal in trying to identify the barriers to telemental health use attitudes in Lebanon is to help those who need those resources most. Our hope is that the results of this study constitute a starting point to help bridge the treatment gap in Lebanon.

APPENDIX I

Variables Associated with Telemental Health Attitudes in a Community Sample in Lebanon

Consent Form
Please feel free to screenshot or copy this consent form for your records.

Researcher's Statement
We are asking you to take part in a collaborative research study being conducted at the American University of Beirut (AUB) in collaboration with the Université du Québec à Trois-Rivières (UQTR) and Case Western Reserve University (CWRU). Before you decide to participate in this study, it is important that you understand why the research is being conducted and what it will involve. This form is designed to give you information about the study so you can decide whether to participate in the study or not. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. When all your questions have been answered, you can decide if you want to participate in the study or not. This process is called "informed consent."

Principal Investigator: Sabine Saade, *Ph.D.,* Department of Psychology, American University of Beirut, **ss241@aub.edu.lb**

Thesis Student: *Jana Hamam, Clinical Psychology Graduate Student, Department of Psychology, American University of Beirut,* **jbh05@mail.aub.edu**

Purpose of the Study
Telemental health services are an alternative to traditional mental health services. We are interested in identifying what variables could be associated with attitudes towards telemental health-seeking in Lebanon. As such, we are going to be asking participants to fill up a series of questionnaires relating to their sociodemographic background, mental health, confidence in mental health professionals, attitudes towards tele-mental health etc… To achieve this goal, we are asking 300 adults currently residing in Lebanon to participate in our study.

Recruitment Methodology
This study link will be posted on various social media platforms (e.g., Instagram, Facebook, WhatsApp, Twitter and LinkedIn), and in community settings. In addition to posting the study link

online, the research team will also print the questionnaires and directly approach random people they encounter asking them to take part in the study. Hard copy questionnaires will be filled out in a private space (e.g., the PI office). All safeguards will be taken to ensure privacy. The study will be made continuously available until the required number of participants is reached. We are interested in adults (aged 18 years old and above) residing in Lebanon. Target participants will need to be English or Arabic literate. Exclusion criteria include adults not currently residing in Lebanon or individuals under the age of 18 years old. Participation is completely voluntary.

Study Procedures
To take part in this study, participants will be asked to complete questionnaires online (LimeSurvey) or on paper. Participation in this study is expected to take between 20 and 25 minutes in total.

Risks and Discomforts
This study is considered minimal risk. All responses are completely anonymous as no identifiers are requested from participants. Our study may include some sensitive questions that may emotionally disturb some participants. Participants will be provided with a referral sheet at the end of the study, including a list of easily accessible psychological services/hotlines to access psychological support in case of psychological distress. Some of these services/hotlines are free of charge, while others are available at a fee.

Benefits
We do not know of any way you could benefit directly from taking part in this study, other than having a chance to enter a draw for the possibility to win a cash prize. That said, taking part in this study, might help us understand what variables might be associated with attitudes towards telemental health seeking.

Incentives for Participation:
Participation in our study will be accompanied by the chance to win a cash prize of 1,000,000 through a lottery compensation system. There will be multiple winners. To enter the draw for a possibility to win the cash prize, participants are required to send a screenshot (if done online) or a photo (if done on paper) of their final page upon completion of the survey with the exact completion date and time. This screenshot/photo can be sent to: telementalhealthaub@gmail.com for the chance to enter the draw and win a cash prize. This cash amount will be awarded to the winners by the master's student at a convenient time and place for the participants. Winners will be notified via email they have used to email the research team at: **telementalhealthaub@gmail.com**.

Privacy/Confidentiality
While we will not be collecting identifiable information from you, this research involves the transmission of data over the Internet. Every reasonable effort has been taken to ensure the effective use of available technology. However, confidentiality during online communication (emails) cannot be guaranteed. All data will be labeled with a study ID on LimeSurvey hosted online by Jana Hamam and Dr. Sabine Saade's accounts at AUB, in addition to being stored on our secure lab server and/or lab computers in our locked lab. To secure anonymity, all data will be

linked to a randomly LimeSurvey ID. The data you submit will be kept in de-identified form indefinitely. As for paper questionnaires, they will be stored in the PI's office under lock and key and will only be accessible to the research team.

All study documents will only be accessible to IRB-approved study members and co-investigators. Records will be monitored and may be audited by the IRB while assuring confidentiality.

Taking part is Voluntary
Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time without penalty or loss of benefits to which you are otherwise entitled. If you decide to stop or withdraw from the study, the information/data collected from or about you up to the point of your withdrawal will be kept as part of the study and may continue to be analyzed, unless you choose otherwise.

If you Have any Questions
The main researcher conducting this is Dr. Sabine Saade, Ph.D., assistant professor at the American University of Beirut. Please ask any questions you have now. If you have questions later, you may contact Jana Hamam at **jbh05@mail.aub.edu**, and Dr. Sabine Saade at **ss241@aub.edu.lb**. If you have any questions or concerns regarding your rights as a research participant in this study, you may contact the Institutional Review Board (IRB) at 01-350 000, ext: 5445 or **irb@aub.edu.lb.**

Research Subject's Consent to Participate in Research:
To voluntarily agree to take part in this study, you must check the appropriate box below. By checking this box, you are verifying that you are an adult (aged 18 years old or above), and that you have read this entire consent form and agree to participate in the study. If you do not wish to participate in the study, you may simply close your browser.

Note: Some questions are mandatory to answer in this study. These questions are deemed integral to the conceptual model adopted by the research team. Despite some questions being mandatory, participants reserve the right to leave the study at any time, and for any reason. When withdrawing from the study prior to submitting their answers, no data or information will be collected from participants by the research team.

☐ I notify that I have read all the information in the **Informed Consent Sheet** and agree to participate in the study.

ENGLISH QUESTIONNAIRE

APPENDIX A:

I- Participant's Demographics:

1) Are you filling up this questionnaire on a device (e.g.: phone, tablet, laptop, iPad, computer etc.) or on paper?

    1. Device
    2. Paper

2) Your Sex:

    1. Male
    2. Female
    3. Gender non-binary
    4. Genderqueer
    5. Gender fluid
    6. Other, please specify
    7. Prefer not to say
    8. No answer

3) Your chronological age: _____

4) What languages do you speak? You can select more than one

    2. Arabic
    3. English
    4. French
    5. Spanish
    6. Other, specify: _____

5) What is your relationship status?

    1. Part of a couple/married
    2. Single
    3. Separated
    4. Divorced
    5. Widowed
    6. Would rather not say

6) What is the highest level of education completed by you?

1. Less than Grade 12 or Baccalaureate II
2. Grade 12 or Baccalaureate II
3. Vocational degree or skills-based training
4. Some college education but no degree
5. Bachelor's degree (e.g., BA, BS, DEA)
6. Master's degree (e.g., MA, MS, Med, DESS)
7. Doctorate (e.g., MD, PhD, EdD)
8. Post-Doctoral Degree
9. Medical Degree
10. No Education

II- Family Income

1) Which of the below best describes your household income?

1. Our household income covers our needs well, and we can save from it
2. Our household income covers our needs, but we cannot save from it
3. Our household income does not cover our needs, and we face difficulties meeting those needs
4. I refuse to answer
5. I don't know

2) Are you currently working?

Yes

No

If Yes, what is your current job or occupation? _____

3) What is your work schedule?

1. Part-time
2. Full time
3. Other _____

III- Subjective Recognition of a Mental Health Problem and the Need for Help:

1) Over the past week, have you had mental health problems/difficulties you need help with?

Yes

No (If you answered No; please jump to section IV)

Prefer not to say

If Yes, please indicate what this/these problems are (you may select an answer even if you do not meet the whole criterion definition for each option).

1. **Anxiety:** Frequently worrying a lot, having lots of fears, feeling like your stomach aches for no reason, having frequent headaches, thinking about things that worry you at night to a point where you cannot/are having a hard time sleeping.
2. **Depression:** Frequently feeling sad, having reduced/increased appetite compared to your normal self, feeling less interested in activities that you used to enjoy, sleeping more/less compared to your normal self, eating more/less compared to your normal self, etc.
3. **Bipolarity:** Having periods of time where you feel very happy, like you have endless energy like you want to do everything at once and having periods where you feel very down, you do not want to get out of bed, and you are having a hard time getting things done etc.
4. **Hyperactivity/Inattention**: Feeling like you cannot sit still, fidgeting a lot, having a hard time staying focused, feeling easily distracted.
5. **Trauma:** Having extreme fear/s following a traumatic event (an accident, abuse, an explosion, etc.) that resulted in nightmares about that event, recalling the event as if you were reliving it, feeling angry, feeling guilty, etc.
6. **Eating problems:** Frequent over-eating episodes where you feel like you have lost control over your food intake, extreme fear of gaining weight, making yourself overexercise, making yourself workout excessively to avoid putting on weight, etc.
7. **Schizophrenia or psychosis:** Feeling like you are losing touch with reality, seeing or hearing things that are not real, experiencing things that are not real (e.g., feeling like ants are crawling all over your body, feeling like the government is watching your every move, etc.).
8. **Obsessions and/or compulsions:** Experiencing frequent repetitive and uncontrollable thoughts that you cannot shut off (e.g., germs will eat me alive) that result in rituals in an attempt to quiet these thoughts (e.g., excessive cleaning to the point where your hands bleed or feeling like someone will break in that result in excessive checking of the locks to the point where you cannot sleep etc.).
9. **Substance related problems:** Excessive use of prescription or illegal drugs to the point where you cannot function on a day-to-day basis without having this substance. This excludes nicotine.
10. **Sleep-related problems:** Frequently having a hard time falling asleep for more than 30 minutes, or having a hard time staying asleep, or walking during your sleep, or waking up in panic, etc.
11. **Neurocognitive problems**: Alzheimer's disease, Parkinson's disease, Dementia, etc.
12. **Others, specify:** _____

IV- Previous Use of Mental Health Services:

During the past three years, have you ever consulted a mental health professional (e.g., a psychologist, counsellor, or social worker) for any psychological, emotional or academic/work problem you are experiencing (e.g., feeling worried, feeling sad, physical symptoms that have no medical explanation such as tension, insomnia, pounding heart, or fatigue?)

Yes

No

If Yes, what kind of mental health professional did you consult?

1. Counsellor
2. Clinical Psychologist/ Psychotherapist
3. Life Coach
4. Social Worker
5. Alternative professional (Priest, Sheikh, or Traditional Healer)
6. Other (Please Specify): _____

If Yes, did you access mental health services for yourself in another country aside from Lebanon?

Yes

No

If Yes, indicate in what country _____

V- Confidence in Mental Health Professionals

1) On a scale from 1 to 10 how well trained do you think mental health professionals are in handling mental health problems in Lebanon?

1 2 3 4 5 6 7 8 9 10

2) On a scale from 1 to 10 how comfortable are you discussing your mental health with a mental health professional in Lebanon?

1 2 3 4 5 6 7 8 9 10

3) On a scale from 1 to 10 how helpful would you say mental health professionals in Lebanon are in answering questions pertaining to your mental health problem(s)?

1 2 3 4 5 6 7 8 9 10

4) On a scale from 1 to 10 how much do you trust mental health professionals in Lebanon to help you with your mental health problem(s)?

1 2 3 4 5 6 7 8 9 10

5) On a scale from 1 to 10 how much do you trust mental health professionals in Lebanon to handle your mental health problem(s) while maintaining confidentiality?

1 2 3 4 5 6 7 8 9 10

VI- Structural Barriers to Tele-Mental Health:

1) How many family members (e.g., mother, father, sibling, offspring, and grandparent) live at home with you, almost always? Please count yourself.

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13
14. 14
15. 15
16. 16
17. 17
18. 18
19. 19
20. 20

Instructions: Indicate to what extent you agree with the following statements. Strongly disagree (1), disagree (2), neutral (3), agree (4), or strongly agree (5).

Note: Tele-mental health encompasses the integration of one or more technologies into mental health care. It is typically characterized by a physical separation between the patient and mental health care provider (Barnett & Kolmes, 2016).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I have sufficient access to the internet for telemental health use.	5	4	3	2	1
2. My internet connection is stable enough for telemental health use.	5	4	3	2	1

3. I have the technology necessary for tele-mental health use (e.g., phone, tablet, laptop, computer, etc.)	5	4	3	2	1
4. I have sufficient access to electricity for tele-mental health use.	5	4	3	2	1
5. I cannot make the time for tele-mental health use on a regular basis (e.g., weekly or bi-weekly).	5	4	3	2	1
6. I can pay for tele-mental health services via online banking (e.g., Credit Card, Debit Card, Virtual Visa Card, etc.).	5	4	3	2	1
7. I have the privacy/space needed for tele-mental health use.	5	4	3	2	1

VII- Technological Skills:

1. On a scale from 1 to 10 how would you rate your technology knowledge/literacy in the context of tele-mental health use?

   1 2 3 4 5 6 7 8 9 10

2. On a scale from 1 to 10 how comfortable are you in resolving technological issues that may arise during tele-mental health use?

   1 2 3 4 5 6 7 8 9 10

3. On a scale from 1 to 10 how comfortable are you in resolving internet related issues that may arise during tele-mental health use?

   1 2 3 4 5 6 7 8 9 10

APPENDIX B: OBJECTIVE MEASURE OF RECOGNIZING THE NEED FOR MENTAL HELP: THE DEPRESSION ANXIETY STRESS SCALE -21 ITEMS (DASS-21; Lovibond & Lovibond, 1995)

Instructions: Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you **over the past week**. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0: Did not apply to me at all
1: Applied to me to some degree, or some of the time
2: Applied to me to a considerable degree or a good part of the time
3: Applied to me very much or most of the time

	Did not apply to me at all	Applied to me to some degree, or some of the time	Applied to me to a considerable degree or a good part of the time	Applied to me very much or most of the time
1. I found it hard to wind down.	0	1	2	3
2. I was aware of dryness of my mouth.	0	1	2	3
3. I couldn't seem to experience any positive feeling at all.	0	1	2	3
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).	0	1	2	3
5. I found it difficult to work up the initiative to do things.	0	1	2	3

6. I tended to overreact to situations.	0	1	2	3
7. I experienced trembling (e.g., in the hands).	0	1	2	3
8. I felt that I was using a lot of nervous energy.	0	1	2	3
9. I was worried about situations in which I might panic and make a fool of myself.	0	1	2	3
10. I felt that I had nothing to look forward to.	0	1	2	3
11. I found myself getting agitated.	0	1	2	3
12. I found it difficult to relax.	0	1	2	3
13. I felt down-hearted and blue.	0	1	2	3
14. I was intolerant of anything that kept me from getting on with what I was doing.	0	1	2	3
15. I felt I was close to panic.	0	1	2	3
16. I was unable to become enthusiastic about anything.	0	1	2	3
17. I felt I wasn't worth much as a person.	0	1	2	3
18. I felt that I was rather touchy.	0	1	2	3

19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).	0	1	2	3
20. I felt scared without any good reason.	0	1	2	3
21. I felt that life was meaningless.	0	1	2	3

APPENDIX C: EXTRA SHORT FORM OF BIG FIVE TEST-2XS: OPENNESS TO EXPERIENCE ITEMS (BFT-2XS; Soto & John, 2017)

Instructions: This is a personality test; it will help you understand why you act the way that you do and how your personality is structured. Circle the number that indicates how much you disagree or agree with each statement. Begin each statement with "I am someone who…."

	Disagree Strongly	Disagree a little	Neutral; No opinion	Agree a little	Agree Strongly
1. Is fascinated by art, music, or literature.	1	2	3	4	5
2. Has little interest in abstract ideas.	1	2	3	4	5
3. Is original, comes up with new ideas.	1	2	3	4	5

APPENDIX D: PUBLIC STIGMA

Instructions: For each item, please mark whether you strongly disagree (1), disagree (2), neutral (3), agree (4), or strongly agree (5).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. If someone I know has a mental illness and other people knew of it, people would think this person is dangerous.	1	2	3	4	5
2. If someone I know has a mental illness and other people knew of it, people would be terrified of this person.	1	2	3	4	5
3. If someone I know has a mental illness and other people knew of it, people would avoid this person.	1	2	3	4	5
4. If someone I know has a mental illness and other people knew of it, people might bully this person.	1	2	3	4	5
5. If someone I know has a mental illness and other people knew of it, people would feel pity for this person.	1	2	3	4	5
6. If someone I know has a mental illness, I believe they will be seen as odd.	1	2	3	4	5
7. If someone I know has a mental illness, people will not necessarily trust them.	1	2	3	4	5
8. If a person was open about their mental illness, they will be negatively judged by society.	1	2	3	4	5
9. If someone with mental illness opens up about their experience with mental illness they will be praised by society.	1	2	3	4	5

APPENDIX E: SHORT VERSION OF THE BALANCED INVENTORY OF DESIRABLE RESPONDING (BIDR; Hart et al., 2015).

Instructions: Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is Not True, Somewhat True, or Very True as it pertains to you personally by putting an (x) in the box.

	Not True 1	Somewhat True 4	Very True 7
1. I have not always been honest with myself.			
2. I always know why I like things.			
3. I sometimes tell lies if I have to.			
4. I never cover up my mistakes.			

APPENDIX F: ATTITUDE TOWARD TELEMEDICINE IN PSYCHIATRY AND PSYCHOTHERAPY QUESTIONNAIRE - LAYPEOPLE VERSION (ATiPP; Tonn et al., 2017)

Instructions: For each item, please mark whether you strongly disagree (1), disagree (2), neutral (3), agree (4), or strongly agree (5).

Note: Telemental health is characterized by a physical separation between patients and mental health professionals which is facilitated by the use of technology (World Health Organization, 2016).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Generally, telemental health is a good addition to mental health services.	1	2	3	4	5
2. For psychiatric or psychotherapeutic issues or mental illness, patient information via telemental health is very helpful.	1	2	3	4	5
3. A successful treatment of patients with mental illness via telemental health is possible.	1	2	3	4	5
4. The bridging of the waiting time for an appointment with a psychiatrist/psychotherapist by using telemental health is a sensible option.	1	2	3	4	5
5. Aftercare and counselling after a presence therapy by a psychiatrist or psychotherapist through contact via the Internet or email or telephone are realizable.	1	2	3	4	5
6. I would make use of telemental health without accompanying face-to-face	1	2	3	4	5

therapy in the case of a mental illness.					
7. Online therapy via telemental health is only sensible as an addition to face-to-face therapy.	1	2	3	4	5
8. Online therapy through telemental health can only work effectively with live contact with a therapist through video calling and email or chat.	1	2	3	4	5

1. On a scale from 1 to 10, how likely are you to use synchronous telemental health services, (telemental health in real-time such as live video conferencing, live phone call, live chat etc.) as a treatment for mental health problems?

   1 2 3 4 5 6 7 8 9 10

2. On a scale from 1 to 10, how likely are you to use asynchronous telemental health services (telemental health outside of real-time, such as accessing modules, PowerPoints, exercises, quizzes etc.) prepared by mental health professionals as a treatment for mental health problems?

   1 2 3 4 5 6 7 8 9 10

المتغيرات المرتبطة بمواقف خدمات الصحة النفسية من بعد لدى عينة من المجتمع اللبناني

استمارة الموافقة

الرجاء أخذ العلم أنه بالإمكان أخذ صورة أو نسخة عن هذه الإستمارة والإحتفاظ بها في ملفاتك.

بيان الباحث

نطلب منك أن تشارك في دراسة بحثيّة مشتركة يتم اجراؤها في الجامعة الأميركية في بيروت بالتعاون مع جامعة "كيبيك أتروا ريفيير" Université du Québec à Trois-Rivières (UQTR) وجامعة "كيس ويسترن ريزيرف" Case Western Reserve University (CWRU). قبل أن تقرر المشاركة في هذه الدراسة، من الضروري أخذ العلم لماذا يتم اجراء هذه الدراسة وماذا سوف تشمل. هذه الاستمارة مصمّمة لتزويدك بمعلومات عن الدراسة كي تقرر اذا كنت تريد المشاركة في الدراسة أم لا. لذلك الرجاء قراءة هذه المعلومات بدقّة والرجوع إلى الباحث في حال وجدتَ شيئًا غير واضح أو أردتَ المزيد من المعلومات. عندما يتم الاجابة عن جميع أسئلتك، يمكنك أن تقرر المشاركة أو عدم المشاركة في الدراسة. هذه العمليّة تسمى " الموافقة المسبقة".

المدقّق الأساسي

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طالبة رسالة الماجيستر : جنى حمام، طالبة ماجستيرفي علم النفس العيادي، دائرة علم النفس، الجامعة الأميركية في بيروت، jbh05@mail.aub.edu.

هدف الدراسة

إنّ خدمات الصحة النفسيّة من بعد هي بديل لخدمات الصحة النفسية التقليديّة. نحن مهتمون في تحديد المتغيرات التي يمكن أن تكون مرتبطة بالمواقف تجاه طلب خدمات الصحة النفسيّة من بعد في لبنان. لذلك سوف نطلب من المشاركين ملء سلسلة من الاستبيانات المتعلّقة بخلفيتهم الاجتماعية الديموغرافية، والصحة النفسيّة ، والثقة في اختصاصيي الصحة النفسيّة ، والمواقف تجاه الصحة النفسيّة من بُعد ، إلخ ... لتحقيق هذا الهدف، سوف نطلب من 300 شخص راشد مقيم حاليًا في لبنان للمشاركة في دراستنا.

توظيف المنهجية

سوف يتم مشاركة رابط الدراسة على عدد من منصات التواصل الاجتماعي (كالانستغرام، الفايسبوك، الواتساب، التويتر ، ولينكدن) وفي الأماكن المجتمعيّة. بالإضافة الى نشر رابط الدراسة على الانترنت ، سوف يقوم فريق البحث بطباعة الاستبيان وتوزيعه بشكل مباشر وعشوائي على الناس عبر الإقتراب منهم وطلب المشاركة بالبحث. كما سوف يكون هناك نسخ مطبوعة من الاستبيان ليتم ملؤها في مكان خاص (مثال: مكتب المدقق الأساسي للدراسة). سوف نأخذ بعين الإعتبار كل الضمانات لتأمين الخصوصيّة اللازمة. ستبقى الدراسة متوفرة بشكل دائم حتى يتم الوصول إلى العدد المطلوب من المشاركين. الفئة

المستهدفة هم الأشخاص الراشدين (من عمر 18 سنة وأكثر) المقيمين في لبنان ولديهم إلمام باللغة الإنكليزية أو العربية.
يستبعد من المشاركة في الدراسة الأشخاص الراشدين غير المقيمين في لبنان أو الأشخاص الذين لم يبلغوا 18 سنة بعد. المشاركة في الدراسة هي اختيارية بشكل كامل.

إجراءات الدراسة
للمشاركة في هذه الدراسة سوف يطلب من المشاركين تعبئة الاستبيان من بعد أو ورقيًا. المدة الزمنيّة المتوقعة لتعبئة كامل الإستبيان هي بين 20 و 25 دقيقة.

المخاطر والمضايقات

تعدّ هذه الدراسة من الدراسات القليلة المخاطر فهويّة الأشخاص سوف تبقى سريّة وليس هناك بيانات تعريفية مطلوبة من المشاركين . يمكن أن تتضمن دراستنا بعض الأسئلة الحساسّة التي قد تزعج بعض المشاركين على الصعيد العاطفي. لذلك سيتم تزويد المشاركين في نهاية الدراسة بورقة إحالة، إضافة إلى قائمة بالخدمات النفسيّة والخطوط الساخنة التي يسهل الوصول إليها من أجل الحصول على الدعم النفسي في حال الشعور بأي ضائقة نفسيّة. بعض هذه الخدمات / الخطوط الساخنة هي مجانيّة والبعض الآخر متوفر مقابل رسم معيّن.

الفوائد
لا نعتقد أنه يوجد طريقة للإستفادة بشكل مباشر من المشاركة في هذا الدراسة سوى الحصول على فرصة للدخول في سحب لإمكانية الفوز بجائزة نقديّة. ومع ذلك، فإن المشاركة في الدراسة قد تساعدنا في فهم المتغيرات المرتبطة بالمواقف تجاه طلب خدمات الصحة النفسيّة من بعد في لبنان.

حوافز للمشاركة
إنّ المشاركة في الدراسة تؤمن فرصة للفوز بجائزة نقدية قدرها 1،000،000 مليون ليرة من خلال نظام تعويضات اليانصيب. سيكون هناك العديد من الفائزين. للدخول في السحب لإمكانية الفوز بالجائزة النقديّة ، يتعيّن على المشاركين إرسال صورة (screenshot) في حال تمت المشاركة عبر الإنترنت أو ورقيًا عن الصفحة الأخيرة من الإستبيان حيث يظهر تاريخ ووقت الانتهاء من تعبئته.
يمكن إرسال صورة (screenshot/ الصورة على البردي الإلكتروني:
telementalhealthaub@gmail.com للحصول على فرصة للدخول في السحب والفوز بجائزة نقدية.
سيتم تقديم هذا المبلغ النقدي للفائزين من قبل طالبة الماجستير في الوقت والمكان المناسبين للمشاركين. سيتم إعلام الفائزين عبر البريد الإلكتروني الذي استخدموه لإرسال بريد إلكتروني إلى فريق البحث على: telementalhealthaub@gmail.com.

الخصوصيّة/ السريّة
في حين أننا لن نجمع معلومات تعريفية منك، إلّا أنّ هذا البحث يتضمن نقل البيانات عبر الإنترنت. لقد تم بذل كل جهد معقول لضمان الاستخدام الفعّال للتكنولوجيا ومع ذلك لا يمكن ضمان السريّة أثناء التواصل عبر الإنترنت. كل المعلومات سوف يتم تصنيفيها ضمن ID on LimeSurvey في حساب كل من جنى حمام والدكتورة سابين سعادة في الجامعة الأميركية في بيروت. وسوف يتم تخزينها في مختبرنا الآمن أو السيرفر أو حاسوب المختبر في مختبرنا المقفل.

من أجل الحفاظ على عدم كشف هوية المشاركين، سيتم ربط جميع البيانات بهوية عشوائية للدراسة (randomly LimeSurvey ID.) . سيتم الاحتفاظ بالبيانات المرسلة في صيغة مجهولة الهوية إلى أجل غير مسمى. أما بالنسبة للاستبيانات الورقيّة ، فسيتم تخزينها وإقفالها في مكتب الباحث الرئيسي وستكون متاحة فقط لفريق البحث.
جميع وثائق الدراسة ستكون متاحة فقط لأعضاء الدراسة المعتمدين من مجلس المراجعة الدولي (IRB) والمحقّقين المشاركين. ستتم مراقبة السجلات وقد يتم تدقيقها من قبل مجلس المراجعة الدولي(IRB) مع ضمان السريّة.

المشاركة اختيارية
إن مشاركتك في هذه الدراسة هي مشاركة اختيارية بحيث يمكنك اختيارعدم المشاركة أو التوقف عن المشاركة في أي وقت بدون عقوبة أو خسارة للحوافز التي تحق لك. في حال قررتَ التوقف أو الانسحاب من الدراسة ، سيتم الاحتفاظ بالمعلومات / البيانات التي تم جمعها منك أوعنك إلى حين إنسحابك من الدراسة حيث تبقى هذه المعلومات جزءًا من الدراسة وقد يستمر تحليلها، ما لم تختر خلاف ذلك.

في حال لديكم أسئلة
الباحث الأساسي في هذه الدراسة هي الدكتورة سابين سعادة، الأستاذة المساعدة في الجامعة الأمريكية في بيروت. الرجاء إرسال أسئلتك الآن. إن كانت لديك أسئلة في وقت لاحق، يمكنك التواصل مع جنى حمام jbh05@mail.aub.edu , و الدكتورة سابين سعاد ss241@mail.aub.edu على بريدها الإلكتروني. في حال لديك أية استفسارات أو مخاوف حيال حقوقك كمشارك في هذا البحث، يمكنك مراجعة مجلس المراجعة الدولي على الرقم 01350000 ، 5445 irb@mail.aub.edu.

استمارة موافقة
إذا وافقت باختيارك على المشاركة في هذا البحث، عليك مراجعة الجدول أدناه. بمراجعة الجدول، أنتَ تؤكد على أنك شخص راشد (١٨ سنة و ما فوق) و أنك قرأت جميع الشروط الواردة في هذه الاستمارة ووافقت على المشاركة. في حال لم ترغب في المشاركة في هذا البحث تستطيع أن تقفل الرابط بسهولة.
أشير أنني اطلعتُ على جميع المعلومات الواردة في استمارة الموافقة و أوافق على المشاركة في هذه الدراسة.

الاستبيان باللغة العربية

I. الخصائص الديموغرافية للمشاركين:

هل تملىء هذه الاستمارة على جهاز ذكي (كهاتف، تابلت، كومبيوتر، لابتوب، الخ...) أو على ورقة؟

١. جهاز ذكي

٢. ورقة

1) الجنس:

1. ذكر
2. أنثى
3. جنس غير ثنائي
4. غير مصنّف جنسيًا
5. مرن جندريًا
6. غير ذلك، حدّد ----------
7. أفضل عدم الإجابة
8. لا يوجد إجابة

2) العمر: ----------

3) ما هي اللغة التي تتحدّثها؟ يمكن أن تختار أكثر من واحدة

1. العربيّة
2. الإنكليزيّة
3. الفرنسيّة
4. الإسبانيّة
5. غير ذلك، حدّد ----------

4) ما هو وضعك العائلي؟

1. جزء من علاقة/ متزوّج
2. أعزب
3. منفصل
4. مطلّق
5. أرمل
6. أفضّل عدم الإجابة

5) ما هو مستوى الدراسة الأعلى الذي وصلت إليه؟

1. أقل من الصف الثاني عشر او بكالوريا قسم ثاني
2. الصف الثاني عشر أو بكالوريا قسم ثاني
3. شهادة مهنيّة أو تدريب قائم على أساس مهارات
4. بعض التعليم الجامعي ولكن بدون درجة
5. إجازة بكالوريوس (بكالوريوس في الآداب، بكالويريوس في العلوم، دبلوم الدراسات المعمّقة)
6. شهادة ماجيستير(ماجيستير في الآداب، ماجيستير في العلوم، الطب، شهادة الدراسات المعمَّقة)
7. شهادة دكتوراه (دكتوراه في الطب، دكتوراه ، دكتوراه في التربية)
8. شهادة ما بعد الدكتوراه
9. شهادة الطبّ
10. غير متعلّم

II. <u>مدخول العائلة:</u>

1) أي من الخيارات التالية يصف مدخول العائلة الخاص بك؟

1. مدخولنا العائلي يكفي لتأمين احتياجاتنا، ويمكن أن ندخّر منه

2. مدخولنا العائلي يكفي لسد احتياجاتنا، لكن لا يمكننا أن ندخّر منه
3. مدخولنا العائلي لا يكفي لسد احتياجاتنا، ونواجه صعوبة في تأمين احتياجاتنا
4. لا أودّ الاجابة
5. لا أعرف

2) هل تعمل حاليا؟

1. نعم
2. كلا
3. اذا كنت تعمل ما هي وظيفتك الحالية:---------

3) كيف هو دوام عملك الحالي؟

1. دوام جزئي
2. دوام كامل
3. غير ذلك ----------

III. <u>التعرّف على المشاكل النفسيّة والحاجة الى المساعدة النفسيّة – معيار ذاتي:</u>

1) خلال الأسبوع الماضي، هل مررت بصعوبات أو مشاكل متعلّقة بصحتك النفسيّة واحتجت للمساعدة؟

1. نعم
2. كلا (اذا أجبت بكلا، الرجاء انتقل الى الجزء الرابع)
3. أفضّل عدم الإجابة

اذا أجبت بنعم، الرجاء اختر المشكلة/ المشاكل (يمكن أن تختار أي واحدة من الاجابات حتى إذا كانت لا تنطبق عليك جميع المواصفات).

1. **القلق**: كثرة الشعور بالقلق، وجود الكثير من المخاوف، الشعور بوجع في المعدة من دون سبب، وجع رأس متكرر، التفكير بالأشياء التي تقلقك أثناء النوم ممّا يجعلك تشعر بالأرق و لا تستطيع النوم أو لديك صعوبة بذلك.
2. **الاكتئاب**: كثرة الشعور بالحزن، زيادة الشهيّة أو نقصانها بطريقة مختلفة عن المعتاد، الشعوربأنك تهتم أقل بنشاطات كنت تحب ممارستها، النوم أكثر أو اقل من المعتاد، الأكل أكثر أو اقل من العادة، الخ...
3. **الثنائيّة القطبيّة**: لديك أوقات تشعر فيها بأنك سعيد جدًا، وكأنك تملك طاقة لا تنتهي وتريد أن تفعل كل شيء في الوقت نفسه، وأوقات أخرى تشعر أنك محبط للغاية لا تريد الخروج من السرير ولديك صعوبة في إنجاز أي شيء.
4. **فرط النشاط/عدم الانتباه**: الشعور بأنه لا يمكنك الجلوس بشكل ثابت، التململ الكثير، صعوبة في التركيز لوقت طويل، الشعور بسهولة التشتّت.
5. **الصدمة**:الشعور بخوف شديد/ بعد حادثة صادمة (حادث، إيذاء جسدي/نفسي، انفجار، الخ...) الذي سبّب كوابيس عن الحادث، الشعور بالأحداث وكأنك تعيشها لمرة أخرى، الشعور بالغضب، الشعور بالذنب، الخ...
6. **مشاكل التغذية/ الأكل**: تكرار نوبات الأكل المفرط حيث تشعر أنك فقدتّ السيطرة على كمية أكلك، الخوف الشديد من زيادة الوزن، تجبر نفسك على الإفراط في ممارسة الرياضة كي لا تكسب الوزن، الخ...
7. **إنفصام الشخصيّة/ الذهان**: تشعر أنك تخسر الإحساس بالواقع، تسمع أو ترى أشياء ليست حقيقيّة، تمر بأشياء غير حقيقية (على سبيل المثال تشعر أنّ النمل يمشي على جسدك، تظن أن الحكومة تراقب كل حركة من حركاتك، الخ...).
8. **الهوس و/أو القهر**: الشعور بأفكار متتابعة ومتكررة لا يمكن التحكّم بها أو توقيفها (مثال: ستقضي عليّ الجراثيم) فينتج عن ذلك طقوس في محاولة لإسكات هذه الأفكار(مثال: تنظيف مضاعف الى الحد الذي تبدأ الأيدي بالنزيف أو الشعور بأن شخص ما سوف يكسر القفل لذلك تتفقّده باستمرار فلا تستطيع النوم، الخ...).
9. **مشاكل تتعلّق بتعاطي المواد**: استعمال مفرط للأدوية الموصوفة أو المخدرات غير القانونية الى حد لا يمكنك أن تنجز أعمالك اليوميّة بشكل طبيعي دون الحصول على هذه المواد. هذا لا يشمل النيكوتين.

10. **مشاكل تتعلق بالنوم:** شعور متكرّر بالصعوبة في النوم لأكثر من ٣٠ دقيقة، أو الشعور بصعوبة البقاء في النوم لوقت طويل، أو المشي أثناء النوم، أو الاستيقاظ بحالة هلع.
11. **مشاكل عصبية:** مرض الزهايمر، مرض الباركنسون، الخرف، الخ...
12. **غير ذلك، حدد:**----------

IV. الاستفادة السابقة من خدمات الصحة النفسيّة:

خلال الثلاث سنوات الماضية، هل سبق وزرت مختص صحة نفسيّة (كمعالج نفسي، استشاري، أخصائي اجتماعي) لمرورك بمشكلة نفسيّة، عاطفيّة، أكاديميّة (كالشعور بالقلق، الشعور بالحزن، أعراض جسديّة لا يوجد لها تبرير طبيّ كالتوتّر، الأرق، دقات قلب سريعة، أو تعب)؟

نعم

كلا

إذا أجبت بنعم، أي نوع من أخصائيّي الصحة النفسيّة قمت بزيارته؟

1. استشاري
2. معالج نفسي
3. مدرّب حياة
4. أخصّائي اجتماعي
5. بديل اختصاصي (كاهن، شيخ، معالج تقليدي)
6. غير ذلك، حدد ----------

إذا أجبت بنعم هل استخدمت خدمات الصحة النفسية لنفسك في بلد ثاني غير لبنان؟

نعم

كلا

اذا أجبت بنعم، اذكر في أي بلد؟ ----------

V. الثقة في أخصائيّي الصحة النفسيّة

1) على مقياس من ١-١٠ كم تظن أخصائيّ الصحة النفسيّة في لبنان مدرّبين للتعاطي مع المشاكل النفسيّة المختلفة؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

2) على مقياس من ١-١٠ الى أي حد تشعر أنّك مرتاح للحديث عن مشاكلك النفسية مع أخصائي الصحة النفسيّة في لبنان؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

3) على مقياس من ١-١٠ الى أي حد تعتبر أنّ أخصائيّ الصحة النفسيّة في لبنان يساعدون في الاجابة عن أسئلة متعلّقة بمشاكل الصحة النفسيّة؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

4) على مقياس من ١-١٠ الى أي حد تثق بأخصائيّ الصحة النفسيّة في لبنان لمساعدتك في حل مشاكلك النفسيّة؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

5) على مقياس من ١-١٠ الى أي حد تثق بأخصائيّ الصحة النفسيّة في لبنان للتعامل مع مشاكلك النفسيّة مع المحافظة على السريّة ؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

VI. **الحواجز البنيويّة للصحة النفسيّة من بعد:**

1) كم عدد أفراد العائلة (كالأم والأب والأخوة والأولاد والأجداد) الذي يعيشون معك في المنزل بشكل شبه دائم؟ الرجاء احتساب نفسك أيضًا؟

١ .1
٢ .2
٣ .3
٤ .4
٥ .5
٦ .6
٧ .7
٨ .8
٩ .9
١٠.10
١١.11
١٢.12
١٣.13
١٤.14
١٥.15
١٦.16
١٧.17
١٨.18
١٩.19
٢٠.20

التعليمات: أذكر الى أي حد توافق مع العبارات التالية: لا أوافق بشدة (1) ، لا أوافق (2)، محايد (3)، أوافق (4)، أوافق بشدة (5).

	لا أوافق بشدة	لا أوافق	محايد	أوافق	أوافق بشدة
1. لدي فرص كافية للوصول الى الانترنت لخدمات الصحة النفسيّة من بعد.	١	٢	٣	٤	٥
2.شبكة الانترنت لدي مستقرة بشكل كافٍ لاستعمالها لخدمات الصحة النفسيّة من بعد.	١	٢	٣	٤	٥
3.لدي وسائل التكنولوجيا الضرورية لاستخدامها لخدمات الصحة النفسيّة من بعد (هاتف، تابلت، كومبيوتر، لابتوب، الخ...).	١	٢	٣	٤	٥
4.لدي كهرباء كافية لاستخدام خدمات الصحة النفسية من بعد.	١	٢	٣	٤	٥
5.لا يمكنني تخصيص وقت للخدمات الصحية النفسية من بعد بشكل دائم (أسبوعي، أو كل اسبوعين).	١	٢	٣	٤	٥
6.أستطيع الدفع لخدمات الصحة النفسيّة من بعد من خلال الخدمات المصرفيّة عبر الإنترنت (كبطاقة الإئتمان، بطاقة الصراف الآلي، الخ...)	١	٢	٣	٤	٥
7.لدي الخصوصية /المساحة المطلوبة لاستخدام خدمات الصحة النفسيّة من بعد	١	٢	٣	٤	٥

VII. المهارات التكنولوجيّة

1. على مقياس من ١-١٠ كيف تقيّم معرفتك للتكنولوجيا في سياق استخدام خدمات الصحة النفسيّة من بعد؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

2. على مقياس من ١-١٠ الى أي مدى تكون مرتاحًا في حل المشاكل التكنولوجيّة التي قد تظهر أثناء استعمالك لخدمات الصحة النفسية من بعد؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

3. على مقياس من ١-١٠ الى أي مدى تكون مرتاحًا في حل مشاكل الانترنت التي قد تظهر لك أثناء استعمالك لخدمات الصحة النفسيّة من بعد؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

معيار موضوعي للتعرف على الحاجة للمساعدة النفسيّة : مقياس الكآبة القلق التوتر ـ٢١ عنصر (بارنت، وكولمس ٢٠١٦)

التعليمات: الرجاء الاطلاع على كل عبارة ووضع دائرة بحسب مدى تطابق كل عبارة معك خلال الأسبوع الماضي. لا يوجد إجابة خاطئة أو صحيحة. لا تقضي الكثير من الوقت على كل عبارة.

تقييم المقياس كالآتي:

لم تتوافق معي أبدًا

تتوافق معي إلى حد معين، أو في بعض الأوقات

تتوافق معي الى درجة كبيرة أو في جزء كبير من الوقت

تتوافق معي كثيرًا أو في أغلب الأوقات

	لم تتوافق معي أبدًا	تتوافق معي إلى حد معين، أو في بعض الأوقات	تتوافق معي الى درجة كبيرة أو في جزء كبير من الوقت	تتوافق معي كثيرًا أو في أغلب الأوقات
1.وجدت صعوبة في الاسترخاء	٠	١	٢	٣
2.أحسست بجفاف في فمي	٠	١	٢	٣
3.لم أكن أستطيع الإحساس بأي شعور إيجابي.	٠	١	٢	٣
4.أحسست بصعوبة في التنفّس (كتنفّس سريع	٠	١	٢	٣

للغاية، ضيق التنفّس في غياب المجهود البدني).				
5.وجدت صعوبة في المبادرة للقيام بأشياء.	٠	١	٢	٣
6.كنت أميل للمبالغة بردة الفعل في بعض المواقف.	٠	١	٢	٣
7.أشعر بالرجفة (كالرجفة في اليدين، الخ...).	٠	١	٢	٣
8.شعرت أنني استعملت الكثير من الطاقة العصبيّة.	٠	١	٢	٣
٩.كنت قلقًا من مواقف ممكن أن أشعر فيها بالذعر وأجعل من نفسي أضحوكة.	٠	١	٢	٣
١٠.شعرت أنه لا يوجد شيء أنتظره بشوق.	٠	١	٢	٣

١١. وجدت نفسي أصبح مضطربًا.	٠	١	٢	٣
١٢. وجدت صعوبة بالاسترخاء.	٠	١	٢	٣
١٣. شعرت بالمزاج السيء و الحزن.	٠	١	٢	٣
١٤. لم أتحمّل أي شيء كان يبعدني عن الاستمرار في ما أقوم به.	٠	١	٢	٣
١٥. شعرت بأنّني قريب من حالة الهلع.	٠	١	٢	٣
١٦. لم أستطع أن أكون متحمّسًا تجاه أي شيء.	٠	١	٢	٣

١٧. شعرت بأنّني إنسان ذو قيمة قليلة.	٠	١	٢	٣
١٨. شعرت بأنّني حسّاس زيادة عن اللزوم.	٠	١	٢	٣
١٩. كنت أعي حركة قلبي حتى في غياب أي مجهود جسدي (كإحساس بارتفاع نبضات القلب، إحساس كأنّ القلب توقف عن الخفقان).	٠	١	٢	٣
٢٠. شعرت بالخوف من دون وجود أي سبب.	٠	١	٢	٣
٢١. شعرت بأن الحياة ليس لها معنى.	٠	١	٢	٣

استمارة اضافية قصيرة لخمس اختبارات كبيرة: الانفتاح على تجربة العناصر (سوتو وجون، ٢٠١٧)

التعليمات: هذا اختبار شخصية سوف يساعدك على فهم سبب تصرفاتك وكيفية هيكلية شخصيتك. اختر الرقم الذي يدلّ كم أنت غير موافق أو موافق مع كل عبارة. أبدأ كل عبارة ب "أنا شخص ...".

	لا أوافق بشدة	لا أوافق قليلًا	محايد: لا رأي	أوافق قليلًا	أوافق بشدّة
1.مبهور بالفن والموسيقى والأدب	١	٢	٣	٤	٥
2."لدي اهتمام قليل بالأفكار التجريدية"	١	٢	٣	٤	٥
3.مبتكر، أقدّم أفكارًا جديدة	١	٢	٣	٤	٥

الوصمة العامّة

التعليمات على : وضع علامة في كل بند، الرجاء :لا أوافق بشدة (١)، لا أوافق (٢)، محايد (٣)، أوافق (٤)، أو أوافق بشدة (٥).

	لا أوافق بشدة	لا أوافق	محايد	أوافق	أوافق بشدة
١. إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وعرف الناس بذلك، سوف يعتقدون بأنه شخص خطير.	١	٢	٣	٤	٥
٢. إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وعرف الناس بذلك، سوف يخافون منه.	١	٢	٣	٤	٥
٣. إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وعرف الناس بذلك، سوف يتجنّبوه	١	٢	٣	٤	٥
٤. إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وقد عرف الناس بذلك، سوف يتنمّرون عليه.	١	٢	٣	٤	٥
٥. إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وعرف الناس بذلك سوف يشفقون عليه.	١	٢	٣	٤	٥
٦. إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة، أعتقد أنه سوف يُنظر إليه كغريب.	١	٢	٣	٤	٥
٧. إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة، لن تثق به الناس.	١	٢	٣	٤	٥

٨. إذا كان الشخص منفتحًا في الحديث عن أمراضه النفسيّة، سوف يُحكم عليه بشكل سلبي من المجتمع.	١	٢	٣	٤	٥
٩. إذا كان الشخص منفتحًا في الحديث عن تجربته مع الأمراض النفسيّة سوف يتم مدحه في المجتمع.	١	٢	٣	٤	٥

نموذج صغير من المخزون المتوازن من الاستجابة المحببًة (هارت وآخرون،2015)

التعليمات: المذكور في الأسفل هو عدد من العبارات المتعلّقة بالمواقف الشخصية والصفات. اقرأ كل عبارة واختر إذا ما كانت العبارة غير صحيحة، صحيحة قليلًا، أو صحيحة بشدة بالنسبة لك شخصيًا من خلال وضع (x) في الخانة.

	غير صحيحة	صحيحة قليلًا	صحيحة بشدة
1.لم أكن دائمًا صادقًا مع نفسي.			
2.أعرف دائمًا لماذا أحبّ أشياءً.			
3.أقول الأكاذيب أحيانًا اذا اضطررت لذلك.			
4.لا أخفي أخطائي أبدًا.			

استبيان السلوك تجاه الطب من بعد في الطب النفسي والعلاج النفسي – نموذج لايبيبول (طون وآخرون،٢٠١٧)

التعليمات: لكل خيار الرجاء الذكر اذا ما كنت لا توافق بشدة (١)، لا توافق (٢)، محايد (٣)، توافق (٤)، توافق بشدة (٥).
ملاحظة: الصحة النفسيّة من بعد تتصف بالبعد الجسدي بين المريض ومختص الصحة النفسيًة الميسرة عبر استخدام التكنولوجيا (منظمة الصحة العالمية، ٢٠١٦).

	لا أوافق بشدة	لا أوافق	محايد	أوافق	أوافق بشدة
1.بشكل عام، الصحة النفسيّة من بعد هي إضافة جيدة لخدمات الصحة النفسيّة.	١	٢	٣	٤	٥
2.بالنسبة للمسائل النفسيًة أو العلاج النفسي والأمراض النفسيّة، تُعتبر معلومات المريض عبر خدمات الصحة النفسية من بعد مساعدة جدًا.	١	٢	٣	٤	٥
3.العلاج الناجح للمرضى الذين يعانون من أمراض نفسيّة ممكن عن طريق الصحة النفسيّة من بعد.	١	٢	٣	٤	٥
4.تضييق وقت الانتظار للحصول على موعد مع طبيب أو معالج نفسي عبر خدمات الصحة النفسيّة من بعد هو خيار منطقي.	١	٢	٣	٤	٥
5.الرعاية اللاحقة والاستشارة بعد العلاج الفعلي مع	١	٢	٣	٤	٥

الطبيب أو المعالج النفسي من خلال التواصل عبر الانترنت أو الايميل أو الهاتف قابل للتحقيق.					
6.ممكن أن استخدم خدمات الصحة النفسيّة من بعد بدون العلاج وجهًا لوجه في حال وجود أمراض نفسيّة.	١	٢	٣	٤	٥
7.العلاج أونلاين عبر خدمات الصحة النفسيّة من بعد هو فقط منطقي اذا أضيف الى العلاج وجهًا لوجه.	١	٢	٣	٤	٥
8.العلاج أونلاين عبر خدمات الصحة النفسيّة من بعد يمكن أن يكون فعّالًا فقط من خلال التواصل المباشر مع المعالج عبر اتصال الفيديو أو الإيميل والدردشة.	١	٢	٣	٤	٥

1. على مقياس من ١-١٠ ما مدى احتماليّة أن تستخدم بشكل متزامن خدمات الصحة النفسية من بعد (خدمات الصحة النفسية من بعد في الوقت الفعلي كمؤتمر فيديو مباشر، أو اتصال هاتفي مباشر، دردشة
مباشرة، الخ...) كعالج لمشاكل الصحة النفسيّة؟

١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩ ١٠

2.على مقياس من ١-١٠ ما مدى احتماليّة أن تستخدم بشكل غير متزامن خدمات الصحة النفسيّة من بعد (خدمات الصحة النفسيّة من بعد في غير الوقت الفعلي كالدخول الى محاور إلكترونيّة،

عروض مسجّلة، تمارين، اختبارات محضرة من قبل أخصائيّ الصحة النفسيّة) كجزء من العلاج لمشاكل الصحة النفسية؟

١٠ ٩ ٨ ٧ ٦ ٥ ٤ ٣ ٢ ١

APPENDIX II

Table 7. *Factor Matrix for Confidence in mental health professionals (English)*

Factor Matrix

	Factor 1
On a scale from 1 to 10 how much do you trust mental health professionals in Lebanon to handle your mental health problem(s) while maintaining confidentiality?	.896
On a scale from 1 to 10 how helpful would you say mental health professionals in Lebanon are in answering questions pertaining to your mental health problem(s)?	.879
On a scale from 1 to 10 how much do you trust mental health professionals in Lebanon to help you with your mental health problem(s)?	.823
On a scale from 1 to 10 how comfortable are you discussing your mental health with a mental health professional in Lebanon?	.802
On a scale from 1 to 10 how well trained do you think mental health professionals are in handling mental health problems in Lebanon?	.753

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations required.

Table 8. *Factor Matrix for Confidence in mental health professionals (Arabic)*

Factor Matrix

	Factor 1
على مقياس من ١-١٠ الى أي حد تثق بأخصائيّ الصحة النفسيّة في لبنان لمساعدتك في حل مشاكلك النفسيّة؟	.963
على مقياس من ١-١٠ الى أي حد تشعرأنّك مرتاح للحديث عن مشاكلك النفسية مع أخصائي الصحة النفسيّة في لبنان؟	.916
على مقياس من ١-١٠ الى أي حد تعتبر أنّ أخصائيّ الصحة النفسيّة في لبنان يساعدون في الاجابة عن أسئلة متعلّقة بمشاكل الصحة النفسيّة؟	.862
على مقياس من ١-١٠ كم تظن أخصائيّ الصحة النفسيّة في لبنان مدرّبين للتعاطي مع المشاكل النفسيّة المختلفة؟	.830

على مقياس من ١-١٠ الى أي حد تثق بأخصائيّ الصحة النفسيّة في لبنان للتعامل مع مشاكلك النفسيّة مع المحافظة على السريّة ؟	.796

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations required.

Table 9. *Factor Matrix for Structural Barriers (English)*

Factor Matrix

	Factor 1
My internet connection is stable enough for telemental health use.	.757
I have sufficient access to electricity for tele-mental health use.	.754
I have the technology necessary for tele-mental health use (e.g., phone, tablet, laptop, computer, etc.	.675
I have sufficient access to the internet for telemental health use.	.651
I have the privacy/space needed for tele-mental health use.	.265
I cannot make the time for tele-mental health use on a regular basis (e.g., weekly or bi-weekly)	-1.94
I can pay for tele-mental health services via online banking (e.g, Credit Card, Debit Card, Virtual Visa Card, etc.).	.134

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations required.

Table 10. *Factor Matrix for Structural Barriers (Arabic)*

Factor Matrix

	Factor 1
لدي فرص كافية للوصول الى الانترنت لخدمات الصحة النفسيّة من بعد.	.958
شبكة الانترنت لدي مستقرة بشكل كافٍ لاستعمالها لخدمات الصحة النفسيّة من بعد	.850
المطلوبة لاستخدام خدمات الصحة النفسيّة من بعد المساحة/لدي الخصوصية	.590
لدي كهرباء كافية لاستخدام خدمات الصحة النفسية من بعد.	.562
لدي وسائل التكنولوجيا الضرورية لاستخدامها لخدمات الصحة النفسيّة من بعد (هاتف، تابلت، كومبيوتر، لابتوب، الخ...).	.556

.395	لا يمكنني تخصيص وقت للخدمات الصحية النفسية من بعد بشكل دائم (أسبوعي، أو كل اسبوعين).
.328	أستطيع الدفع لخدمات الصحة النفسيّة من بعد من خلال الخدمات المصرفيّة عبر الإنترنت (كبطاقة الإئتمان، بطاقة الصراف الآلي، الخ...)

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations required.

Table 11. *Factor Matrix for Technological skills (English)*

Factor Matrix

	Factor 1
On a scale from 1 to 10 how comfortable are you in resolving technological issues that may arise during tele-mental health use?	.964
On a scale from 1 to 10 how comfortable are you in resolving internet related issues that may arise during tele-mental health use?	.830
On a scale from 1 to 10 how would you rate your technology knowledge/literacy in the context of tele-mental health use?	.570

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations required.

Table 12. *Factor Matrix for Technological skills scales (Arabic)*

Factor Matrix

	Factor 1
على مقياس من ١-١٠ الى أي مدى تكون مرتاحًا في حل المشاكل التكنولوجيّة التي قد تظهر أثناء استعمالك لخدمات الصحة النفسية من بعد؟	.999
على مقياس من ١-١٠ الى أي مدى تكون مرتاحًا في حل مشاكل الانترنت التي قد تظهر لك أثناء استعمالك لخدمات الصحة النفسيّة من بعد؟	.867
على مقياس من ١-١٠ كيف تقيّم معرفتك للتكنولوجيا في سياق استخدام خدمات الصحة النفسيّة من بعد؟	.666

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations required.

Table 13. *Factor Matrix for Depression Anxiety Stress scale (English)*

Factor Matrix

	Factor
	1
I was unable to become enthusiastic about anything	.769
I felt I was close to panic	.756
I found it difficult to relax.	.745
I felt that I was using a lot of nervous energy.	.705
I felt down-hearted and blue.	.704
I tended to overreact to situations.	.695
I felt scared without any good reason.	.686
I found myself getting agitated.	.661
I felt that I had nothing to look forward to.	.657
I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).	.656
I couldn't seem to experience any positive feeling at all.	.653
I felt that life was meaningless.	.638
I felt I wasn't worth much as a person.	.633
I found it difficult to work up the initiative to do things.	.625
I was worried about situations in which I might panic and make a fool of myself.	.617
I experienced trembling (e.g., in the hands).	.579
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion).	.570
I was intolerant of anything that kept me from getting on with what I was doing.	.555
I found it hard to wind down.	.544
I felt that I was rather touchy.	.536
I was aware of dryness of my mouth	.312

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations required.

Table 14. *Factor Matrix for Depression Anxiety Stress scale (Arabic)*

Factor Matrix

	Factor
	1
شعرت بالمزاج السيء و الحزن.	.842

.734	كنت أعي حركة قلبي حتى في غياب أي مجهود جسدي (كإحساس بارتفاع نبضات القلب، إحساس كأنّ القلب توقف عن الخفقان).
.723	وجدت صعوبة في المبادرة للقيام بأشياء.
.722	وجدت صعوبة بالاسترخاء.
.681	لم أستطع أن أكون متحمّسًا تجاه أي شيء.
.666	أشعر بالرجفة (كالرجفة في اليدين، الخ...).
.662	أحسست بصعوبة في التنفّس (كتنفّس سريع للغاية، ضيق التنفّس في غياب المجهود البدني).
.650	وجدت نفسي أصبح مضطربًا.
.647	لم أكن أستطيع الإحساس بأي شعور إيجابي.
.640	شعرت أنني استعملت الكثير من الطاقة العصبيّة.
.638	شعرت بأنّني حسّاس زيادة عن اللزوم.
.615	لم أتحمّل أي شيء كان يبعدني عن الاستمرار في ما أقوم به.
.587	شعرت بأن الحياة ليس لها معنى.
.571	شعرت أنه لا يوجد شيء أنتظره بشوق.
.565	شعرت بأنّني إنسان ذو قيمة قليلة.
.555	شعرت بالخوف من دون وجود أي سبب.
.458	كنت أميل للمبالغة بردة الفعل في بعض المواقف.
.416	أحسست بجفاف في فمي.
.414	وجدت صعوبة في الاسترخاء.
.350	شعرت بأنّني قريب من حالة الهلع.
.309	كنت قلقًا من مواقف ممكن أن أشعر فيها بالذعر وأجعل من نفسي أضحوكة.

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations required.

Table 15. *Factor Matrix for Short Version of Big Five Inventory: Openness to Experience (BFT-2XS; English)*

Factor Matrix

	Factor 1
Is fascinated by art, music, or literature.	.700
Is original, comes up with new ideas.	.361
Has little interest in abstract ideas.	-.251

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations require.

Table 16. *Factor Matrix for Short Version of Big Five Inventory: Openness to Experience (BFT-2XS; Arabic)*

Factor Matrix

	Factor 1

.999	مبهور بالفن والموسيقى والأدب.
.317	مبتكر، أقدّم أفكارًا جديدة.
.247	لدي اهتمام قليل بالأفكار التجريدية.

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations require.

Table 17. *Factor Matrix for Public Stigma Scale (English)*

Factor Matrix

	Factor 1
If someone I know has a mental illness and other people knew of it, people would avoid this person.	.793
If someone I know has a mental illness and other people knew of it, people would think this person is dangerous.	.754
If someone I know has a mental illness and other people knew of it, people would be terrified of this person.	.749
If someone I know has a mental illness and other people knew of it, people might bully this person	.700
If someone I know has a mental illness, people will not necessarily trust them.	.653
If someone I know has a mental illness, I believe they will be seen as odd.	.645
If a person was open about their mental illness, they will be negatively judged by society.	.608
If someone I know has a mental illness and other people knew of it, people would feel pity for this person.	.571
If someone with mental illness opens up about their experience with mental illness they will be praised by society.	.100

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations require.

Table 18. *Factor Matrix for Public Stigma Scale (Arabic)*

Factor Matrix

	Factor 1
إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وقد عرف الناس بذلك، سوف يتنمّرون عليه.	.851
إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة، أعتقد أنه سوف يُنظر إليه كغريب.	.851
إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة، لن تثق به الناس.	.840
إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وعرف الناس بذلك، سوف يتجنّبوه.	.815
إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وعرف الناس بذلك، سوف يخافون منه.	.798
. إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وعرف الناس بذلك، سوف يعتقدون بأنه شخص خطير.	.794

.721	إذا كان الشخص منفتحًا في الحديث عن أمراضه النفسيّة، سوف يُحكم عليه بشكل سلبي من المجتمع.
.662	إذا كنتُ أعرف شخصًا لديه أمراض نفسيّة وعرف الناس بذلك سوف يشفقون عليه.
-.083	إذا كان الشخص منفتحًا في الحديث عن تجربته مع الأمراض النفسيّة سوف يتم مدحه في المجتمع.

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations require.

Table 19. *Factor Matrix for Attitudes Towards Telemental Health Scale (ATiPP;English)*

Factor Matrix

	Factor 1
Aftercare and counselling after a presence therapy by a psychiatrist or psychotherapist through contact via the Internet or email or telephone are realizable.	.730
A successful treatment of patients with mental illness via telemental health is possible.	.705
For psychiatric or psychotherapeutic issues or mental illness, patient information via telemental health is very helpful.	.654
Generally, telemental health is a good addition to mental health services.	.605
The bridging of the waiting time for an appointment with a psychiatrist/psychotherapist by using telemental health is a sensible option.	.597
I would make use of telemental health without accompanying face-to-face therapy in the case of a mental illness.	.494
Online therapy through telemental health can only work effectively with live contact with a therapist through video calling and email or chat.	.444
Online therapy via telemental health is only sensible as an addition to face-to-face therapy.	.229

Extraction Method: Maximum Likelihood.
a. 1 factors extracted. 4 iterations require.

Table 20. *Factor Matrix for Attitudes Towards Telemental Health Scale (ATiPP;Arabic)*

Factor Matrix

	Factor 1

.825	العلاج الناجح للمرضى الذين يعانون من أمراض نفسيّة ممكن عن طريق الصحة النفسيّة من بعد.
.707	بشكل عام، الصحة النفسيّة من بعد هي إضافة جيدة لخدمات الصحة النفسيّة.
.643	الرعاية اللاحقة والاستشارة بعد العلاج الفعلي مع الطبيب أو المعالج النفسي من خلال التواصل عبر الانترنت أو الايميل أو الهاتف قابل للتحقيق.
.528	بالنسبة للمسائل النفسيًة أو العلاج النفسي والأمراض النفسيّة، تُعتبر معلومات المريض عبر خدمات الصحة النفسية من بعد مساعدة جدًا
.514	ممكن أن استخدم خدمات الصحة النفسيّة من بعد بدون العلاج وجهًا لوجه في حال وجود أمراض نفسيّة.
.493	العلاج أونلاين عبر خدمات الصحة النفسيّة من بعد يمكن أن يكون فعّالًا فقط من خلال التواصل المباشر مع المعالج عبر اتصال الفيديو أو الإيميل والدردشة.
.474	تضييق وقت الانتظار للحصول على موعد مع طبيب أو معالج نفسي عبر خدمات الصحة النفسيّة من بعد هو خيار منطقي.
.191	العلاج أونلاين عبر خدمات الصحة النفسيّة من بعد هو فقط منطقي اذا أضيف الى العلاج وجهًا لوجه.

Extraction Method: Maximum Likelihood.

a. 1 factors extracted. 4 iterations require.

APPENDIX III

Figure 1a. *Histogram for Age (English)*

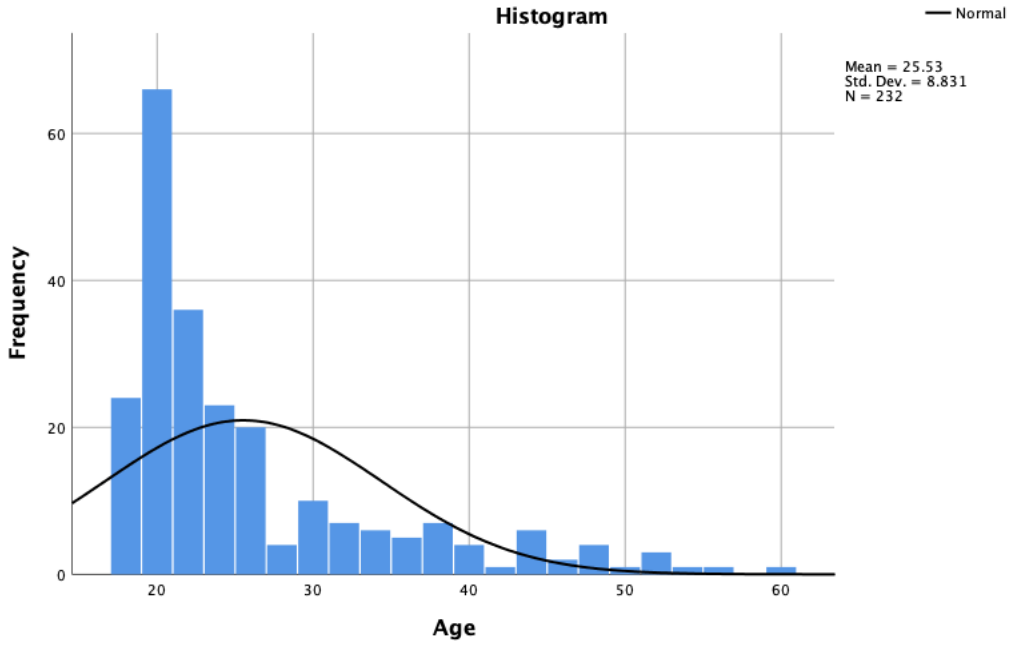


Figure 1b. *Histogram for Age (Arabic)*

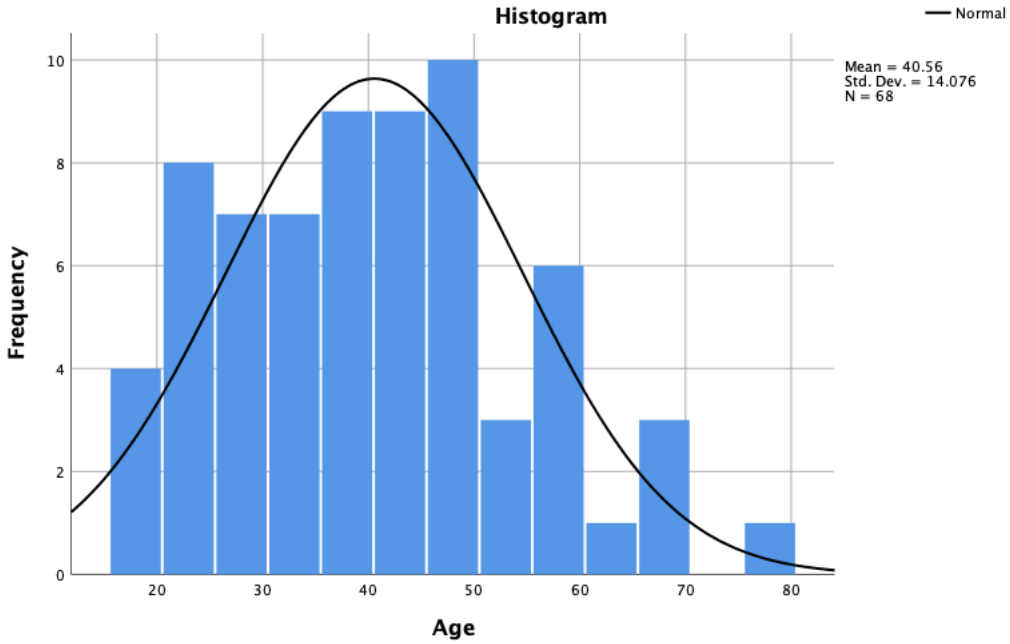


Figure 1c. *Histogram for Age (Combined)*

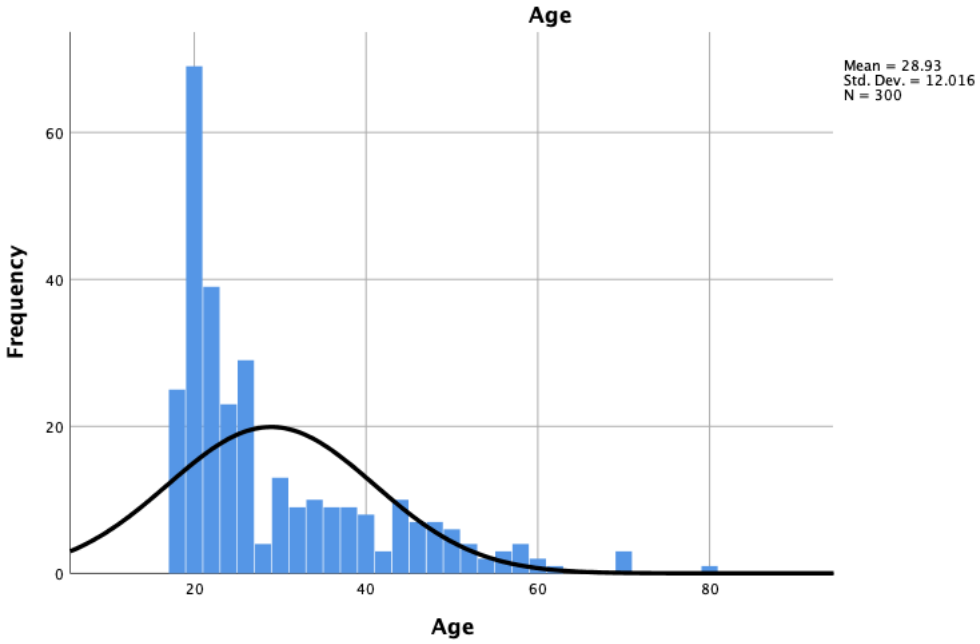


Figure 2a. *Histogram for Confidence in Mental Health Professionals (English)*

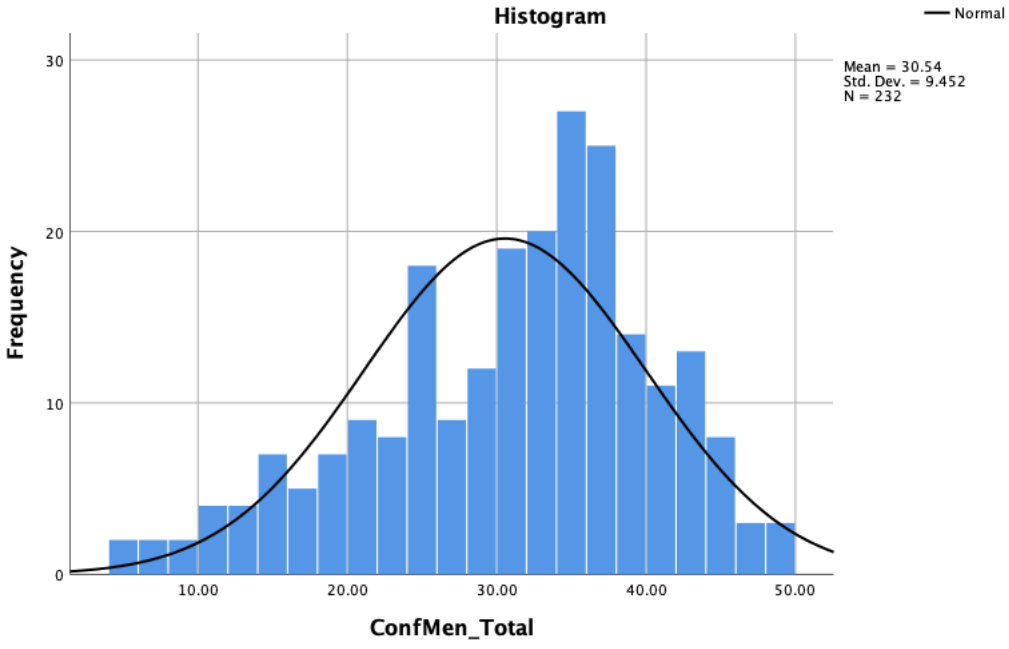


Figure 2b. *Histogram for Confidence in Mental Health Professionals (Arabic)*

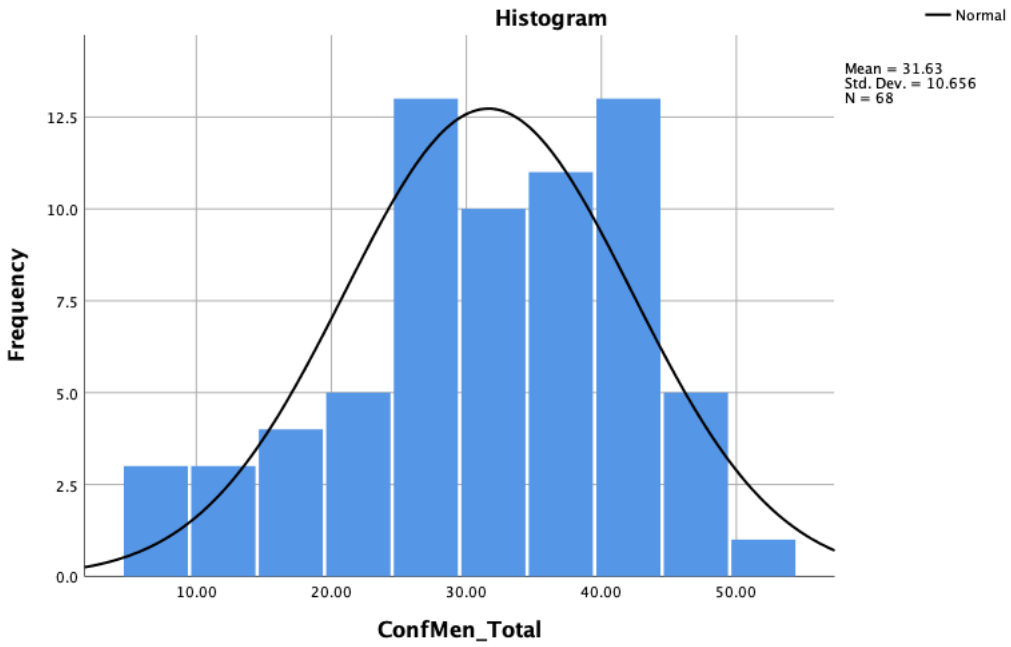


Figure 2c. *Histogram for Confidence in Mental Health Professionals (Combined)*

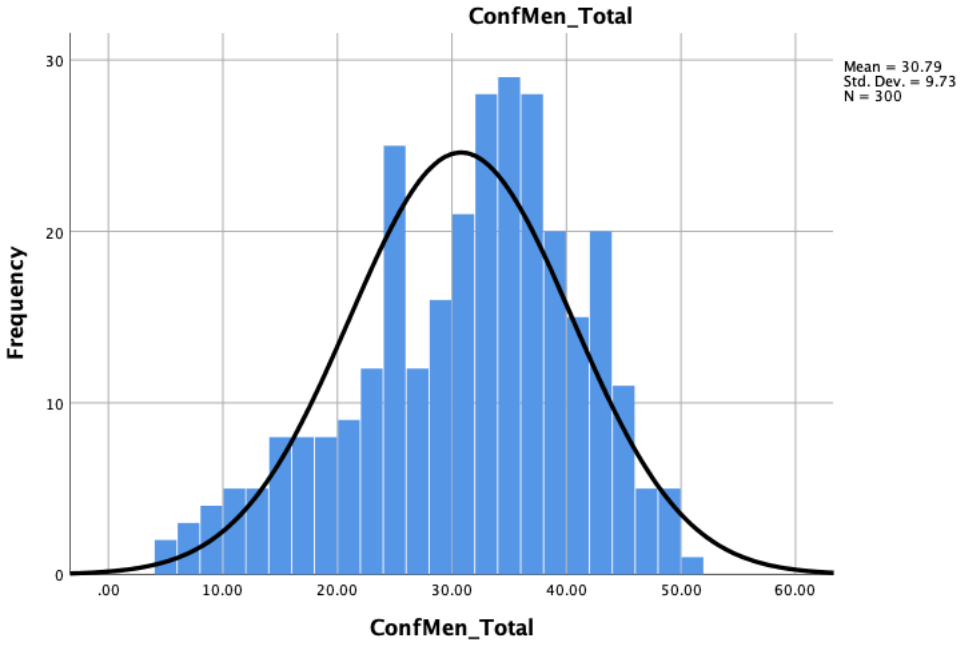


Figure 3a. *Histogram for Structural Barriers (English)*

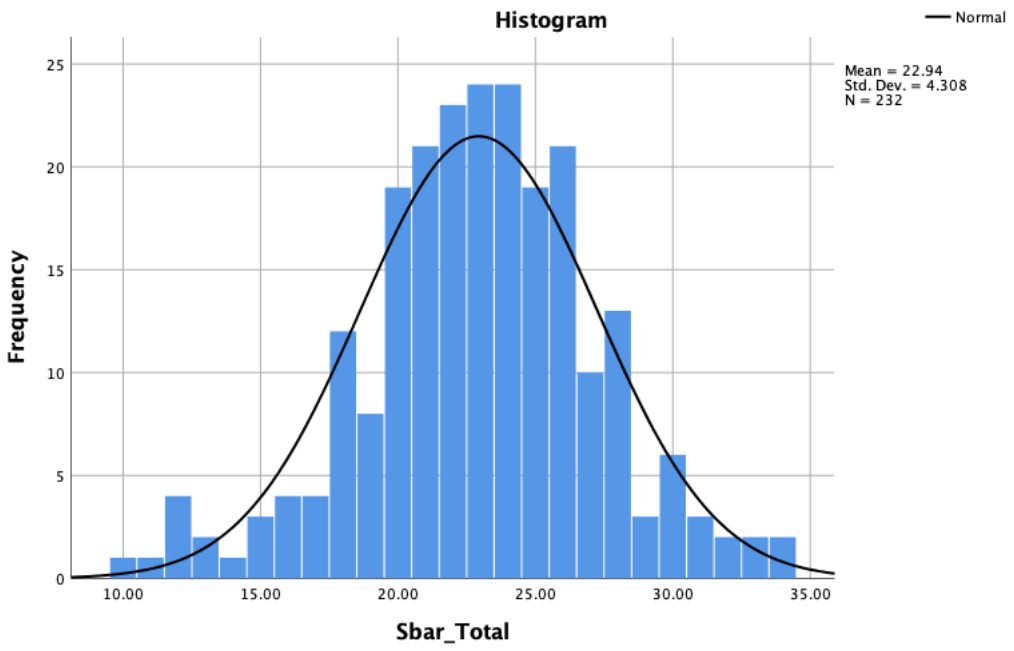


Figure 3b. *Histogram for Structural Barriers (Arabic)*

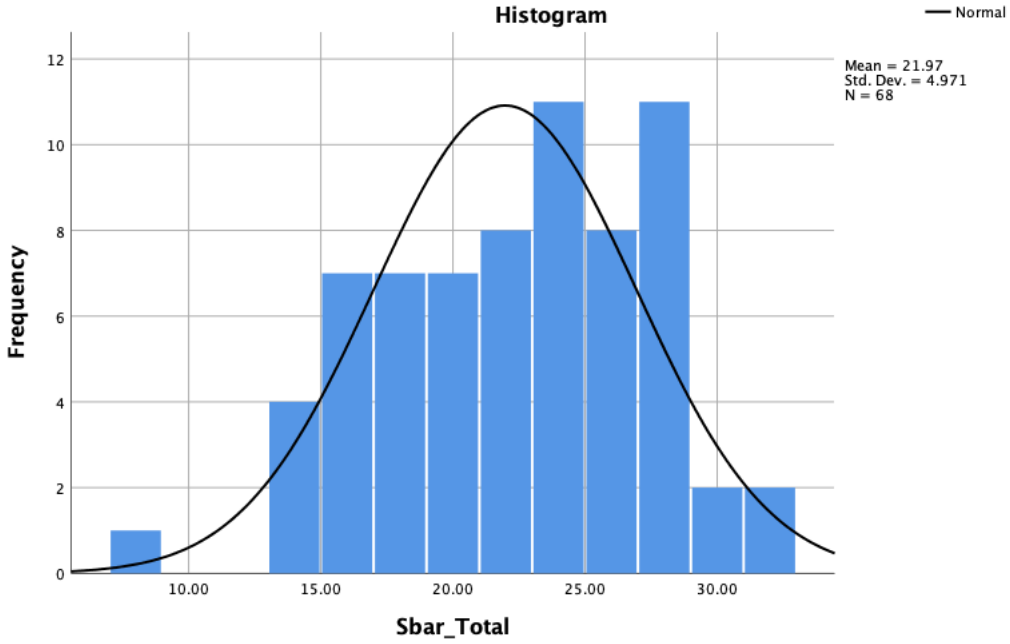


Figure 3c. *Histogram for Structural Barriers (Combined)*

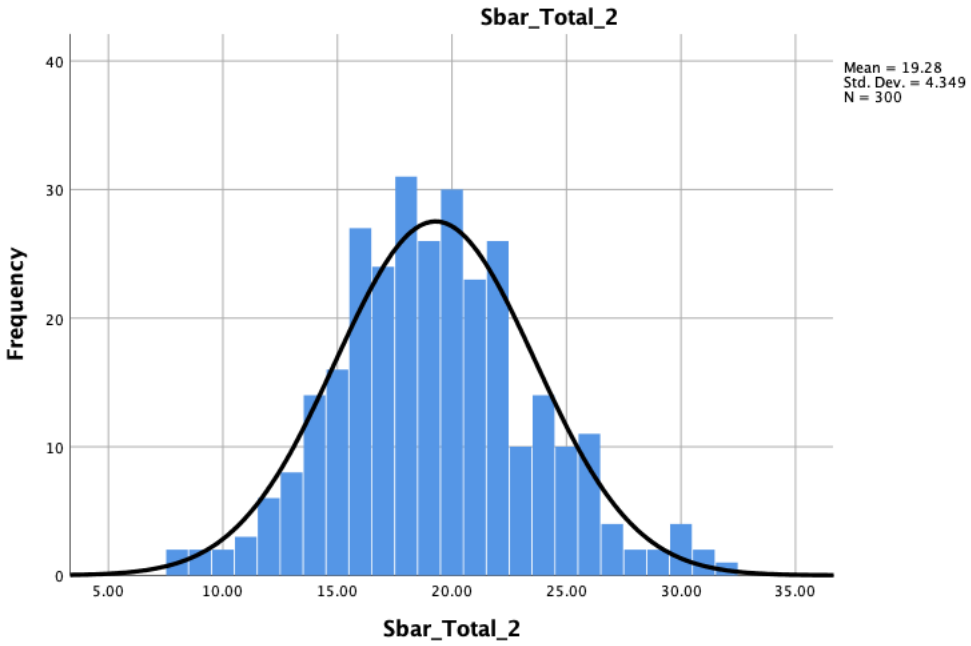


Figure 4a. *Histogram for Technological Skills (English)*

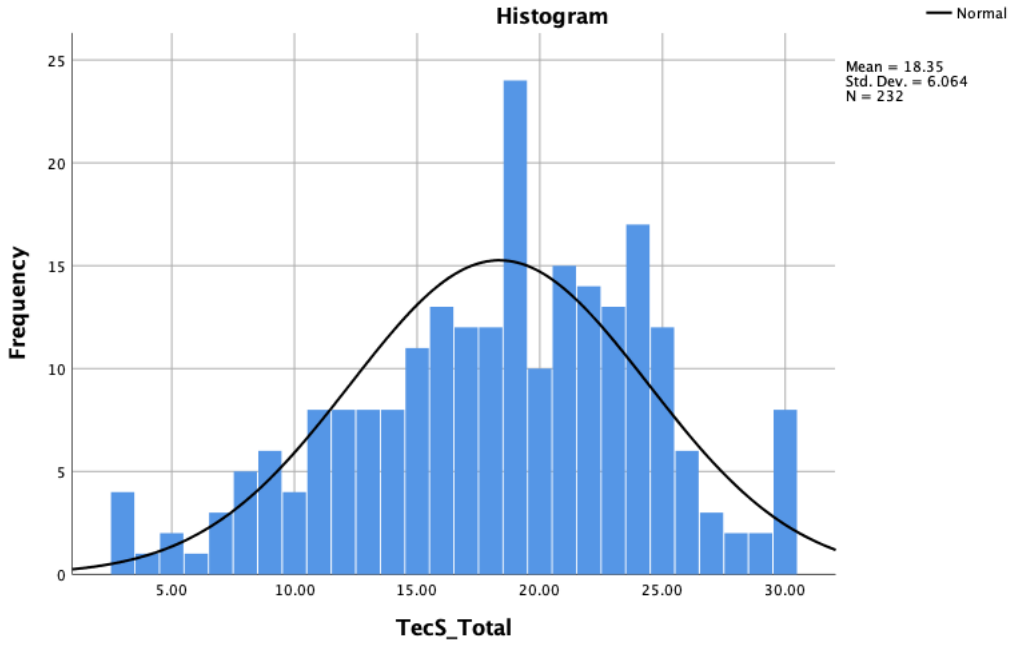


Figure 4b. *Histogram for Technological Skills (Arabic)*

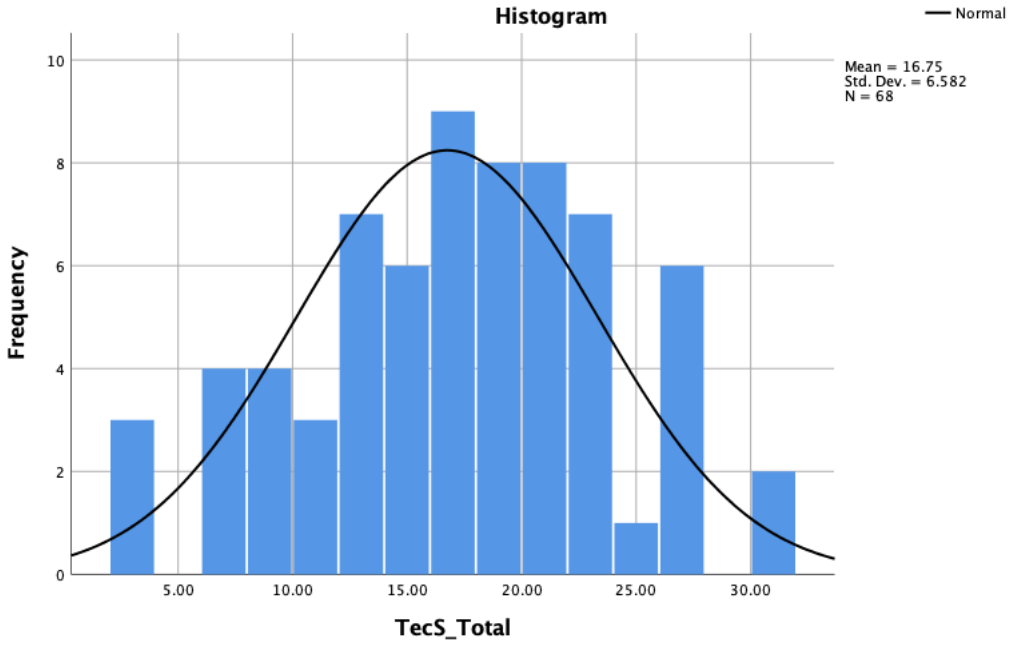


Figure 4c. *Histogram for Technological Skills (Combined)*

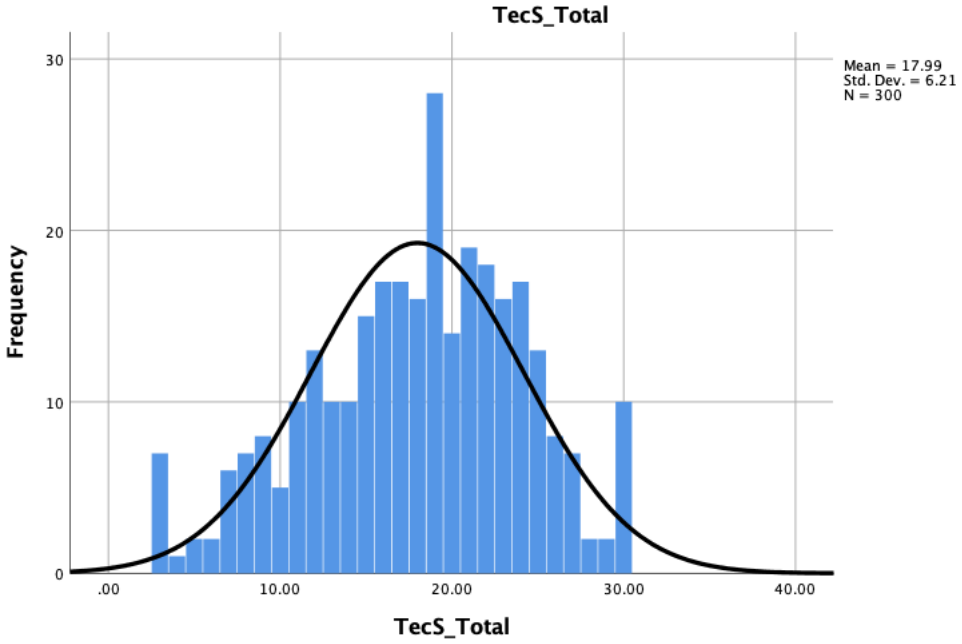


Figure 5a. *Histogram for Mental Distress (English)*

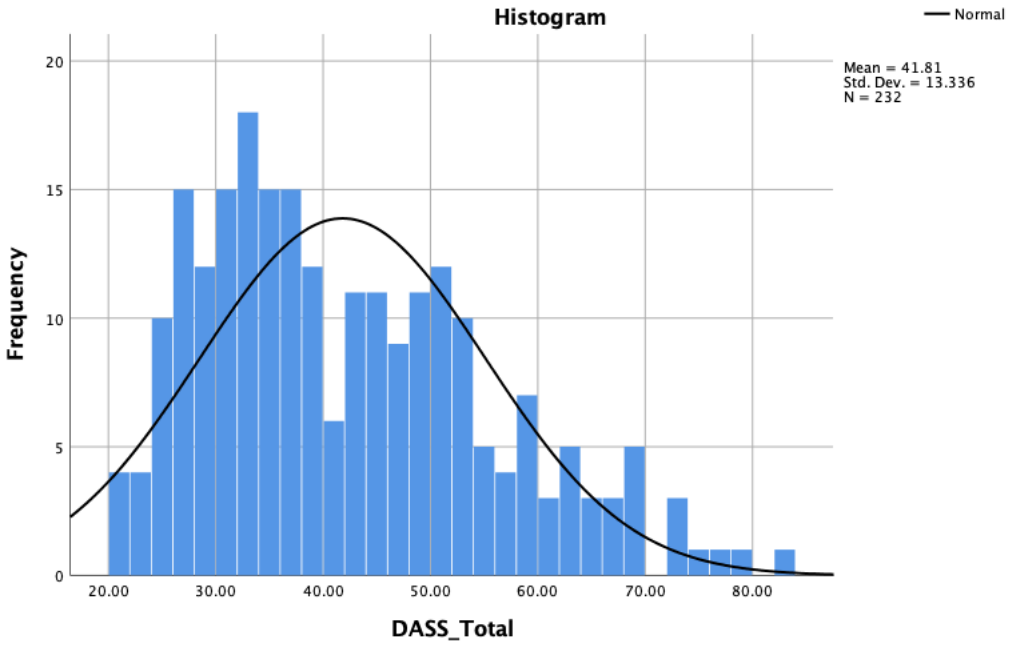


Figure 5b. *Histogram for Mental Distress (Arabic)*

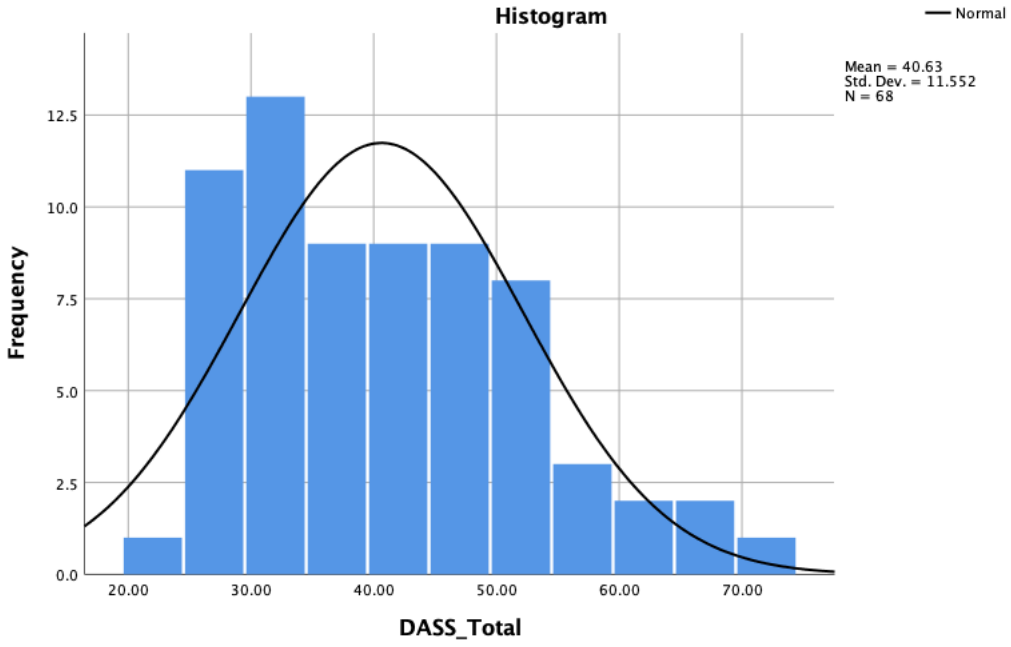


Figure 5c. *Histogram for Mental Distress (Combined)*

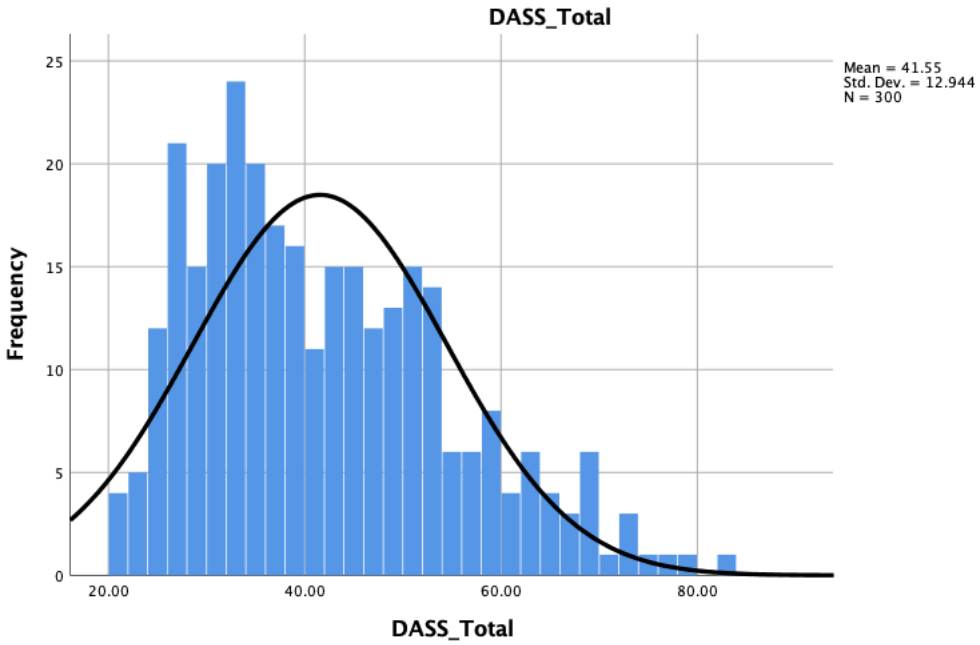


Figure 6a. *Histogram for Openness to Experience (English)*

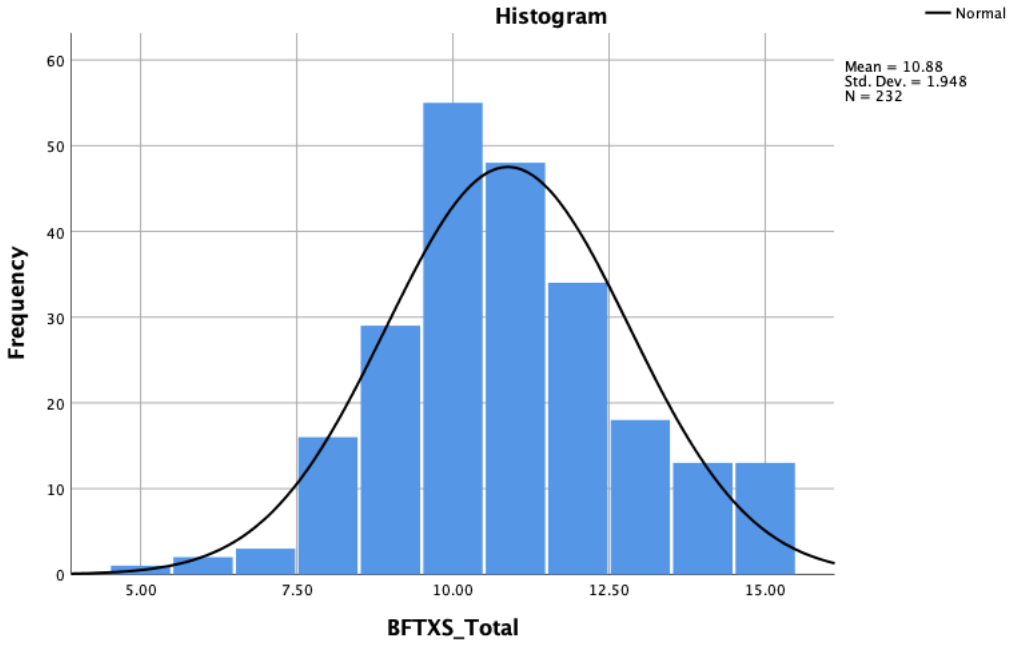


Figure 6b. *Histogram for Openness to Experience (Arabic)*

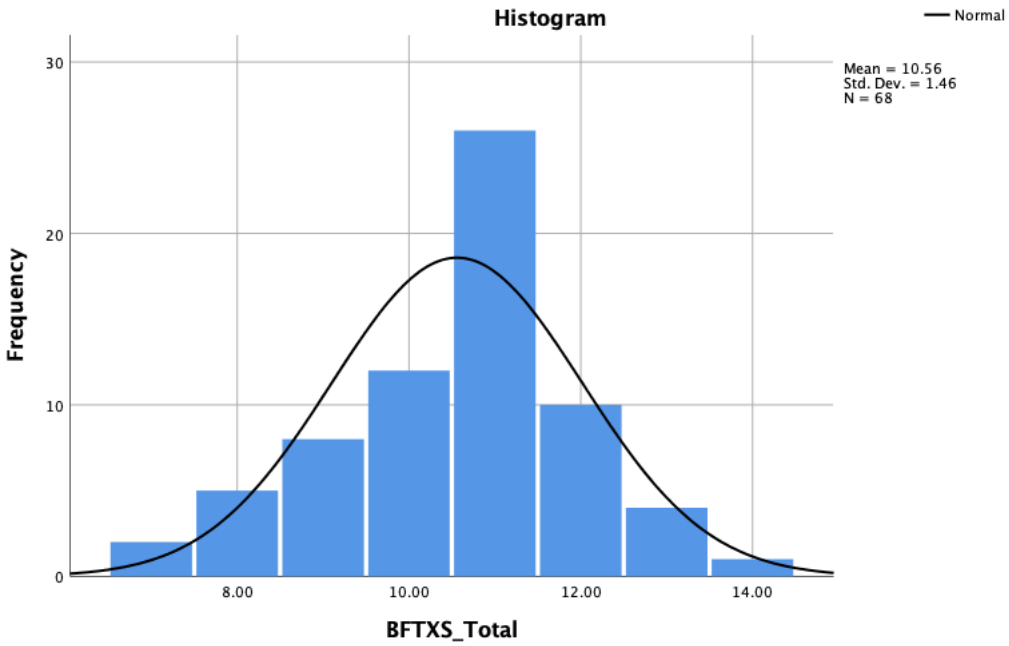


Figure 6c. *Histogram for Openness to Experience (Combined)*

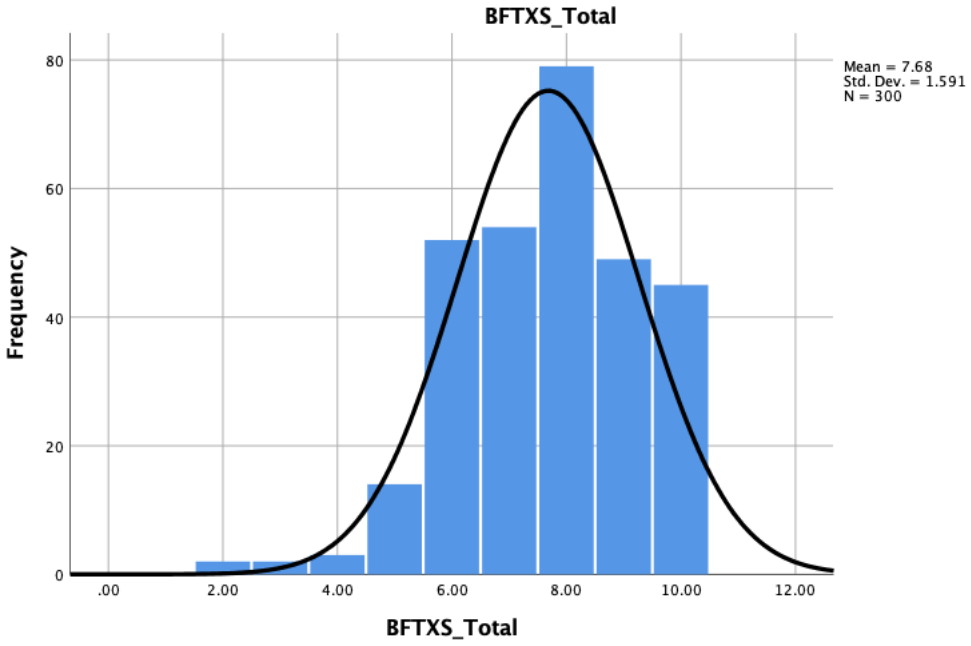


Figure 7a. *Histogram for Public Stigma (English)*

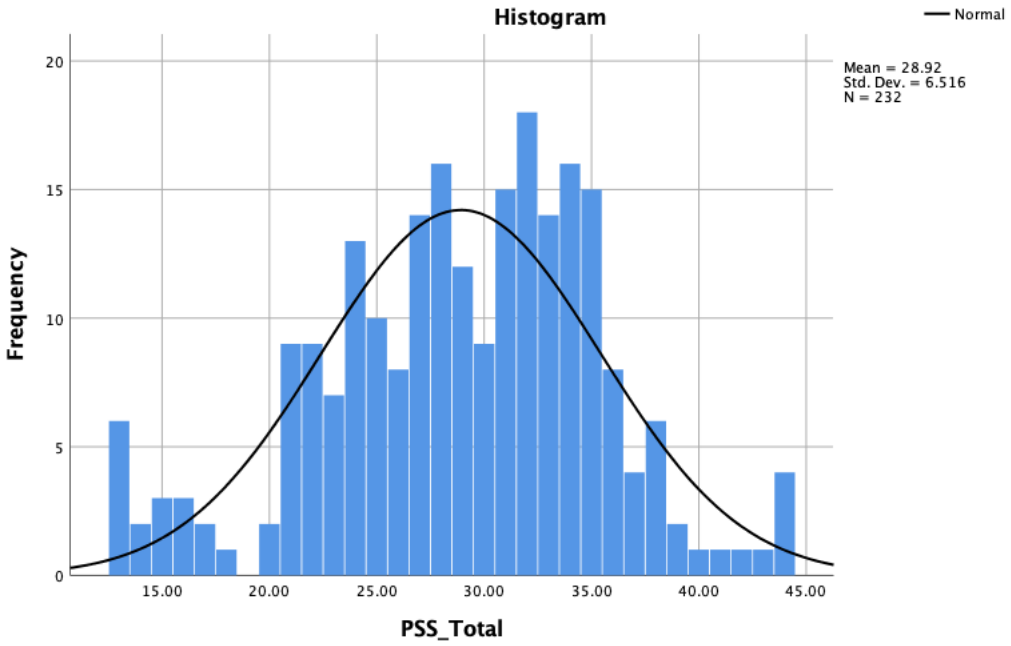


Figure 7b. *Histogram for Public Stigma (Arabic)*

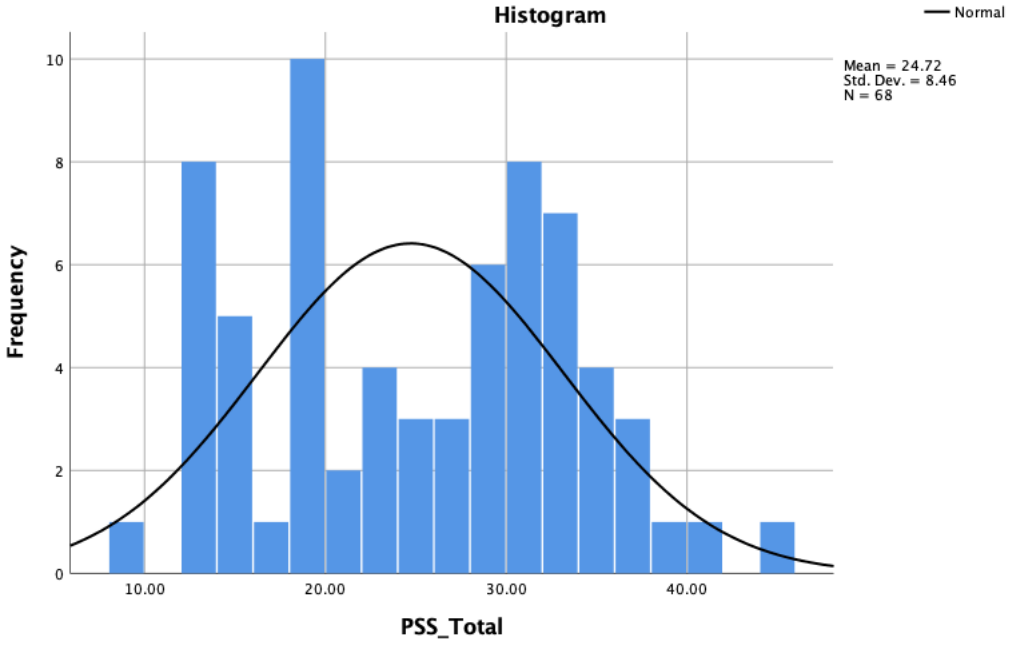


Figure 7c. *Histogram for Public Stigma (Combined)*

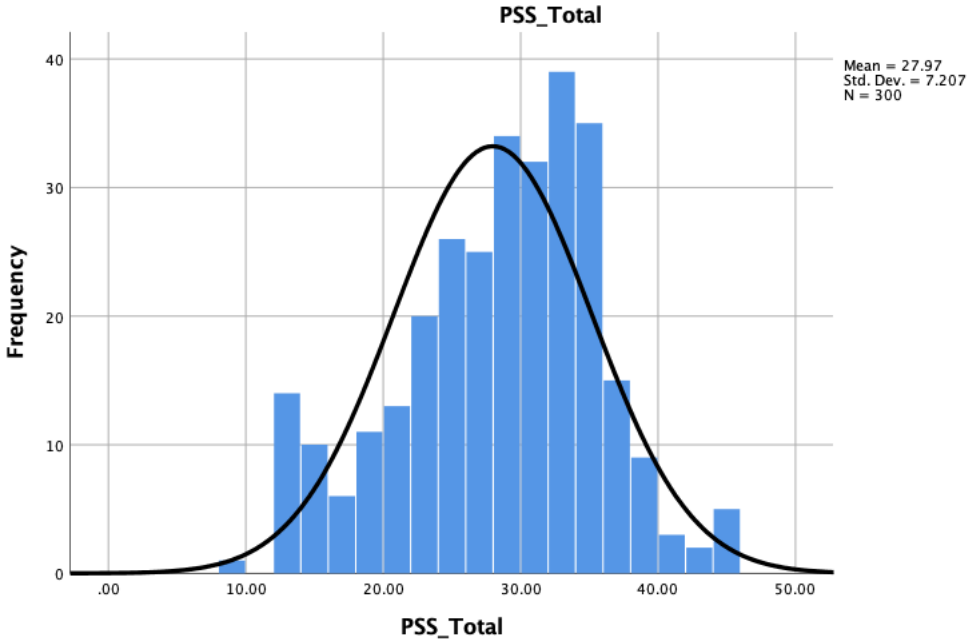


Figure 8a. *Histogram for Attitudes towards telemental health (English)*

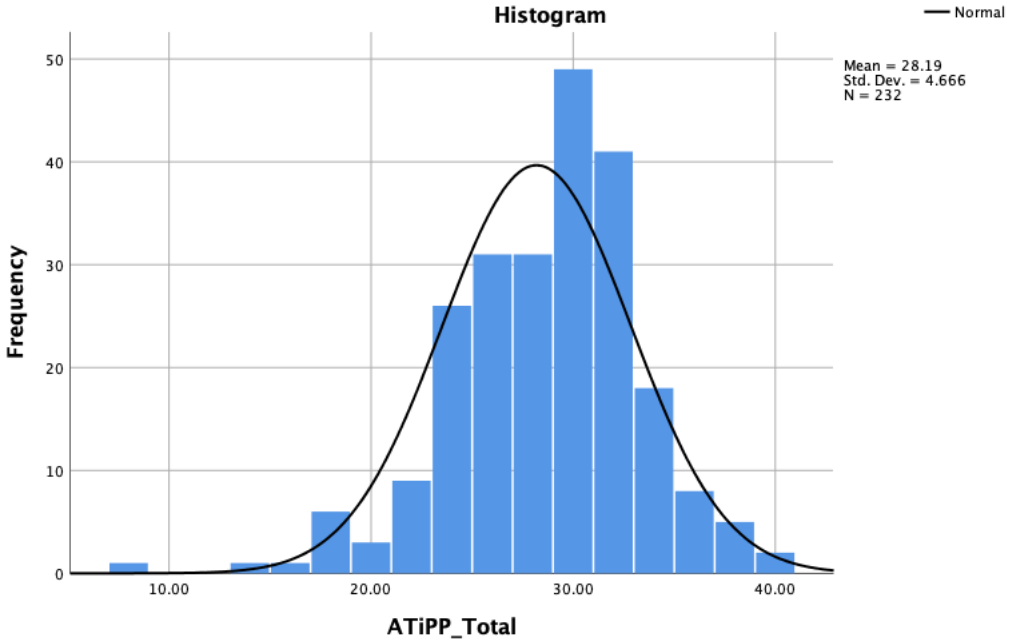


Figure 8b. *Histogram for Attitudes towards telemental health (Arabic)*

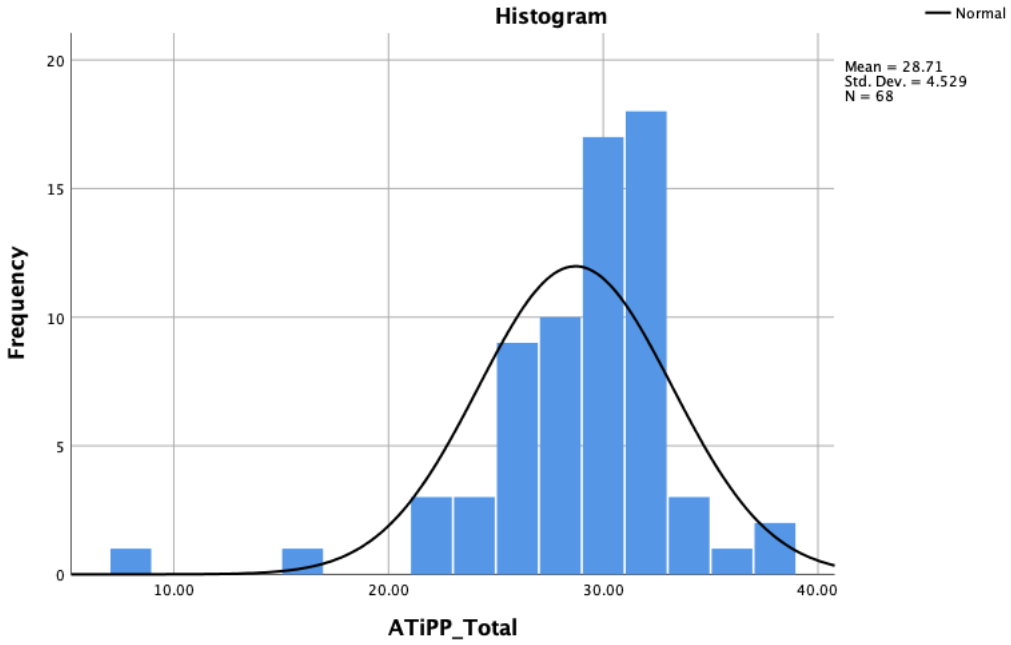
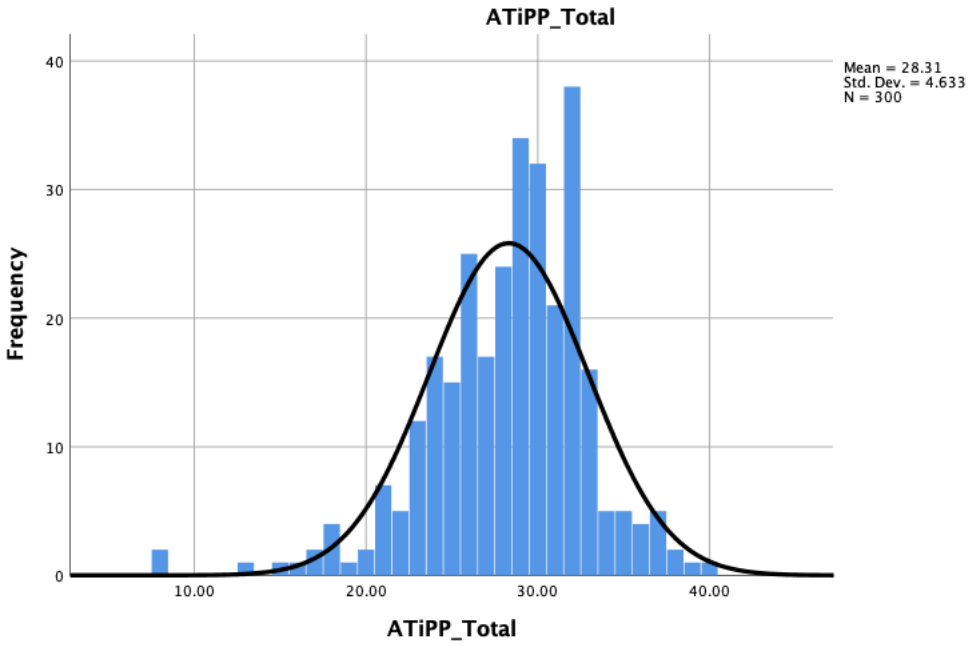


Figure 8c. *Histogram for Attitudes towards telemental health (Combined)*



APPENDIX IV

Figure 9. *Histogram with Normal Curve for Attitudes Toward Telemental Health*

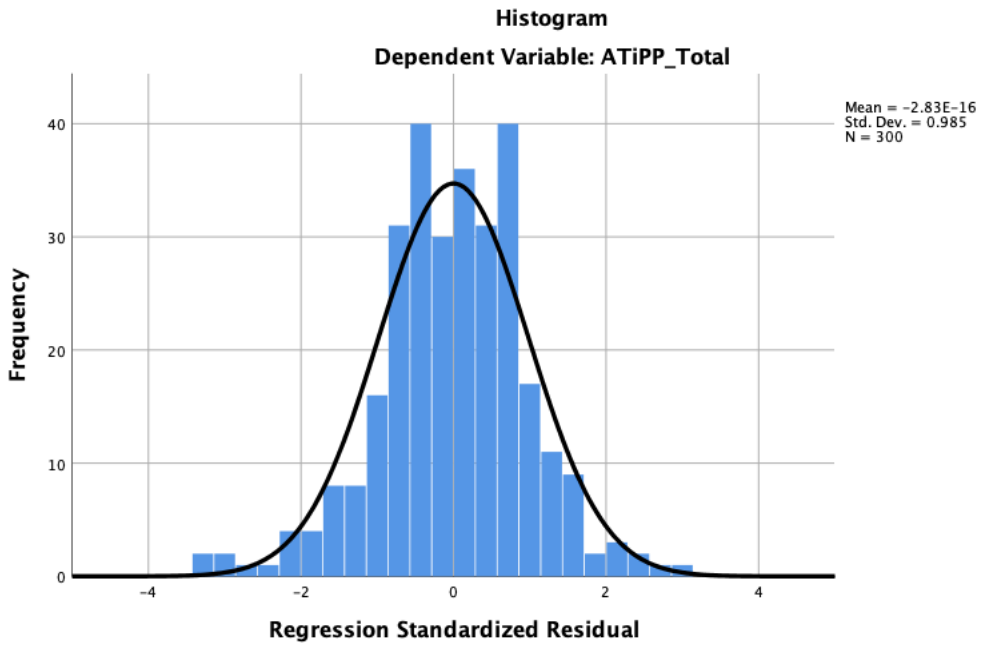


Figure 10. *P-P Plot for Attitudes Toward Telemental Health*

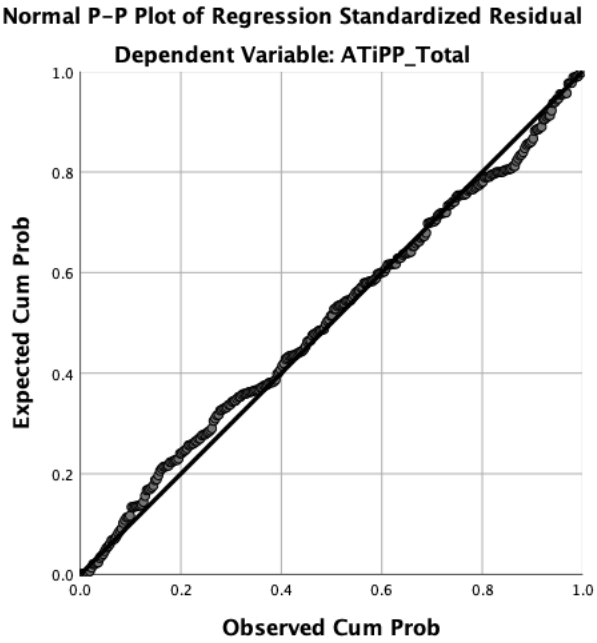
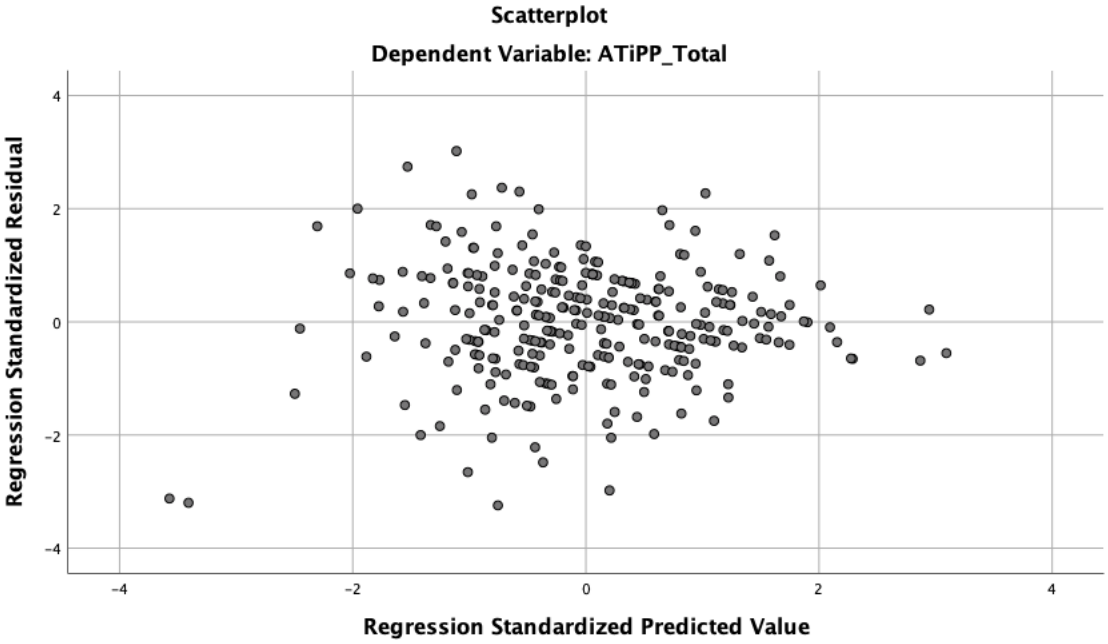
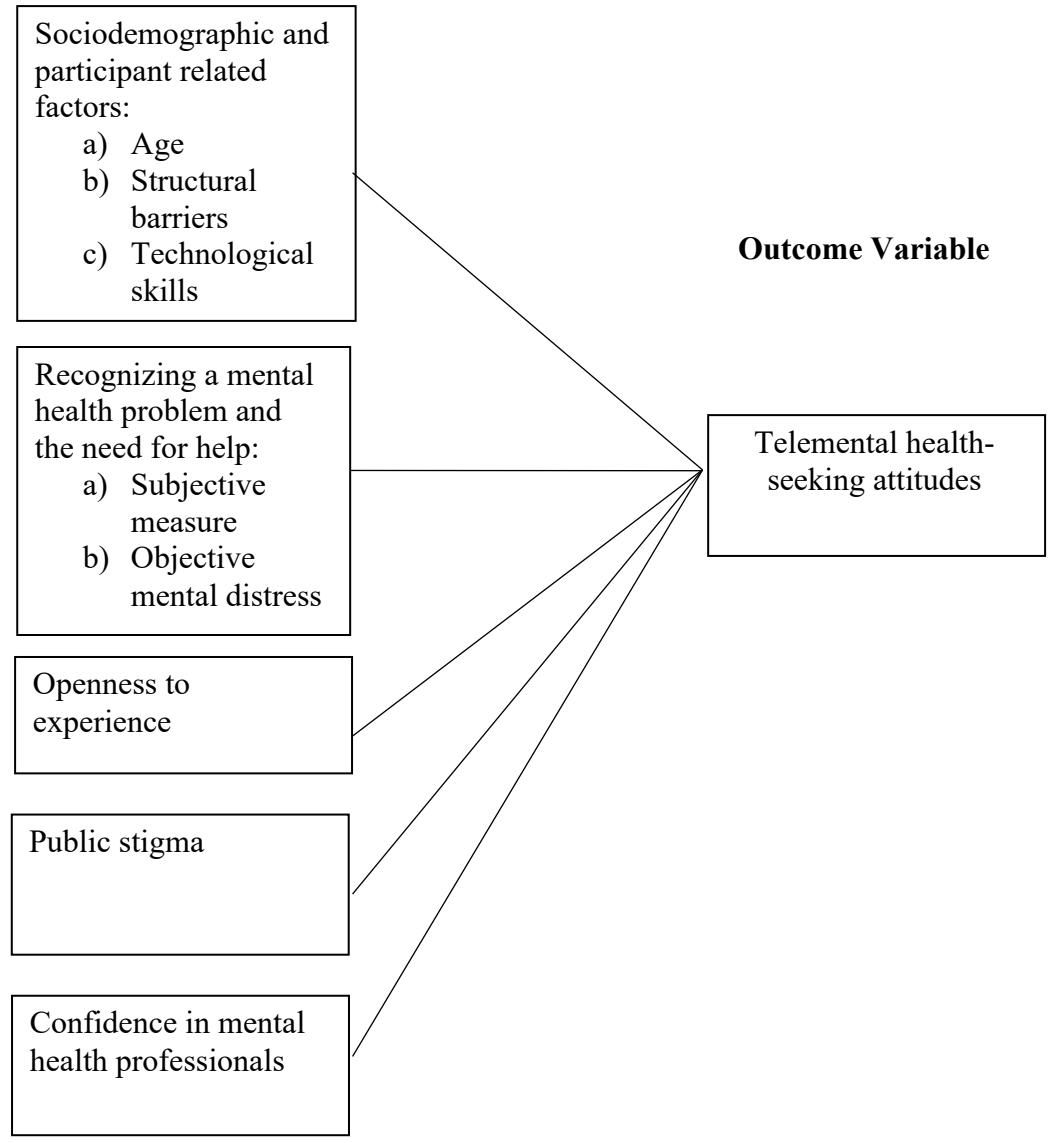


Figure 11. *Scatterplot for Attitudes Toward Telemental Health*


Scatterplot
Dependent Variable: ATiPP_Total
Regression Standardized Residual
Regression Standardized Predicted Value
4
2
0
-2
-4
-4
-2
0
2
4

APPENDIX V

Predictor Variables



Control Variables

Previous use of mental health services

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