

**The Effect of Global Mental Health Literacy on Multidimensional Treatment Outcome Measures: A cross-sectional Quantitative Survey Study among Lebanese Adult Service Users in Lebanon**

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A Thesis submitted to the Faculty of Social and Behavioral Sciences in partial fulfillment of the requirements for the Master of Arts in Psychology – Emphasis: Clinical Psychology at Haigazian University.

Beirut - Lebanon

May 2021

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The Effect of Global Mental Health Literacy on Multidimensional Treatment Outcome Measures: A cross-sectional Quantitative Survey Study among Lebanese Adult Service Users in Lebanon

By

**Bedros Sarkis Kazazian**

is accepted by the Graduate Thesis Committee as satisfying the thesis requirements for the degree Master of Arts

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Month & Year of Graduation

May 2021

**DEDICATION**

*I would like to dedicate this thesis to every person who is struggling with mental health related difficulties or has sought mental health services in Lebanon. Despite living in unprecedented adverse social determinants – economic, social, political, and environmental impediments, you have endured. This thesis is a beacon of hope with a message to persevere and not give up. Change has started towards strengthening mental health services and significant progress has been made. Whatever you are going through, know that help is more available now than ever before, and your beliefs, attitudes, and actions will make every difference along the path of recovery. You are not helpless! Together, let us improve the wellbeing of all people living in Lebanon one step at a time.*

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### Abstract

It has been estimated that around 25% of the Lebanese population meet the criteria for at least one mental health condition and only 15% seek treatment. Barriers to treatment can include lack of availability, accessibility and affordability of treatment. In Lebanon, even when such factors are account for, studies have shown that the most cited barrier to care is the lack of perceived need for treatment – a key indicator of low Mental Health Literacy (MHL). Delays in help-seeking can lead to a number of adverse outcomes including deterioration in the quality of life and poorer treatment outcomes. Furthermore, among those who sought help in Lebanon, 13% reported that dissatisfaction with previous services was the main reason for not seeking help. Given inadequate quality assurance mechanisms for Psychotherapy, a shortage of evidence-based practitioners, and distrust in the quality of mental health services service users could be at risk of experiencing adverse treatment outcomes.

Studies linking MHL to treatment outcomes have not yet been conducted in Lebanon, despite that studies on MHL globally have shown that a higher MHL has been associated with better identification of mental health conditions, more positive attitudes towards service use, more effective help-seeking behaviors, improved mental health service utilization, better mental health treatment outcomes, and higher overall wellbeing.

The purpose of this study was to examine whether a higher MHL predicted better service user-centered treatment outcome measures and lower perceptions of adverse outcomes in a sample of 97 Lebanese adult service users. A single-stage cross-sectional quantitative survey design methodology was used with purposive and convenience sampling procedures to obtain data, and data was analyzed using single and multiple regression analyses.

The results revealed mental health literacy was found to be a significant positive predictor of treatment outcomes. Furthermore, help-seeking was the strongest positive predictor of

wanted effects from psychotherapy and it also was a significant negative predictor of malpractice and unethical conduct. The results, however, showed that self-help was not a significant predictor of wanted effects and side-effects resulting from Psychotherapy. Interestingly, erroneous beliefs/stereotypes were found to be the lowest positive predictor of positive effects but were not found to be a significant predictor of side-effects. These results have strong implications for public health officials, mental health professionals, policy makers, researchers, service users, and on improving mental health service provision and organization in Lebanon.

*Keywords:* Mental Health Literacy, stigma, Psychotherapy, therapy, treatment, intervention, mental health services, counseling, therapist, treatment outcomes, patient satisfaction, treatment preferences, adverse outcomes, effect, harm, helpfulness, self-reported, and Lebanon

The Effect of Global Mental Health Literacy on Multidimensional Treatment Outcome Measures: A cross-sectional Quantitative Survey Study among Lebanese Adult Service Users in Lebanon

Globally, 1 in 4 people meet the criteria of a mental health condition (WHO, 2004). In line with this global trend, it has been estimated that approximately 25.8% of the Lebanese population meet the criteria for at least one mental health condition, with an average age of onset of 19 years old (Karam et al., 2008). Studies also show that among those who have a mental health condition in less developed countries, only 15% seek treatment (WHO, 2004). In other words, there is an 85% treatment gap in people living with a mental health condition. Recent systematic reviews have shown that periods of social and economic crises, such as those Lebanon has been experiencing for the past year, may increase the treatment gap and the need for care and pose serious consequences for individuals and the society (Silva et al., 2020).

It is alarming that among those who seek treatment in Lebanon, research has shown that there is a 6 to 28-year delay between the onset of the mental health condition and the onset of treatment (Karam et al., 2008). This figure is associated with a higher burden on healthcare, increased family dysfunction, deterioration in the quality of life, reduced life expectancy, higher medical costs, poorer treatment outcomes, among others (Rugulies, 2002; Bhatia, 2007). Many reasons can be cited for this phenomenon (Kohn et al., 2004). Direct barriers to treatment include lack of available mental health services and lack of access to these services (WHO, 2001), high cost or affordability of mental health services (Kessler et al., 1997), and lack of knowledge about available services (Jorm, 2000). However, even when mental health services are available and accessible, they do not guarantee service utilization. Not seeking help can also be attributed to the problem not being acknowledged (Stanton et al., 2019), perceiving treatments as not effective, believing that mental health problems will

go away by themselves, desiring to deal with the problem alone (Kessler et al, 2001), and stigma towards mental health (Link et al., 1997). These beliefs and attitudes are important indicators of poor Mental Health Literacy (MHL; WHO, 2001).

While a universal definition of MHL is yet to be developed, most researchers today agree that it refers to the ability of individuals to identify a mental health condition (1), to know how to prevent a mental health condition (2), to know effective self-help strategies (3), to know about treatment options and having the ability to seek help (4), to know how to support others experiencing mental health problems (5), and stigma associated with mental health conditions (6; Jorm, 2012). Studies on MHL have shown that a higher MHL has been associated with better identification of mental health conditions, more positive attitudes towards service use (Gulliver et al., 2012), more effective help-seeking behaviors, improved mental health service utilization (Pescosolido & Boyer, 2010), better mental health treatment outcomes (Jorm, 2012), and higher overall wellbeing (Kelly et al., 2007). Increasing MHL is recommended as one of the most effective strategies to improve mental health on national levels (Kelly et al., 2007).

### **Problem Statement**

Research on MHL among the Lebanese population living in Lebanon is scarce. This means that our knowledge on the public's perception of mental health conditions, their help seeking behaviors, their perceptions on helpfulness of treatment, and their patterns of service use is very limited. This is supported by the Mental Health and Substance Use Strategy launched by the Ministry of Public Health (MoPH) in 2015. If our gap in knowledge is also compounded by an actual deficit in MHL among the public, then the level of uninformed decisions people make may imply terrible ramifications on their ability to access adequate available services and benefit from them.

Among those already seeking treatment, the path to improved health is hindered at the level of service provision. In the public sector, while the National Mental Health Program (NMHP) at the MoPH is aiming to establish 12 Community Mental Health Centers (CMHCs) in the next few years (MoPH, 2015), currently there is only one functional public CMHC (Rafik Hariri University Hospital) providing specialized mental health services free of charge. Consequently, this has resulted in a strain on services, long waiting times, and problems commuting from remote locations. This also means that most persons who seek treatment are oriented to seek mental health services in the private sector – NGOs, CSOs, or private clinics, the latter of which is associated with higher costs (Karam, 2006).

Additionally, according to the World Health Organization's (WHO) most recent Mental Health Atlas Report for Lebanon 2017 (WHO, 2019), the mental health system is characterized by a shortage of human resources with the following estimates per 100,000 population: 1.21 Psychiatrists, 0.09 Child Psychiatrists, 3.30 Psychologists, 3.14 Mental Health Nurses, 1.33 Social Workers, 1.03 Occupational Therapists, and 8.54 Speech Therapists. Most Nurses and Social Workers are not well trained to deal with mental health conditions upon graduation due to the inadequate integration of community-based mental health in the curriculums of most universities. Responsive to this need, the MoPH along with WHO and its partners are working on updating the curriculum of universities and are actively training non-specialized healthcare professionals on the identification, management and referral of mental health conditions as per WHO's Mental Health Gap Action Program (mhGAP, WHO, 2016) in-line with specific objectives for reforming the mental health system in Lebanon. Furthermore, in Lebanon, the main schools of Psychotherapy are mostly focused on long-term interventions, with Psychoanalysis being the main school of Psychotherapy training, which does not have a national certification processes in place yet (MoPH, 2015). Thus, not only is the number of mental health professionals inadequate in

Lebanon, many Clinical Psychologists providing Psychotherapy do not have the certificates to practice evidence-based therapies like Cognitive Behavioral Therapy (CBT) or Inter-Personal Therapy (IPT; MoPH, 2015). While the NMHP at the MoPH has also aimed to streamline the availability of evidence-based mental health services since 2018 through creating national training opportunities for IPT (Sonmez et al., 2020) and Eye Movement Desensitization and Reprocessing (EMDR), these have been pilot projects and targeted only a handful of practitioners.

Mounting to the problems stated, until recently, while Psychiatrists providing Psychotherapy had been licensed by the Lebanese Order of Physicians (LOP), the profession of Clinical Psychology was not regulated in Lebanon and the personal qualifications of a Clinical Psychologist were not defined (MoPH, 2017). This meant that any undergraduate in Psychology could have provided Psychotherapy services, lacking important competencies, training experience, and a license. The mandatory licensing for the practice of the profession of Clinical Psychology (Circular No. 113) and limiting the provision of Psychotherapy in healthcare and educational setting exclusively to licensed Clinical Psychologists (Circular No. 112) were only issued in November 2017 (MoPH, 2017). To date, according to discussions with experts in the field, a formal mechanism to identify the number of Psychotherapy providers who are practicing and remain unlicensed does not exist, although the website of the MoPH has been recently publishing an updated list of licensed Psychotherapy providers. An added layer of perplexity is observed given that systematic monitoring of the quality and effectiveness of mental health services being provided in the private sector in Lebanon (where most mental health services are clustered) is not in place. There is a lack of auditing systems for mental health service providers, an absence of an effective complaint mechanism for service users, and significant reluctance of the general public to seek mental health treatment for quality related concerns and dissatisfaction from

previous services received (Karam et al, 2019; Noubani et al., 2020). This raises questions on the efficacy of the treatment modalities being provided and whether any form of adverse consequences is being experienced by service users. The latter challenge is also aggravated by the lockdown measures imposed by COVID-19 (Pierce et al., 2020) and the destruction of workplaces following the Beirut blast on August 4, 2020, which resulted in the shifting of many Psychotherapy provision services to using remote modalities, such as tele-psychiatry or internet-based therapies, which are understudied globally (Boettcher et al., 2014) and may pose additional challenges (Malhotra et al., 2013). From a consumer perspective, treatment outcomes and service user satisfaction have never been explicitly studied in Lebanon.

Collaboration between the public and the private sector has focused largely on addressing the treatment gap and making mental health services more available and accessible (MoPH, 2015). Examples of collaborations of these kinds are integrating mental health into Primary Healthcare Centers (PHCCs) with the support of NGOs (MoPH, 2015), the guided self-help E-mental health (Step-by-Step) application (Abi Ramia et al., 2018; Shehadeh et al., 2020), and the establishment of the 4Ws Online Platform by the MoPH for NGOs operating in the Mental Health and Psychosocial Support (MHPSS) sector which allows for a better coordination mechanism by providing information on the size and nature of responses needed, identifying gaps and duplications in services, and facilitating referrals (El Chammay et al., 2016).

Hence, in a country where most people with mental health conditions do not seek formal treatment (Karam, 2008), and given the antecedent of a delay in help-seeking behavior, there is a lack of evidence regarding treatment outcomes even when people do seek treatment. This complex interplay of existing problems could be summarized as such:

1. Research on MHL among the Lebanese population is scarce;

2. Most people experiencing mental health problems do not seek treatment;
3. The extent to which prospective service users make informed decisions to guide their help-seeking behavior and receive Psychotherapy is not known;
4. In the absence of sufficient specialized interventions in the public sector, most Psychotherapy services are provided in the private sector, are based on long-term interventions, and many Psychotherapy providers lack sufficient certificates for evidence-based practice. This leaves the service users with little choice in terms of the type of treatment to receive and imposes higher financial costs and time commitment on the service user.
5. The field of Psychotherapy is marked by an inadequate auditing mechanism to ensure quality, and a gap in research regarding treatment outcomes and service user satisfaction, raising concerns regarding the efficacy of the services provided and adverse consequences being experienced by service users.

### **Rationale**

Efforts to increase MHL in Lebanon have been limited, although experts in the field have recommended increasing MHL before increasing access to mental health services (Jorm, 2012). Knowing the “right” service to access is of great importance as a number of service users are ill-informed about the type of therapy they are accessing and could not be getting the help that they need (Masi et al., 2003). Persons with low MHL may not know when, how, where, who, and what type of help to receive. In Lebanon, despite a strong private sector, an important part of the population still go to religious healers and fortune tellers who are not trained on mental health, and use alternative forms of medicine for treatment (Karam et al., 2008). Having insight on people’s MHL and educating people on

how to seek treatment, make more informed choices, and observing the effect this has on treatment outcomes is vital to the process of reforming the mental health system in Lebanon.

Ethical and evidence-based practice is central to the field of Clinical Psychology (Wang et al, 2005) and given that efforts to measure the effectiveness of these services on behalf of service users is lacking, and following available evidence that some service users are dissatisfied with the services they receive, this study also aims to evaluate the satisfaction of service users in relation to the services they received. Based on previous evidence, it is known that mental health treatment can sometimes be superficial and researchers often make a distinction between treatment that did versus that which did not meet established standards for minimally adequate care (Wang et al, 2005).

### **Research Questions**

This study has a number of research questions and associated questions. The research questions are directly linked to the general hypothesis and will undergo statistical hypothesis testing based on the statistical hypotheses model presented under the methods section. The associated questions are remotely related to the general hypothesis and will guide the discussion and recommendations sections of the study. The questionnaires for the “research questions” are also linked to theory-based instruments to test the correlation of constructs, while the questionnaires for the associated questions comprise a hybrid of theory-based instruments and demographic information collected from the SES section.

This research study will focus on the following research and associated questions:

Research Question 1: What is the level of MHL among the Lebanese population who sought Psychotherapy from a Psychotherapy provider?

Research Question 2: How does a service user's MHL affect treatment outcomes as reported by a service user who has received Psychotherapy from a Psychotherapy provider?

Associated Question 1: How does a service user's MHL effect their help-seeking behavior?

Associated Question 2: Are service users with lower MHL at a greater risk of adverse outcomes resulting from Psychotherapy?

H1: Service users with a higher MHL will report better treatment outcomes.

### **Operational Definitions**

For the purposes of this study the following operational definitions will be considered:

MHL will be limited to (Jorm, 1997):

1. The ability of individuals to identify a mental health condition;
2. The knowledge of individuals on effective self-help strategies;
3. The knowledge of individuals on how to prevent mental health conditions;
4. The knowledge of individuals on treatment options and mental health professionals;
5. The ability of individuals to support others experiencing a mental health problem;
6. Stigma (attitudes and beliefs) associated with mental health conditions.

A Psychotherapist is a person who is presented to a service user as a Clinical Psychologist, or a Psychiatrist who provides Psychotherapy in Lebanon, regardless of whether they meet the MoPH requirements.

A service user is a Lebanese adult who has been diagnosed with a mental health condition by a mental health professional and is receiving Psychotherapy in Lebanon or has received it in the last 5 years. Persons with self-diagnosed mental health conditions are not included.

Psychotherapy refers to any form of non-pharmacological intervention intended for the treatment of a mental health condition as provided by a Psychotherapy provider (Dimidjian & Hollon, 2010).

Adverse outcomes refer to any form of short-lived or long-term unwanted negative effects during or following Psychotherapy and attributed to the side-effects of Psychotherapy, malpractice, or unethical conduct by the Psychotherapist, as reported by service users (Herzog et al., 2019).

Treatment outcomes refer to any of the following as reported by service users: symptom reduction or remission, improved functioning, positive therapeutic alliance, higher general wellbeing, and service user satisfaction with the mental health services received (de Cates et al., 2015).

A mental health condition is any mental disorder included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as diagnosed by a mental health professional.

### **Significance**

This study has a number of qualities that make it inherently significant. The research questions posed are a first of its kind to be studied in Lebanon and adopting a service user's lens to evaluate treatment outcomes of mental health services make it even more unique. This will support the national request of NGOs in the National MHPSS Taskforce to conduct an assessment of the quality of mental health services and mental health service providers by providing preliminary data from the field.

The study will also contribute to the MoPH's current initiative to inform prevention and intervention strategies that aim to reduce the impact of mental health conditions in Lebanon, increase research on public perceptions and attitudes towards mental illness, increase mental health service utilization, and increase access to quality care and evidence-based treatments (MoPH, 2015). While the study design does not employ random sampling and big sample sizes, the information obtained from service users remains highly relevant for

current and future service users as it reflects the real experiences and outcomes of persons who have sought Psychotherapy in Lebanon in the last 5 years. To this end, there have also been advocacy efforts to establish a National Service User Association, and data from this study may support their cause.

The results can contribute to the emerging literature on MHL as a barrier to quality care and provide some data to support policy makers and stakeholders in their efforts to evaluate the effectiveness of psychotherapies in Lebanon and increase policies on regulating the profession in terms of evidence-based psychotherapies and ethical practice. A unique element is that this research can contribute to regulating the field of Psychotherapy not by reducing the supply of unqualified professionals, but by reducing the demand for them by the public through encouraging MHL programs.

The study also holds a number of advantages to Psychotherapy providers practicing locally, particularly those who have adopted high standards of professional practice. Addressing MHL will promote more service users to access effective treatments and to stay in treatment (reduced service attrition). Furthermore, by employing treatment outcome measures as reported by service users, Psychotherapy providers will be more sensitized to the needs and preferences of the Lebanese population of service users, thereby increasing treatment satisfaction, improving their performance, and promoting treatment outcomes. Findings from this study will also contribute to the international literature on MHL and treatment outcomes in the MENA region.

## Chapter 2

### Literature Review

A systematic review of the literature was conducted for studies, research papers, government publications, and books in English, published in reputable journals as related to the present study. Library databases accessed include PubMed, Medline, ProQuest, PsycINFO, EBSCO, ERIC, Cambridge Core, Cochrane, Wiley and SAGE Journals. Boolean phrases and advanced searches were used with the following search terms using different combinations: Mental Health Literacy, stigma, Psychotherapy, therapy, treatment, intervention, mental health services, counseling, therapist, treatment outcomes, patient satisfaction, treatment preferences, adverse outcomes, effect, harm, helpfulness, self-reported, and Lebanon. After examining the titles and abstracts of the results for relevance, 86 records were included in this proposal. A manual reference listing was also conducted from the records obtained and those records were added to this study as well. All search criteria were limited to full-text articles published from 1970 to 2020.

The literature review indicated that MHL is an emerging construct that has received more attention only in the last two decades. As research on MHL is progressing, a significant heterogeneity can be observed in the pool of research to date, where researchers are examining different aspects of MHL, developing and using different instruments to measure MHL, exploring how it covaries with other variables, and understanding its clinical utility in the treatment of mental health conditions. Nevertheless, there is a global consensus that increasing MHL is one of the most important predictors of seeking and utilizing available treatment services (Kelly et al., 2007). Being an emerging construct, the research on MHL in Lebanon is sparse (Abi Doumit et al., 2019; Karam et al., 2019; Seeman et al., 2016) and there have been no studies to link MHL to treatment outcomes. What follows, is a summary of the literature on MHL and treatment outcomes on both the global and national levels.

### **Mental Health Literacy**

Mental health conditions such as depression and anxiety are among the most prevalent mental health conditions for which effective treatments exist (Barrera et al., 2007; Bienvenu & Ginsburg, 2007; Waddell et al., 2007). However, it is estimated that only half of those with depression and one third of those affected by anxiety disorders seek professional help (Andrews et al., 2001). There are a number of challenges associated with the treatment of mental health conditions reported in the literature, including the lack of knowledge of mental health problems and the stigma associated with them (Jorm, 2012; Pinfold et al., 2003).

The term mental health literacy was first introduced in 1997 by Professor Anthony Jorm and his colleagues and was defined as “knowledge and beliefs about mental disorders which aid their recognition, management and prevention” (1997). A major concern during the time this construct was emerging is that low levels of MHL among the population at large were resulting in numerous adverse consequences during help-seeking and treatment, which were attributed to preventable causes (Hart et al., 2016).

MHL provides insight on help-seeking preferences among persons with mental health conditions. When people seek treatment, they often prefer to receive help from informal sources (like friends or family) rather than from formal sources (like General Practitioners or mental health professionals; Rickwood & Braithwaite, 1982; Rickwood et al., 2007). Seeking help from professional sources is an important part of MHL because they generally provide more effective treatments than informal sources (Deane et al., 2001) and can have a crucial role in early detection and treatment of mental health conditions (Dawson et al., 2006; Yung et al., 2007).

Studies also suggest that MHL can help reduce the burden of untreated mental conditions thereby improving prognosis and response to treatment (Campos et al., 2018). It is estimated that most mental health conditions develop during adolescence and about half of all diagnosed mental health conditions in adulthood start by the age of 14 (Mathieson & Koller, 2008; World Health Organization, 2013). Intervening as early as possible in order to promote positive mental health outcomes and wellbeing can be realized through increasing MHL levels (Brauner & Stephens, 2017; Jorm, 2012). The effectiveness of early interventions is further supported by evidence that students participating in school-based MHL programs perform much better than a control group even after the follow-up phase (Campos et al., 2018).

#### **MHL & recognizing mental health conditions.**

Two important components of mental health service use are the availability and adequacy of treatments by the providers and seeking treatment by the consumers. Many studies have examined structural barriers such as the unavailability of a provider or high cost of mental health services (Chen et al., 2013). However, before such issues become a matter of concern, individuals with mental health conditions must first realize that something is not right and they should be willing to seek care (Coles et al., 2014). Research has shown that the recognition of a problem is the first step to seeking help from an appropriate provider (Reavley & Jorm, 2011), with failure to recognize signs and symptoms likely to delay help seeking (Gulliver et al., 2010). An important study showed that while the majority of the public consider people with mental disorders to be in need of help, they cannot recognize a specific mental disorder (Angermeyer & Dietrich, 2006).

There is also evidence that early recognition and treatment may improve long-term outcomes for those with mental health conditions (McGorry et al., 2007; Wang et al., 2003). Low rates of service use may reflect poor MHL which implies a lack of awareness that a

mental health problem is present and warrants treatment (Jorm, 2000). Poor knowledge about mental health conditions and available treatments (Meltzer et al., 2000), inadequate knowledge of the course of the condition, and the likelihood of remission are all linked to reduced help seeking (Goldney et al., 2001; Goldney et al., 2002).

Recognizing mental health conditions is equally important for young people and their caregivers. According to Wright et al., the recognition of mental health problems and conditions is the most predictive factor for a young person to seek help (2007). This predictor is of particular relevance because of the need to address the serious consequences to mental health that the delay in seeking help may entail (Kelly et al., 2007; Kutcher, 2017). In a study on MHL among El Salvadorian parents, although parents had a generally positive view about seeking treatment, less than 5% of parents identified the vignettes part of the study as mental health problems and attributed symptoms to personal weakness or stress (Johnco et al., 2019). Parents are pivotal in accessing treatment for their children, yet little is known about their level of MHL (Johnco et al., 2019). Mental health problems in children are underdiagnosed and undertreated in developed countries (Slade et al., 2009) and this is significantly worse in developing countries (Wittchen & Jacobi, 2005).

Recognizing mental health conditions can be further broken down into three aspects that can help persons seek treatment and reduce the treatment gap (Saxena et al., 2007). A national survey conducted in the USA examined three levels of recognition: naming the mental health condition, recognizing symptoms as part of a mental health condition, and recognizing that the mental health condition requires help (Coles et al., 2014). Findings showed that when presented with detailed vignettes portraying symptoms and their impact, half of the participants correctly recognized depression, less than a quarter correctly recognized anxiety disorders, and less than a quarter accurately named the condition presented (Coles et al., 2014). This is more concerning as rates of MHL and public spending

on MHL is higher in high-income countries compared to Low and Middle-Income Countries (LMICs) such as Lebanon, where high rates of poverty, lower rates of general literacy in conjunction with structural barriers may multiply the treatment gap exponentially (Ganasen et al., 2008; Patel et al., 2010). While around 50% of persons living with a mental health condition seek treatment in high income settings, only around 10% are estimated to seek care in the developing world (Patterson et al., 2018). Research also shows that increasing MHL is one way to encourage people with mental health conditions to seek treatment (Hansson et al., 2016).

Another interesting piece of literature asserts that people who know or have had experiences with people with mental health condition have higher MHL and are better able to recognize a mental health condition (Lauber et al., 2003). Research in an Australian sample showed that lived experiences of mental illness is associated with a higher MHL (Svensson and Hansson, 2016). The link between recognizing mental health conditions and seeking help is a pivotal component of MHL. Countries such as Australia have invested extensive public resources into improving MHL in the general community and have seen significant results (Johnco et al., 2019). For example, the recognition of depression in the general community increased from 39% in 1995 to around 75% in 2011. Although this indicates that increasing MHL is a long-term process, and though the improvement was not the same for all mental health conditions within this time period (Reavley & Jorm, 2011), the results are encouraging. Studies to assess the baseline level of MHL in the Lebanese population using random and representative sampling methods have not been conducted, although some aspects of MHL have been studied by some researchers (Abi Doumit et al., 2019; Karam et al., 2019; Naal, 2018; Seeman et al., 2016).

**MHL & help-seeking behavior.**

There are a number of facilitating and barrier factors that can influence help-seeking decisions (Ginzburg et al., 2012). These can include the availability and affordability of reliable sources of help, the severity of the disorder, cultural attitudes and personal willingness to seek help, and the recognition that there is a disorder for which effective treatments are available (Clement et al., 2015).

Some researcher on barriers to help-seeking behavior placed barriers into three categories (Okuyama et al., 2007). These include service user factors (lack of perceived need, preference for and adherence to treatments, etc.), provider factors (inadequate education and training, lack of clinical competencies and interpersonal skills, lack of time, etc.), and healthcare barriers (lack of adequate insurance schemes, absence of multi-disciplinary teams, poor collaboration among providers, etc.; Hirschfeld et al., 1997).

Another categorization of barriers to care include intrinsic and extrinsic factors (Pepin et al., 2009; Pepin et al., 2015). Intrinsic barriers include help-seeking attitudes, stigma, knowledge and fear of treatment, belief about inability to find a psychotherapist, and belief that symptoms are normal. Extrinsic barriers include insurance and payment concerns, ageism, concerns about service provider's qualifications, multiple referrals, and transportation concern. Many theories have been posited on how help-seeking barriers and facilitating factors can affect MHL and treatment.

**Help Seeking Theories.** Several theories have been adapted to help-seeking for mental health problems, but none have found universal acceptance. Three of the most noteworthy theories are Azjen's theory of planned behavior, Rosentock's learning theory and health belief model, and Andersen's behavioral model (Gulliver et al., 2012).

Azjen's theory of planned behavior focuses on how attitudes, norms, and perceived control over one's behavior interact to influence intentions, and consequently their behavior

(1991). Rosentock's health belief model asserts that the decision to perform a behavior is dependent on the individual's appraisal of the perceived threat of the illness and its severity, and the perceived barriers and benefits of the behavior itself which falls along the lines of anticipated stigma (Rosenstock, 1966). Andersen's behavioral model describes a three-stage model for health services describing the factors of predisposing characteristics such as the individual's demographic characteristics and beliefs, enabling resources such as cost and access to care, and illness level which is interpreted as the individual's perceived and evaluated need for help (Andersen & Newman, 1973; Andersen, 1995). This model has been mostly applied to the treatment of panic attacks in community-based settings (Goodwin & Andersen, 2002) and help-seeking for mental health problems in refugees (Portes et al., 1992).

There are also several models that were developed specifically for help-seeking behavior in mental health. One of the models focuses on why young people do not seek help by describing the cycle of avoidance, which is influenced by three interacting factors including the individual's conceptualization of mental distress, what they believe it means in society to seek help, and their own deliberate actions of seeking help (Biddle et al., 2007).

The most comprehensive model conceptualizes seeking professional help as a multi-step process beginning with the individual's awareness of the problem, followed by the expression of the problem and the need for help, the identification of appropriate sources of help available for the individual to access, conducting a risk-benefit analysis based on one's own perceptions, and the willingness of the individual to actually seek help (Rickwood et al., 2005). This final model has important elements of MHL.

To increase our understanding of help-seeking, important distinctions need to be made between attitudes towards help-seeking (including beliefs or willingness to seek help), help-seeking intentions, and help-seeking behavior (Gulliver et al., 2012). Help-seeking

intervention research has also used two main approaches: universal interventions aimed at the general population, and indicated interventions targeted at those who have mild or early symptoms of a disorder (secondary prevention; Gulliver et al., 2012).

**Help-Seeking Behavior.** As summarized above, most theories of help-seeking predict that attitudes and beliefs influence behavior (Ajzen, 1991; Rosenstock, 1966; Andersen & Newman, 1973). However, some claim that there currently is little empirical evidence to support this hypothesis with respect to mental illness (Rickwood et al., 2005).

In a systematic review of published Randomized Controlled Trials (RCTs) targeting help-seeking attitudes for specific mental health conditions, increasing MHL was found to be effective in improving help-seeking attitudes in the majority of studies, but had no effect on help-seeking behavior (Gulliver et al., 2012). The authors concluded that MHL interventions are crucial for promoting positive help-seeking attitudes, but there is modest evidence that it leads to help-seeking intentions or behavior and called for further research and investigation. However, addressing attitudes is only one barrier to help-seeking behaviors and the authors may not have taken into account other factors discussed above. Another limitation of the study was that detecting help-seeking variance in the universal populations employing short-term follow-up periods may be difficult given that only a minority of the target group will have a mental health condition that requires help and that behavior change generally takes longer periods of time (Gulliver et al., 2012). Another key finding of the systematic review was that ‘beliefs’ and ‘willingness’ were identified as more malleable and responsive to change than help-seeking intentions and behaviors which were more difficult to change (Gulliver et al., 2012). This is in-line with recent evidence that attitudes do not necessarily translate into behavior (Han et al., 2006). When seeking help for mental health conditions, behavior may be more difficult to change than beliefs as it is external and thus more vulnerable to the stigmatizing of others, which in turn has been linked to help-seeking

avoidance (Gulliver et al., 2010). MHL can help create a culture of acceptance and normalize help-seeking for mental health conditions greatly reducing anticipated stigma and promoting help-seeking behaviors (Hanson et al., 2016).

**Choice Theory & Treatment Preferences.** Expectations regarding treatment and treatment preferences are also an integral part of MHL and help-seeking. Some studies show that service users are more likely to prefer non-pharmacological mental health treatments, informal support from family and community members, and handling their problems on their own (Johnco et al., 2019). In the El Salvadorian parents population, the most preferred treatment option was seeing a Psychologist, a Counselor, a Social Worker, or a Mental Health Worker, followed by the preference for parents to handle the problem on their own, followed by seeking help from grandparents and religious leaders (Johnco et al., 2019). Not knowing where to seek help was the most common barrier reported (Johnco et al., 2019).

Such preferences along with others such as type of therapy, efficacy of therapy, duration, cost, among others, also hold a unique value for special populations. In a study on MHL conducted with Japanese cancer patients, standard pharmacological treatments such as antidepressants were rated less helpful, whereas non-pharmacological treatments such as Psychotherapy, physical activity and other lifestyle-based interventions were rated more helpful compared to the general population (Okuyama et al., 2007). There were also significant differences between the two groups on which provider to involve as part of their treatment (Okuyama et al., 2007). Such preferences are of great clinical utility because they would not only allow potential service users to approach treatment with more optimism, but also enable clinicians to integrate service users' preferences into the treatment plan for better outcomes.

**MHL & stigma.**

Stigma is defined as “a set of negative attitudes and beliefs that motivate individuals to fear, reject, avoid, and discriminate against people with mental illness” (Corrigan & Watson, 2002). Stigma can also lead to reduced autonomy and self-efficacy (Corrigan & Shapiro, 2010). Stigma can be classified into public stigma, institutional stigma, and self-stigma and may be expressed in the form of a stereotype, prejudice or discrimination (Corrigan & Watson, 2002). Studies have shown that low rates of seeking help for psychological problems are mainly due to poor knowledge of mental health conditions (Drake et al., 2009), which includes information about the causes of mental health conditions, their symptoms, and treatments (Wei et al., 2015). Many studies have also shown that an increase in knowledge leads to less stigma directly contributing to the effect of MHL (Henderson et al., 2016; Hanson et al., 2016).

While stigma is not the primary focus of this study, gaps in knowledge and difficulties in recognizing mental health conditions and their underlying causes, risk factors, and prognosis can contribute to incorrect beliefs about the effectiveness of therapeutic interventions, often resulting in a decrease in the likelihood of seeking help (Jorm et al., 2006). Furthermore, a misinformed general public is more likely to discriminate, marginalize and avoid persons with mental health conditions rather than adopt more helpful approaches (Kelly et al., 2007).

Stigma also plays a detrimental role in creating or maintaining the treatment gap particularly in the form of self-stigma and anticipated stigma such that negative attitudes about mental health conditions from others become an important barrier to treatment (Angermeyer et al., 2017). Even when people recognize a problem and demonstrate a willingness to seek treatment, they would often be concerned on how they would be labeled from the society at large, thereby causing a delay in help-seeking behavior.

The stigma associated with mental health appears to have an effect at an early age (European Commission & Portuguese Ministry of Health, 2010). However, the attitudes of young people can be changed more easily than those of adults (Corrigan & Watson, 2007). Contact with persons with mental health conditions have shown to improve attitudes, change beliefs, and reduce misconceptions toward people living with mental illness instead of keeping a distance (Hackler, 2011; Stuber et al., 2014).

### **Mental Health Literacy & Treatment Outcomes**

Many studies report a positive relationship between general health literacy and appropriate health decisions and health outcomes (Ratzan and Parker, 2000, p. vi). When health literacy is translated to mental health, while some researchers believe that there is no evidence about how MHL is related to mental health outcomes and service utilization (Kim et al., 2017), an important bulk of the research has shown that improving population-based MHL is a key component to improving mental health treatment outcomes (Petersen et al., 2011).

#### **Treatment outcomes in mental health.**

Until the 1950s, many people with mental health problems were locked up in asylums, treated in isolation or subjected to various forms of abuse. While the humane and ethical treatment of mental health conditions has greatly improved, even today, people with mental health problems may suffer human rights violations (Patel & Hanlon, 2018). Many never get effective treatment and can be restrained at home for the lack of adequate MHL.

The process of mental health treatment can be broadly described under four headings: needs assessment, inputs, processes, and outcomes (Jenkins et al., 2010). Evaluation research to assess the quality of mental health outcomes has progressed through many stages. During the twentieth century, the focus of service development and evaluation was largely on input

and process variables, and systematic thinking about needs assessment and the measurement of outcomes did not begin until the 1990s. In the 1980s, it mainly focused on the structure and process of mental healthcare (number of beds, number of staff, availability of medication, etc.) The measurement and quantification of outcomes is necessary for replication and measuring change (Mellsop & Wilson, 2006). Outcome measures have been proven to be directly useful for practitioners and service users for planning, treatment and harm reduction. Measurements of treatment outcomes include symptom reduction, functional status, improvements in social relationships, improved self-esteem, better quality of life, overall mental wellbeing, among others (Campbell, 1998; de Cates et al., 2015). Measuring treatment outcomes make it possible to organize feedback from interventions and service users, revise objectives, prioritize and the re-allocate resources as needed (de Cates et al., 2015). This feedback mechanism led many countries like Australia to develop national outcome measures such as the Health of the Nation Outcome Scale (HoNOS) – now considered a requirement by all public and private mental health service providers and is collected and reported on a national level under specified government bodies (Jenkins et al., 2010). These measures aim to ensure that those who seek treatment are given the best care possible.

The efficacy of Psychotherapy for treating mental disorders has been well researched over several decades (Guhn et al., 2019) and there is strong evidence for certain types of treatments such as Cognitive Behavioral Therapy (CBT; David et al., 2018). The appreciation of Psychotherapy comes largely from the implementation of thorough methodological standards and studies on evaluation outcomes in recent years (Moritz et al., 2019). Unfortunately, systematic research into the adverse effects of Psychotherapy have not been equally researched (Barlow, 2010) and are comparatively uncommon (Herzog et al., 2019), despite that even the earliest meta-analyses identified that of around 500 outcome studies,

about 10% of the effect sizes were negative (Shapiro & Shapiro, 1982). Researchers in mental health have been more concerned with the benefits of Psychotherapy rather than detecting harm and this can have negative consequences for service users (Dimidjian & Hollon, 2010). It was not until the beginning of the 21st century that attention to the negative effects of psychotherapeutic interventions increased (Crawford et al., 2016; Scott, 2017), and while novel efforts are being made in this field, the estimated prevalence of adverse outcomes varies greatly across studies, treatments, populations and cultures, and actual prevalence rates and the specific mechanics of harm are not adequately studied (Dimidjian & Hollon, 2010; Moritz et al., 2019). This means that when persons with mental health conditions seek treatment, sometimes they tend to receive treatments which are not effective or even harmful (Patel & Hanlon, 2018).

It is concerning that many clinical trials focus on attaining a positive result that fulfils a diagnostic criterion or is beyond a statistical cutoff, while ignoring that some service users might also be experiencing adverse events (Castonguay et al., 2010; Berk & Parker, 2009). In comparison to pharmacological research, studies involving psychological treatments rarely report the possibility of negative outcomes (Zadra & Robert, 2012). A recent review showed that only one-fifth of a large number of randomized controlled trials mentioned the occurrence of harm (Jonsson et al., 2014). Other findings also suggest that approximately 58.7% of all service users in psychiatric hospitals, 45.2% in psychosomatic hospitals, and 93.8% in a convenience sample of former Psychotherapy service users report at least one negative effect during Psychotherapy (Ladwig et al., 2014; Rheker et al., 2017).

Research on the adverse effects of Psychotherapy is insufficient partly because there is a lack of a theoretical concept on how to define, classify, monitor and assess Psychotherapy side-effects, unwanted effects, adverse reactions in service users, deterioration of illness, and malpractice (Linden, 2013; Parry et al., 2016). Researchers have often used

different terms such as “deterioration effects,” “side effects,” “negative effects,” “negative outcomes,” “unwanted/undesirable effects,” “adverse events/effects,” “harm,” “mistakes,” and “treatment-emergent reactions” interchangeably and erroneously, leading to complications in performing systematic reviews (Herzog et al., 2019).

Adverse outcomes in mental health treatment can include lack of clear treatment results, prolongation of treatment, dependency on treatment, noncompliance of the service user with treatment guidelines, emergence of new symptoms, deterioration of symptoms, negative well-being of the service user, deterioration of the therapeutic alliance, malpractice, unethical conduct such as sexual abuse, exceedingly positive service user–therapist relationship, worsening of family or romantic relations, deterioration in employment-related factors, stigmatization, and other negative outcomes (Grunebaum, 1986; Herzog et al., 2019; Strupp & Hadley, 1977). It is important to note that simply observing negative outcomes does not automatically imply malpractice or unethical conduct and these constructs need to be differentiated while studying treatment outcomes. Adverse treatment outcomes can also be caused by the disorder itself, by the emergence of other comorbid disorders, or by the indirect effect of the treatment on other areas in the service user’s life. However, it is better to operate from the assumption that treatments fail service users and not the contrary (Linehan, 1993). If adverse effects are not experienced by all service users, then it is possible that the treatment–service user fit may be the problem. Psychological treatments are similar to other therapeutic interventions used in medicine where there are important service user or circumstantial factors to be accounted for as well (Mohr, 1995; Scott & Young, 2016). For example, in pharmacology, every medication has its primary and secondary effects and the US Food and Drug Administration (FDA) requires adverse effects to be listed alongside the benefits of a medication, which can be temporary and can vary from person to person according to the principles of pharmacokinetics and pharmacodynamics (Nutt & Sharpe, 2008). However,

while this information is readily available and detailed in pharmacology, such systems or requirements are not in place for psychotherapies (Barlow, 2010). Furthermore, research shows that there is a negative correlation between side-effects and adverse treatment outcomes, with more side-effects reported by service users indicating poorer treatment outcomes (Moshier et al., 2016).

Evaluating mental health treatment outcomes also depends on valid assessment tools, but there is only limited evidence to guide the appraisal of mental wellbeing (de Cates et al., 2015). This is a significant barrier to studying mental wellbeing as there are a dearth of universally accepted standardized and validated instruments of measurement. An example of such a problem is mental wellbeing not being completely captured by existing measures to include aspects related to recovery, hope, purpose and fulfilment, which are important to service users (de Cates et al., 2015).

Within the context of quality care, the performance of the therapist is among the most important factors. Research has shown that clinical skillfulness in delivering therapy (expertise) rather than the number of years of practicing therapy (experience) can make a critical difference to a service user's positive treatment outcomes (Imel et al., 2011). It is also commonly established that therapeutic alliance consistently predicts service user satisfaction with treatment outcomes, and that service users who report more negative outcomes often receive treatment from Psychotherapists who are slow to recognize the severity of the service user's complaints and their needs (Scott, 2008). For example, recent studies report less favorable outcomes in ethnic and racial minorities (Coleman et al., 2016) and those from lower socio-economic groups (Case & Deaton, 2015). Therapists should show special sensitivity when dealing with vulnerable populations. There are many principles to care which should be part of standard treatment approaches. These entail treating the whole person, putting the person at the center of care, taking a long-term perspective, setting goals,

tracking progress, supporting the person's ability for self-care, adopting a multi-disciplinary approach, among others (Patel, 2003). Many countries have set up auditing and quality insurance mechanisms to ascertain that these factors are being adequately applied and that service users do not receive non-standard treatments. However, such resources and mechanisms are not in place in Lebanon.

### **MHL & treatment outcomes.**

MHL can affect treatment outcomes in several ways (Jorm et al., 1997). In the Australian National Survey of MHL and Stigma, beliefs about the helpfulness of interventions were important predictors of help seeking and treatment compliance (Reavley & Jorm, 2011). Research on the MHL on the Australian public has shown that they have very different views about the treatment of mental health conditions from those held by mental health professionals (Jorm et al. 1997b; Caldwell & Jorm, 2000). For example, for the treatment of depression, there was a consensus among professionals that it would be helpful for service users to see a General Practitioner (GP), a Psychiatrist, and a Clinical Psychologist, and to take antidepressant medication or receive counselling or CBT. The public agreed with the professionals about the helpfulness of seeing a GP or a Counsellor but the next intervention the public rated as likely to be helpful was quite different (Jorm et al., 2003). These included help from close friends, increasing physical activity, getting out more, and attending courses on relaxation, stress management, and meditation. Surveys in other countries have also shown that negative attitudes towards medications such as antidepressants or antipsychotics are common, while psychological and self-help strategies were perceived more positively (Angermeyer et al., 1993; Angermeyer et al., 2005). These beliefs can make a difference to what people do if they start to recognize symptoms of depression. For example, people who believe in the helpfulness of antidepressants are twice as likely to report using this treatment in a period of 6 months (Jorm et al. 2000). Similarly, it has been reported

that when service users with depression who have negative attitudes towards antidepressants were prescribed with these medications, they are less likely to take these medications and are less likely to benefit overall (Pyne et al., 2005). The effect of the preferences and associated knowledge may also vary with the type and severity of mental health conditions (Reavley & Jorm, 2011). Therefore, MHL and treatment preferences can affect treatment compliance.

Not putting service users at the center of their care and not viewing them as holding valuable insights into their own treatment can have short and long-term adverse consequences on treatment outcomes. In a study conducted in the UK, Canada and Australia, families of children and young adults with intellectual disabilities reported many negative experiences with mainstream inpatient mental health services and expressed significant differences between mainstream and specialist services (Donner et al., 2010; Sayal et al., 2010; Weiss & Lunsky, 2010). These findings suggested that the needs of persons with intellectual disabilities and their carers were not being adequately met by existing mental health services, and their experiences of being dissatisfied with their current treatment showed to have a detrimental effect on a parent's willingness to seek professional help for their child in the future (Man & Kangas, 2019).

In a study published in the *British Journal of Psychiatry*, knowing what kind of therapy would be most effective and being adequately informed about them also showed to have a significant effect on treatment outcomes. In this study, the likelihood of reporting short-term or lasting bad effects of therapy was associated with receiving 'other' forms of treatment and being unsure of what type of therapy the person had received (Crawford et al., 2016). In the same study, service users were also less likely to report lasting bad effects of treatment if they felt they had been given sufficient information about therapy before it started. The authors asserted that it is possible that people who received proper information about treatment before it started had a better sense of what was involved and had more

realistic expectations of what could be achieved (Crawford et al., 2016). In support of this conclusion, Lilienfeld (2007), found that an ineffective treatment that was falsely assumed to be beneficial was costly in terms of time, expense, and other resources, and a beneficial treatment that was falsely assumed to be ineffective resulted in lost opportunities. These findings assert that being misinformed about available treatment options can contribute both to the treatment gap and to the wasted resources from receiving ineffective care (Lilienfeld, 2007). Another interesting finding that links MHL to adverse treatment outcomes is known as the "nocebo effect" (Herzog et al., 2019). According to the nocebo effect, negative priming about a particular mental health intervention may cause negative expectations about the occurrence of adverse outcomes from that treatment and is associated with a higher prevalence in reported negative effects (Bootzin & Bailey, 2005). Therapists must make every effort to increase the basic MHL of service users before providing treatment as it has been documented that giving informed consent to treatment is also associated with better treatment outcomes (Boisvert, 2010). Along the lines of this paradigm, there is also evidence that psychoeducation (educating service users about the symptoms, prognosis, causes, treatments, and protective factors of a mental health condition) can have benefits in a clinical setting (Dannon, et al. 2002).

There is also some evidence that mental health professionals who make use of assessment tools to measure treatment outcomes become more aware of poor responses to treatment and can help avoid negative treatment outcomes by adapting their practices to meet the needs of service users (Lambert et al., 2001; Lambert et al., 2002). Therapeutic alliance and dealing with unmet needs can be enhanced from these measures as well.

Therapeutic alliance between service users and mental health professionals is a central component of treatment (Priebe et al., 2005). Bordin (1979) has proposed that therapeutic alliance has three components: goals, bonds and tasks. High therapeutic alliance is observed

when there is agreement on the goals of therapy, there is a strong service user–therapist bond (i.e. trust, respect) and the service user has positive views about the process of therapy (i.e. therapist’s skills, service user’s perception of the therapist’s ability to help them, etc.). The evidence about the effect of subjective perception of therapeutic alliance particularly in community-based Psychotherapy services suggests that the service users' perception of therapeutic alliance is related to the feeling that their subjective needs are being met (Calsyn et al., 2006). In one study, higher levels of unmet needs were associated with lower therapeutic alliance in both service user-rated and therapist-rated models, across both cross-sectional and longitudinal tracking methods (Junghan et al., 2007). It is important to note that service-user rated evaluations are more reflective of treatment outcomes than therapist-rated evaluations (Lasalvia et al, 2005; Slade et al, 2005). The evaluations of service users, their expectations from therapy/therapist and subjective perceptions can be a significant part of MHL. Better therapeutic alliance has been found to be associated with improved treatment outcomes (Martin et al., 2000; Couture et al., 2006).

#### **Provider versus service user-centered outcome measures.**

The beliefs of the general public regarding the helpfulness of treatment do not always correspond with those of mental health professionals (Jenkins et al., 2010). An important ramification of the discrepancy between the lay public and professional beliefs is that it may compromise the quality of mental health services by not taking into account the views of service users (Jorm et al. 2000). Attempts to make clinical practice more evidence-based are often based on the assumption that systematic reviews of RCTs and the dissemination of clinical practice guidelines are sufficient to improve clinical outcomes. This top-down approach is often used to attract mental health professionals to adopt a particular treatment approach. However, a top-down approach fails to take into account the views of the public who are the consumers of mental health services. If evidence-based treatments do not align

with the views of service users, people who develop mental health conditions may be unwilling to seek those interventions or to comply with clinical guidance, which in-turn can explain part of the treatment gap (Jorm et al., 2003). Another limitation of employing only therapist-centered outcome measures is the reluctance of therapists to disclose adverse effects during therapy for fear that these events would be interpreted as incidents of misconduct for which they could be legally liable (Linden, 2013). Service-user satisfaction with mental health services is increasingly being used as an outcome measure and an indicator of service quality (Howard et al., 2003). It is important to acknowledge that mental health professionals have a key role in improving service quality (Berwick, 2005; Bevan & Fairman, 2014). However, unless they have access to information about service user outcomes, they cannot assess their performance, learn from their mistakes and identify areas of improvement (UK Department of Health, 2008). To fulfil these objectives, clinicians need to obtain and have access to data on treatment outcomes (Crawford et al., 2017). In one study, nearly 14% of service users reported that staff did not ask them what they thought would help them get better, 16.8% indicated that they did not feel free to complain, 16.8% of participants indicated that their family and friends were not included in treatment planning, 11.8% of respondents perceived a lack of privacy in the setting, 17.3% indicated that the location of services was inconvenient, and another portion of participants reported that the lack of education about medications and treatment side-effects were a cause for concern for them (Howard et al., 2004). This research suggested that service users lacked adequate input into their treatment plan which put their recovery at risk and increased their chance of relapse.

From a theoretical perspective, according to Fitzpatrick, there are three reasons why health professionals should take service user satisfaction ratings into consideration (1991). First, consumer satisfaction is considered an important outcome measure and influences whether a service user will adhere to clinical recommendations or come back to a service in

the future. Second, satisfaction surveys provide insight to the service user's perspective of the consultations and patterns of communication (like educating, involving in the decision-making process, expectations from treatment etc.). Third, service user feedback can be used to choose between the different models of healthcare delivery and adapt existing treatments to the needs of service users. Although there has been some skepticism about their validity in reviewing mental health services due to the potential influence of poor insight (Hill et al., 2009), the evidence now indicates that satisfaction surveys for service users are valid and provide useful information (Ruggeri et al., 2003). Empirical evidence suggests the need to consider both staff and service user centered assessments together (Junghan et al., 2007).

### **MHL & Treatment Outcomes in the Lebanese Context**

The largest international community-based study to investigate the treatment of mental health conditions is the World Mental Health (WMH) survey which has been carried out so far in 27 countries under the leadership of the World Health Organization (WHO) and the Harvard Medical School (Karam et al, 2019). Lebanon was the only Arab country included in the WMH survey (Karam, 2006). The prevalence of mental health conditions reported in Lebanon are similar to those in Western European countries (The ESEMeD/MHEDEA investigators, 2000) and are considered among the most frequently occurring health problems in Lebanon, even though the numbers may be under-reported (Kessler et al., 1995). However, the proportion of people receiving treatment for mental health conditions in Lebanon is much lower than in high-income countries. This gap is only partly due to the lack of availability of medical professionals as their numbers in Lebanon are among the highest in the Arab World, and comparable to some high-income countries (Bijl et al., 2003). Insufficient or inadequate use of governmental resources and poor MHL have been

suggested to be among the most prominent barriers to treatment (Tomlinson et al., 2009; Semrau et al., 2015)

Available research and data on the treatment of mental health conditions from the region are scarce, and when available, focus more on specific issues such as hospital treatments or type of medicines used (Nasser & Salamoun, 2011). Only two countries so far (Lebanon and Iraq) have assessed some patterns of help seeking attitudes and behavior for mental health conditions in the Arab region. This reflects a gap in both generating key indicators and establishing data collection mechanisms on a national level (Karam et al., 2019).

#### **Help-seeking patterns, attitudes and behavior.**

In a large study conducted in Lebanon, a high knowledge of mental health conditions was found only in 33% of participants, whereas a high attitude score and a higher positive behavior score were found in 32.2% and 26.9% of the participants respectively (Abi Doumit et al., 2019). When respondents were asked about their attitudes towards seeking help, around 60% stated that they would feel comfortable when talking to a professional about personal problems, almost half of the respondents stated that they would talk to a professional for mental problems, and 79% stated that they would not feel embarrassed if their friends found out that they were talking to a professional for mental problems (Abi Doumit et al., 2019).

With regards to help-seeking behaviors, in total, only 20% of the Lebanese with mental health conditions sought any type of treatment. 91% of those who sought treatment did so within the health sector, only 9.8% sought help from any mental health professional (Psychiatrist, Psychologist, Psychotherapist, Psychiatric Social Worker, Mental Health Nurse, Mental Health Counsellor), 18.0% from any health professional, 5.2% from a non-healthcare professional, and 4.7% from, religious/spiritual leaders (Karam et al., 2019).

The most important factors in determining help-seeking and receiving adequate treatment were the severity and perceived severity of mental health conditions, and the recognition of disorders better predicted seeking help than stigma (Karam et al., 2019). Of respondents with lifetime panic disorder, 57.4% sought help for their condition at some point in their lives, compared with 29.7% of those with lifetime major depression. The help-seeking rate was 20% lower for all other disorders: 19.2% for agoraphobia, 17.5% for generalized anxiety disorder, 13.5% for bipolar disorders, 12.5% for intermittent explosive disorder, 6% for substance-use disorders, 5.6% for specific phobia, 3.9% for post-traumatic stress disorder (PTSD), 1.5% for attention-deficit/hyperactivity disorder (ADHD) and 0% for conduct disorder.

With regards to self-help skills in Lebanon, different self-care mechanisms were mentioned by women and men in one study, such that women engaged more in self-care such as reading, taking breaks in nature, exercising, engaging in religious activities, and changing their dietary habits, while men resorted more to negative coping mechanisms such as smoking, using substances like alcohol, and even criminal activity to secure their basic needs (Noubani et al., 2020).

### **Barriers to treatment.**

A ground-breaking research to investigate the determinants and barriers of seeking help for mental disorders in Lebanon is the L.E.B.A.N.O.N. (Lebanese Evaluation of the Burden of Ailments and Needs of the Nation) study (Karam et al., 2019). The greatest barrier to seeking help in the Lebanese sample was low perceived need for treatment (74%). Moreover, 93.5% of participants reported at least one of the following: ‘thought problem would get better on its own’, or ‘problem went away by itself’, or ‘thought the problem was not severe’ or ‘wanted to handle the problem on my own’ (Karam et al., 2019). The second most common barrier was the ‘financial barrier’, reported by 22% of participants, which was

found to be more troublesome on the longer-term instead of the main barrier for starting with treatment. Another major study in Lebanon reported that main barriers to healthcare services include limited awareness of mental health service availability, lack of trust in the quality of mental health services available, not trusting specific service providers, doubting the ability of the healthcare provider, having confidentiality concerns, delaying help-seeking from the formal health system (Islamic doctrine of preference towards waiting), social stigma, restrictive service costs or poverty, and lack of health coverage (Noubani et al., 2020). For example, participants considered their families, friends or partners as the frontlines of support, because they are able to listen and provide support confidentially but were also reluctant to seek help from them not to overburden them (Noubani et al., 2020). Other reported barriers were uncertainty of where to go or who to see for help (19.2%), followed by logistic and accessibility problems (commuting, taking appointments, 18.8%), dissatisfaction with previous services (13%), and stigma (5.9%; Karam et al., 2019). It is noteworthy that even though the NMHP is currently working on integrating evidence-based treatment of some mental health conditions in National Social Security (NSSF) and private insurance schemes, mental health care is not currently covered by most private insurers in Lebanon. In the study by Noubani et al. (2020), the majority of participants mentioned that the level of awareness of mental health issues and the willingness to improve could play a major role for seeking Psychotherapy and highlighted the need for more awareness campaigns to educate people on mechanisms for coping and prevention, to fight stigma around mental health, to inform the community about the availability of services, and reduce the costs of mental health treatment.

The situation in Lebanon shows why policy makers need to invest heavily in MHL. While key structural barriers to treatment are observed (like unavailability of services, poor financing and high costs of treatment, difficulty getting to and accessing services), there

appears to be strong evidence that the population at large suffers from low MHL literacy (low perceived need, not knowing what to do, where to go, high stigma, etc.) as reported by the literature cited. In the global literature, the ability to recognize mental health conditions and identify their severity, having a perceived need for treatment, knowing where and who to go to, receiving information about treatment outcomes, and positive attitudes towards mental health are key elements of MHL.

### **Quality of mental health treatment.**

Given the lack of research in this domain and insufficient auditing and quality insurance mechanisms, few empirical research exists on the link between treatment quality and treatment outcomes (Scott & Young, 2016). In a study in Lebanon, over 80% of healthcare treatment for mental health conditions was classified as at least minimally adequate using Western guidelines (The ESEMeD/MHEDEA investigators, 2000). However, in a study spanning across 16 countries on the findings of the World Mental Health Survey on the perceived helpfulness of treatment for service users with Major Depressive Disorder that Lebanon participated in, the pooled data showed that around 68.2% of adults with a lifetime history of a DSM-IV Major Depressive Disorder received treatment that they rated as helpful, while the remaining 31.8% stopped seeking treatment after early unhelpful treatments (Harris et al., 2020). Most service users (93.9%) received adequate help if they persisted through 10 treatment professionals, but only 21.5% of service users were that persistent, compared to only 30% of service users who reported receiving helpful treatment from the first professional seen (Harris et al., 2020). Data analyzed only from Lebanon shows that only 35% received treatment for MDD and found it helpful, and it is worth highlighting that this was the lowest rate compared to 7 other low-and middle-income countries and 8 other high-income countries (Harris et al., 2020).

Another troubling finding that supports this reality for Lebanon is that around 13% of persons not seeking treatment for mental health conditions cited dissatisfaction with previous services as the primary factor (Karam et al., 2019). In Western countries unwanted effects from treatment range between 3% and 15% (Berk & Parker, 2009; Linden, 2013) and based on the review of literature it appears Lebanon is among the upper boundary of this range. Furthermore, as stated earlier, distrust in the quality of available and accessible mental health services in Lebanon is another major barrier cited in the literature (Noubani et al, 2020). It is concerning that these are novel studies published between the years 2019 and 2020. The fact that perceived dissatisfaction, doubting the ability of treatment providers, and distrust with existing services are prevalent in the studies cited in Lebanon, and given that details of this dissatisfaction or distrust are not explored, further investigation on adverse outcomes is warranted (Scott & Young, 2016) and the findings of this study could contribute to understanding them.

#### **Stigma towards mental health conditions and treatment.**

In a study conducted in 229 countries, findings showed that in developed countries only 7% to 8% of respondents had stigma towards persons with mental health conditions compared to 15% to 16% in developing countries, where people label, fear and distance themselves from them perceiving them to be more dangerous, unpredictable and violent (Seeman et al., 2016). In most Arab countries, stigma toward mental illness is still prevalent and people with mental health conditions bear the double burden of the illness and stigma (Al-Krenawi, 2005). For example, a study conducted in Egypt showed that 70% of respondents do not accept a person with a mental disorder as a teacher for their children, 53% do not accept them as a family member, 32% do not accept them as a friend and 25% do not accept them as a neighbor (Abi Doumit et al., 2019). In another study conducted among a Saudi population found that 88% of the sample reported a lack of knowledge of mental

illness, 66% had negative perceptions, and 54% had negative attitudes to mental illness (Abolfotouh et al., 2019). In a Moroccan study, most families (76%) reported having no knowledge about mental illness (Kadri et al., 2004). Lastly, a study conducted in the United Arab Emirates among parents of children with mental health conditions showed that the majority of parents (62%) often do not seek help from mental health specialists (Eapen & Ghubash, 2004).

Arab countries also have a shared set of values, traditions and beliefs that are different from those of Western countries (Dardas & Simmons, 2015). In these countries, persons with mental health conditions have a negative attitude toward mental health services and actively avoid them, refrain from disclosing their symptoms to others (Al-Krenawi et al., 2005), and when they do, they describe their symptoms using more somatic idioms of distress (Al-Krenawi, 2005). Symptoms of mental disorders are also associated with religious beliefs and persons seek treatment from religious or spiritual healers who are tasked with freeing the person from a metaphysical evil causing the symptoms (like an evil eye, demonic possession or an evil spirit), through exorcising the spirit or interceding to relieve the punishment from God (Aloud & Rathur, 2009; Rayan & Fawaz, 2018; Mathison, 2016).

With regards to stigma in the Lebanese context, there are three main studies that have examined this construct. The first one was done among an undergraduate sample, the second among Catholic clerics, and the third with the general population (Aramouny et al., 2019; Abi Doumit et al., 2019; Rayan & Fawaz, 2018).

There seems to be an inconsistency between the two recent studies conducted in Lebanon. One study claims that the findings are in line with other studies (Coker, 2005; Eapen & Ghubash, 2004) showing a high prevalence of stigma toward mental health conditions in Lebanon which leads people diagnosed with mental health conditions to hide their symptoms instead of seeking help because of cultural stigma (Abi Doumit et al., 2019).

Another study did not find stigma to be the main barrier preventing persons from seeking treatment (Karam et al., 2019). These differences may be due to different conceptualizations of stigma, using different instruments to measure stigma, or due to other socio-demographic characteristics in the sample (education level, urban, rural, etc.). For example, while 80% of the Lebanese reported they would not be embarrassed if friends knew they were seeking help from a professional (Karam et al., 2019), many of them could provide a different answer if the "friend" was replaced with a potentially less friendly person like an employer which could have more devastating consequences.

### **Sociodemographic characteristics.**

In-line with the international literature, socio-demographic factors also influence the level of MHL in Lebanon. In terms of geography, living in North Lebanon was associated with higher knowledge of mental illness, and living in the Bekaa was associated with lower knowledge toward mental illness (Abi Doumit et al., 2019). Higher knowledge, positive behaviors and positive attitudes toward mental illness were also seen in persons living mostly in Beirut and Mount Lebanon, which the authors of the study attribute to increased social, economic, political and educational activities conducted in these areas (Bennett, 2002). Education may provide access to more information about mental illnesses and could change negative attitudes toward them (National Academies of Sciences & Medicine, 2016). The authors also mention that regular contact with persons with mental health conditions that occurs in overcrowded areas may reduce the social distance toward persons with mental health conditions (National Academies of Sciences & Medicine, 2016). Familiarity and experiences with people going through a mental illness have shown to be among the most crucial factors that determine attitudes and behaviors (Buizza et al., 2017).

In terms of SES, having a high level of education (university, secondary and technical), a high income level, being female, being young, and familiarity with a person

living with a mental illness were also important predictors of less stigmatizing attitudes towards mental illness in Lebanon (Abi Doumit et al., 2019; Karam et al., 2019). With regards to age, some researchers have asserted these findings are consistent with those reported in an Indian study (Das & Phookun, 2014) but are in contrast to others that report that older people have more knowledge by the virtue of experience (Ahmed & Baruah, 2017). With regards to gender, some studies have shown that females are more empathetic, tolerant and positive towards persons living with mental health conditions (Angermeyer & Dietrich, 2006; Buizza et al., 2017).

### **Gaps in the Literature**

The literature on MHL and treatment outcomes globally is still emerging and thus can be characterized by a number of gaps. Most of the studies on MHL conducted have focused on specific health professionals (like Nurses, Pharmacists, etc.), or mental health professionals (like Psychotherapists and Mental Health Social Workers), or carers of persons with mental disorders, and were directed towards a specific target population (such as older adults, school-aged children, cancer patients), were limited to specific mental health conditions (like depression or anxiety), and studied MHL in specific settings (workplace, education settings). Very few pieces of literature targeted the comprehensive construct of MHL in the general population or in service users and those that did were part of specific country-based surveys that reflected MHL on a national scale (like Australia, USA, Canada, Japan, Korea, etc.).

There is also some research conducted on MHL in Lebanon. Aside from the two major studies recently published by Abi Doumit et al. (2019) on stigma and Karam et al. (2019) on determinants of the barriers to care, there is only one qualitative study that explores mental health attitudes and beliefs of parents and teachers towards school children in

the South of Lebanon (Doumit et al., 2017), two quantitative studies among a sample of young adults from universities, one of which examined MHL as a partial construct as it relates to psychological symptoms of depression and anxiety (Kim et al., 2015), one qualitative study that explores barriers to treatment and perceptions towards mental illness in Syrian refugees and Lebanese in the Bekaa and Beirut (Noubani et al., 2020), and one that examined the predictors of MHL in 3 universities in Beirut as they relate to depression, anxiety, and suicidal ideation (Naal, 2018).

None of the studies published to date attempted to find a correlation between MHL as a comprehensive construct and treatment outcomes, and none of them measured service user satisfaction and adverse outcomes in a sample of Lebanese adult service users in Lebanon as this study is purposed to do. Furthermore, while Karam et al (2019) detected that 13% of service users were dissatisfied with past services received, and Noubani et al. (2020) reported a distrust in the available mental health services, they do not provide any further explanation on these findings. Further research is needed to understand the mechanics by which treatment is producing unsatisfactory outcomes (Dimidjian & Hollon, 2010) noting that understanding mechanisms of change may be the best long-term investment for improving clinical practice and service user experience (Kazdin, 2008).

## Chapter 3

### Methods

#### Design & Sampling

Since the purpose of this study is to examine the relationships between variables, identify key factors influencing an outcome, test the effect of a theory, replicate previous research in a new context, and control for biases, the present study adopted a cross-sectional quantitative survey design. The advantages of this approach include access to a large sample, gathering data in the present time, enable self-reported data, grant anonymity, and maintain cost-effectiveness.

Single stage sampling procedures were used to collect data from a sample of adult (1), Lebanese residing in Lebanon for 10 years (2), who have a mental health condition (3), who have selected their own therapist (4), and are enrolled in or have received outpatient individual Psychotherapy (5), in the last 5 years (6). Syrian and Palestinian refugees have unique challenges and different demographic characteristics (Noubani et al., 2020) and support systems different than the general population (UNHCR and UNRWA) and are excluded from this study to increase its external validity (1). Children are also not included because they are under the legal custody of their caregivers and mostly depend on them for health-related services (2). While other countries include MHL as part of their high school curriculums (Campos et al., 2018), this practice has not yet been adopted in Lebanon. Exclusion criteria also include person's holding a degree in Psychiatry and Psychology (3) whether that be a doctoral, graduate or undergraduate degree, mental health professionals (4) such as Clinical Psychologists, Psychiatrists, Neurologists, Mental Health Social Workers, and Psychiatric Nurses, whether or not they are service users, and persons who have entered Psychotherapy as part of their practicums (5). These groups have an inherently higher MHL

and their responses will bias the findings (Furnham et al., 2011). Service users in group therapy are also excluded from this research (6) as the relational dynamics differs significantly from individual therapy and requires specific procedures (Burlingame et al., 2016). Physical conditions that preclude participation along with an inability to give informed consent are also marked as exclusion criteria (7).

An a priori computer-based calculation of the sample size was conducted using G\*Power v3.1. Since MHL has a total of 6 predictors of which only 3 will be tested, linear multiple regression with fixed models and  $R^2$  increases belonging to the F-test family will be used as an appropriate model. With a medium effect size of 0.15, an  $\alpha$  error margin of 0.05 and a Power (1- $\beta$  error margin) of 0.95, a total sample size of 119 participants was calculated. Given that random sampling is not possible due to the lack of adequate databases and limited resources, purposive and convenience quota sampling (age and gender) methodologies will be used.

### **Processes, Data Collection & Ethics**

Prior to data collection, Institutional Review Board (IRB) approval was obtained from the Ethics Committee of the Department of Social and Behavioral Sciences at the Haigazian University. Due to the ongoing COVID-19 lockdown measures, hygiene requirements and sustainability reasons, in person meetings with potential participants was avoided. Instead, data collection took place via an online survey using Survey Monkey. An added advantage of online data collection is service user anonymity and improved confidentiality, thus yielding more valid findings. Research has showed that service users are often reluctant to share personal information or specific incidents during interviews or face-to-face data collection, especially when measuring sensitive variables such as treatment

outcomes and adverse effects, as they may fear legal consequences or of their identity becoming public if the authorities are informed (Ladwig et al., 2014).

Participants were recruited through various routes. First, service users who have made their identities public were contacted with a request to participate. Second, service user groups, whether independent or affiliated with other entities, were contacted and made aware of the purpose and nature of the study. Third, national psychological associations such as the Lebanese Psychological Association (LPA), the Lebanese Psychiatric Society (LPS) and the Lebanese Association for Mental Health Service Users were informed of the study and a request was made to disseminate the survey to interested members. Fourth, an online advertisement with a link to the research survey was placed on social media platforms and boosted. Finally, snowballing sampling techniques (participants informing other potential participants) were used to encourage previous or current service users to be involved in the data collection process because research has shown that the inclusion of those who have received services in the role of data collectors can enhance the validity of the findings (Howard & El-Mallakh, 2001). Finally, NGOs and other service providers were contacted as well.

During data collection, the online procedures guided potential participants the purpose and nature of the study, eligibility criteria, confidentiality, the voluntary nature of participation, their right to withdraw from participation at any time and for any reason, their roles and rights, the risks and benefits involved, data storage on a password protected computer and file, and the access and use of data by authorized persons exclusively for research purposes. Participants filled the survey only after providing written consent, and the contact information of the Principal Investigator and his Advisor were provided for any inquiries, complaints or feedback. To ensure that adverse experiences that might be triggered during the completion of the survey (such as remembering a harmful experience) are

mitigated, the survey included National Emotional Support and Suicide Prevention-Embrace's Lifeline number (1564) so those experiencing distress can receive emotional support and adequate referral as necessary. Additionally, a link to the 4Ws Online Platform for Lebanon was provided for persons who wish to seek MHPSS services at a facility near an area of their convenience. No other risks other than boredom are projected to affect participants. The mean response time according to the Survey Monkey analytics was 16 minutes.

Due to the limitations on available resources, financial or material incentives to participants were not possible. As a form of psychological incentive, self-care tips were shared with the participants after completing the survey. Other incentives included increasing the sense of ownership and achievement of participants by thanking them for their participation, sharing with them the findings of the study for those who wish to receive them, signposting where they can seek help for any mental health concern free of charge, and linking them to the online pages of the MoPH-NMHP where they can stay updated on the progress of mental health reform in Lebanon. The duration of the data collection period is took around 4 months from January 2021 to April 2021. Data entry, analysis and report writing took place in May.

The final sample consisted of 97 participants, with a response rate of 41%. Recruitment of participants posed a particular challenge, both in difficulty to reach participants who met the strict criteria of inclusion, and also to do so in a short timeframe required. In total, 414 participants responded to the survey of whom 248 met a disqualification criterium. 62 participants had incomplete responses and only 104 participants had complete responses. Incomplete responses consisted of persons who had not answered the scales of either the dependent variable or the independent variable, or both, or had skipped more than 30% of answers. These responses were dropped from data analysis. Of the

104 participants, 1 was dropped for answering all questions for a Speech Therapist as the primary provider of care. Six responses were outliers, such that one was an outlier in the solution, and 5 were both univariate outliers and outliers in the solution. The data collection process allowed for oversampling to anticipate such occurrences and mitigate dropouts.

Around 40% of participants were initially disqualified because of not being diagnosed with a mental health condition, even though they had sought Psychotherapy in the last 5 years. This practice is common in Lebanon, specifically by those who practice non-evidence-based Psychotherapies, who do not share a diagnosis with the person seeking care. Another interpretation can be that these persons might be seeking counseling for an interpersonal problem not related to a diagnosis, or that they are seeking counseling for another family member and hence did not require a diagnosis. In the final sample, participants who did not have a diagnosis yet had received a form of therapy and answered all questions on the dependent and independent variables were included. This comprised 10% of the final sample, including a 5% that said they were diagnosed but did not know what the diagnosis was.

Another 23% of participants met a disqualification criterium for being a mental health professional. This could be that the persons had a mental disorder and were mental health professionals too, or more possibly, they were contacted to disseminate the survey and wanted to explore the content prior to dissemination, even though sending a PDF version of the survey was offered in all invitations of dissemination.

Recruitment via social media platforms showed to be sub-optimal and ineffective for the present research. Posts on groups related to mental health were shared on Facebook and Instagram. These included The Lebanese Psychology Page, the Lebanese Psychologists Group, Psychologists in Lebanon, the AUB Psychology Student Society, Addiction & Mental Health Care in Lebanon/Gulf/MENA, the Lebanese Center of Psychology for Therapeutic and Support Groups, the LPA, the LPS, the Lebanon Psychology Agenda, among others. A

social media post was also boosted through NFD-No-For-Drugs NGO in Lebanon. For every 20\$ spent for 10 days of boosting, 45,263 people were reached, of which 1,073 had a form of engagement with the post, 597 persons clicked on the link, and only 5 complete responses were gathered. The cost per complete response is calculated to be 4\$, proving it to be a costly venture. A possible explanation for the difficulty in reaching persons with mental disorders through online platforms is that they are tailored for general populations, without available tools to filter or target this specific population. Other interpretations can be related to the congestion of social media platforms with content related to the COVID-19 pandemic and the shifting of work and sales modalities to online settings, limiting the exposure of posts and inflating costs.

Effective channels of recruitment included NGOs, professional associations, and Clinical Psychotherapists and Psychiatrists contacted individually, and support groups over WhatsApp. The digital availability of the survey significantly aided the dissemination process and reduced operational concerns in data collection phase. 15 NGOs providing mental health services to Lebanese populations were contacted and 9 agreed to disseminate the survey (IMC, IDRAAC, ABAAD, Blue Mission, ACTED, SIDC, Imam Sadr Foundation, HKCC, Skoun, MDM), the rest cited operational reasons, donor requirements in patient confidentiality, and an unwillingness to expose service users to external research, even when anonymity was assured and evidence of ethics approval from the University was provided. Additionally, 50 Psychotherapists from the LPA were contacted individually via mobile phone, 18 practicing Psychoanalysts were contacted individually via mobile phone (Psychoanalysts in Lebanon website), and 53 Psychiatrists from the LPS were also contacted in a similar way. Their support, in addition to the Lebanese Service Users' Association and snowballing techniques were the most effective in the collection of data, despite each provider requiring several follow-ups. An interesting finding is that therapists who practiced

a form of Psychoanalysis did not consent to disseminating the survey citing ethical reasons and negative effect on the dynamics of therapy. The current treatment distribution of Psychoanalytic therapy was gathered through service users and not Psychoanalytic therapists. This posed a particular challenge noting that Psychoanalysis remains the main school of Psychotherapy training in Lebanon. Furthermore, since the application of the new regulation of the field of Psychotherapy by the MoPH-NMHP and its adoption by professional associations and NGOs, these findings may be biased towards licensed professionals and may vary when compared to private practitioners from the field. However, in the absence of organized national registries for private clinicians, this outcome was expected.

### **Instruments**

This study used one instrument to measure MHL and one instrument to measure treatment outcomes. Additional questions regarding barriers to seeking care and socio-demographic information were also included. All tools were made available in English and Arabic languages and were automatically registered on the English file on Survey Monkey via a premium account.

The general rationale for instrument selection was guided by the use of theory-based tools, which were self-administered, followed the design of quantitative surveys and had scale-based scoring systems, had above average to high psychometric properties, had been widely used in prior research for replicability purposes, had/were brief versions to enhance item economy, were available in English and Arabic languages (preference), their translations had been validated in Lebanon (preference), and were free of charge or used with permission from the authors (being free of charge was not a prerequisite in the selection process and it did not bias decisions made).

To ensure adequate translation of tools, translation was based on a five-step process of forward translation, backward translation, resolution of discrepancies between both translations, pilot tested with 10 service users who met the inclusion criteria in addition to 2 Psychotherapists and 1 Psychiatrist, and the final revision was generated and used (Wang et al., 2006). Some tools may be slightly adapted to fit the present research needs (such as when tools include names of countries they were first used in).

Appropriate measures were applied to control for participation effects, order effects, response set, carry-over affects, self-reporting bias, and statistical procedures were applied during data collection (such as counterbalancing) and after data collection (such as respondent non-respondent analysis) and after it. These are further discussed under the Limitations section.

#### **Instruments to measure MHL.**

Several instruments have been developed to measure MHL, such as the Survey of Mental Health Literacy in Young People - Interview Version, the Attribution Questionnaire (AQ), the Attitudes to Mental Illness Questionnaire (AMIQ), the Mental Health Knowledge Schedule (MAKS), the Vignette Interview, the Mental Health Literacy Scale (MHLS), the Questionnaire for the assessment of mental health literacy (QuALiSMental), among others (de Jesus Loureiro, 2015; Dias et al., 2018; O'Connor & Casey, 2015). However, the literature review revealed a number of challenges into their use (O'Connor et al., 2014).

Most of these instruments have conceptualizations that may reduce content and criterion-related validity because they do not measure MHL from a comprehensive perspective and exclude important dimensions thereby reducing content validity and increasing the occurrence of mono-operational bias. A holistic measure of MHL should include the ability of individuals to identify a mental health condition (1), knowledge of individuals on effective self-help strategies (2), knowledge of individuals on how to prevent

mental health conditions (3), knowledge of individuals on treatment options and mental health professionals (4), ability of individuals to support others experiencing a mental health problem (5), and attitudes, beliefs or stigma associated with mental illness (6; Jorm, 2012).

The most commonly used methods to assess MHL have been long case vignettes which are time-consuming to administer and do not have a scale-based scoring system. Among the scale-based measures, many restrict MHL to certain mental health conditions and exclude important conditions such as anxiety disorders or schizophrenia. Other instruments have been designed to measure MHL in specific populations such as children or older adults, or specific professions, such as pharmacists (Campos et al., 2016), which are not conducive to the objectives of the present study.

Thus, the selection process of instruments for MHL mitigated the aforementioned challenges and ensured that the selected tool has a theoretical conceptualization that does not reduce content and criterion-related validity, are not restricted to very narrow populations, and are not time-consuming to administer.

***The Mental Health Literacy Questionnaire Young Adult Version (MHLq-YA).***

The MHLq-YA is a tool to measure MHL based on Jorm's model and has 29 items divided into 4 dimensions (Campos et al., 2018). The MHLq-YA is the revised version of the MHLq. Following revision, 15 items underwent simple rephrasing (such as replacing "a friend" with "someone close to me"), two items were removed from the questionnaire because their content was redundant when compared to another item, and two items were added to the young adult form, replacing one item in the original form (such as having separate questions for seeking help from a Psychologist and a Psychiatrist; Campos et al., 2018).

The MHLq-YA also has simpler language compared to the MHLq and is aimed to cater the reading levels of persons between the ages 12 and 14 (grades 7 to 9) which makes it

easier to read. The MHLq-YA is a self-reported tool with responses organized in a 5-point Likert scale (1=strongly disagree; 2=disagree; 3= neither agree nor disagree; 4=agree; 5=strongly agree). The MHLq-YA is not available in Arabic and was translated.

In terms of psychometric properties, the MHLq-YA has a Cronbach's Alpha value of 0.84 for the total scale and a 4 factor structure as follows: knowledge of mental health problems (11 items,  $\alpha = 0.74$ ), erroneous beliefs and stereotypes (8 items,  $\alpha = 0.72$ ), help-seeking and first aid skills (6 items,  $\alpha = 0.71$ ), self-help strategies (4 items,  $\alpha = 0.60$ ).

### **Instruments to measure treatment outcomes.**

Psychological treatments provide many benefits for persons with mental health conditions (McHugh and Barlow, 2010) and there are several measures of treatment outcomes used to measure these benefits, such as tools to measure symptom reduction, therapeutic alliance, overall wellbeing, service satisfaction ratings, among others (Campbell, 1998; de Cates et al., 2015, Howard et al., 2003). Several investigations also suggest the persistence of negative effects after Psychotherapy (Boswell et al., 2015). Both positive and negative effects from Psychotherapy are considered in treatment outcomes. However, while positive effects are easier to measure, negative effects can be caused by a variety of problems, including external factors which are not related to therapy. As such, defining negative effects is important prior to proceeding with measuring it.

Adverse effects are unwanted negative effects related to the treatment and can be divided into side-effects, malpractice, and unethical conduct (Linden et al., 2018; Moritz et al., 2019). Side-effects are adverse effects following correct application of an evidence-based treatment. Malpractice refers to therapist-related barriers which cause an improper application of an evidence-based treatment or the use of inappropriate techniques. Unethical conduct includes a set of abusive behaviors such as sexual abuse, mocking or belittling the

service user, etc. The focus in measuring harm from Psychotherapy in this study is focused on measuring adverse outcomes rather than negative outcomes.

Another major problem in relation to exploring adverse effects is the absence of reliable instruments (Rozenal et al., 2019). The results of a systematic review indicated that the majority of the available instruments to measure adverse effects and their psychometric properties are below satisfactory thus limiting the number of available tools for use (Herzog et al., 2019). Other limitations with the use of these tools reported in the literature are not being used enough with the target population, lack of content validity to measure the construct of adverse effects, some tools being difficult to score, and some tools having too many items (Rozenal et al., 2019; Rozenal et al., 2016).

Since treatment outcomes can be measured in a variety of ways, the selected instrument should strive to measure multi-dimensional aspects of treatment outcomes as well. This can be done either by administering one or many instruments for each dimension of treatment outcome, making statistical analysis and replication of the study difficult for further research, or by using an instrument that measures a wide array of both positive and negative treatment outcomes. The latter approach was adopted in this study and among the tools examined in the literature review, the instrument that measures both positive and negative treatment outcomes, that measures treatment outcomes across several dimensions, is service user-centered, is the most thoroughly studied instrument, with good psychometric properties, and with the most adequate number of items was found to be the Positive and Negative Effects of Psychotherapy Scale (PANEPS; Herzog et al., 2014).

***Positive and Negative Effects of Psychotherapy Scale (PANEPS).***

PANEPS is the revised and shortened version of the Side Effects of Psychotherapy Scale (SEPS), which is the most exhaustive tool to measure adverse effects with 147 items, but which does not have a measurement for positive outcomes. PANEPS is also theoretically

based on the SEPS, the Inventory for the Assessment of Negative Effects of Psychotherapy (INEP), and the Unwanted Effects–Adverse Treatment Reaction checklist (UE ATR), and assesses both wanted and unwanted effects of Psychotherapy with less redundancy (Moshier et al., 2016). Both the SEPS/PANEPS follow the nomenclature proposed by Linden (2013), which is based on metric procedures applied to test efficacy in pharmacology. The subscales were composed by an expert panel of four psychologists and items were included in a subscale by a unanimous decision.

PANEPS consists of 43 items with a four-factor structure as follows: Positive Effects (10 items), Side Effects (13 items), Malpractice (13 items), and Unethical Conduct (7 items). Compared with the SEPS, it lacks the following 3 factors: Deterioration of illness related to treatment, treatment non-response related to treatment, and other treatment-emergent reaction. Responses on the PANEPS are rated on a four-point Likert scale (1 = true, 2 = rather true, 3 = rather not true, 4 = not true).

PANEPS measures the following 8 dimensions: stigma, therapeutic misconduct, deterioration or emergence or symptoms, quality of therapy, therapeutic relationship (idealization or dependence), treatment response, interpersonal changes, and wanted effects. The dimension on therapy setting will be added to the general demographics section. The dimensions that are still not covered when compared with the global literature include: relationship with other service users, hopelessness, non-compliance and prolongation of the treatment, and changes and strains in life areas (e.g., work, family, relationship; Herzog et al., 2019). Ideally, given enough resources to provide financial incentives to participants, utilizing more tools with more comprehensive dimensions would address this limitation.

In terms of psychometric properties, PANEPS has a satisfactory to excellent internal consistency of individual subscales (Cronbach's ranging from 0.72 and 0.92) as follows: Subscale Positive Effects (Cronbach's alpha: 0.72), subscale Unethical Conduct (Cronbach's

alpha: 0.83), subscale Malpractice (Cronbach's alpha: 0.92), subscale Side effects (Cronbach's alpha: 0.81; Moritz et al., 2019). The PANEPS adverse effect subscales were also highly correlated with the INEP severity of negative effects ( $r= 0.631$ ,  $p< 0.001$ ) and misconduct subscales ( $r= 0.744$ ,  $p< 0.001$ ) which support its validity (Herzog et al., 2019). The PANEPS does not have an Arabic version and was translated.

### **Instruments to gather sociodemographic data.**

Based on existing literature on predictors of MHL and treatment outcomes, several demographic measures were added to the instruments used. These include age, gender, marital status, educational attainment, living area, general literacy level, average monthly income, employment status, mental health diagnosis, type of provider, type of therapy, whether the Psychotherapy provider was licensed, number of therapy sessions received, whether the therapy was ended prematurely, the setting of therapy, use of psychotropic medication, among others.

### **Statistical Hypotheses and Analyses**

The study will test 3 predictors of MHL from a model containing the 6 factors of MHL according to Jorm's model (1977) and will examine their effect on 4 dependent variables according to Linden's theory of treatment outcomes (2013). The 3 independent variables are: The knowledge and beliefs of individuals on professional help available (1), the knowledge of individuals on effective self-help strategies (2), and negative attitudes and beliefs associated with mental health conditions and help-seeking (3). The 4 dependent variables are Positive Effects (1), Side-Effects (2), Malpractice (3), and Unethical Conduct (4) resulting from therapy. Treatment outcomes measured through these 4 dependent variables include 8 dimensions, namely: Therapeutic misconduct (1), Deterioration or

emergence of symptoms (2), Quality of therapy (3), Therapeutic relationship (4), Interpersonal changes (5), Wanted effects (6), Stigmatization (7), and Treatment response (8).

These predictors and dependent variables will be tested according to the following statistical hypotheses:

H1: The knowledge and beliefs of individuals on professional help available measured by the MHLq-YA's First Aid Skills and Help Seeking Behavior subscale will have a positive effect on wanted effects resulting from Psychotherapy measured by PANEPS' Positive Effects subscale.

H2: The knowledge and beliefs of individuals on professional help available measured by the MHLq-YA's First Aid Skills and Help Seeking Behavior subscale will have a negative effect on malpractice resulting from Psychotherapy measured by PANEPS' Malpractice subscale.

H3: The knowledge and beliefs of individuals on professional help available measured by the MHLq-YA's First Aid Skills and Help Seeking Behavior subscale will have a negative effect on unethical conduct resulting from Psychotherapy measured by PANEPS' Unethical Conduct subscale.

H4: The knowledge of individuals on effective self-help strategies measured by the MHLq-YA's Self-Help Strategies subscale will have a positive effect on wanted effects resulting from Psychotherapy measured by PANEPS' Positive Effects subscale.

H5: The knowledge of individuals on effective self-help strategies measured by the MHLq-YA's Self-Help Strategies subscale will have a negative effect on side-effects resulting from Psychotherapy measured by PANEPS' Side-Effects subscale.

H6: Negative attitudes and beliefs associated with mental health conditions and help-seeking measured by the MHLq-YA's Erroneous Beliefs/Stereotypes subscale will have a

negative effect on wanted effects resulting from Psychotherapy measured by PANEPS' Positive Effects subscale.

H7: Negative attitudes and beliefs associated with mental health conditions and help-seeking measured by the MHLq-YA's Erroneous Beliefs/Stereotypes subscale will have a positive effect on side-effects resulting from Psychotherapy measured by PANEPS' Side-Effects subscale.

Data was exported from the Survey Monkey software and will be available in digital format, saving time and resources, and reducing the human error involved in manual data entry processes. Data was analyzed using SPSS v.27. Preliminary analysis was conducted to study mis-entered data, percentage of missing values, reliability analysis, univariate outliers, multivariate outliers, outliers in the solution, and influential cases. Data was analyzed via single and multiple regression analysis. Data analysis is further discussed under the Results chapter.

## Chapter 4

### Results

#### **Preliminary Analysis**

Before proceeding with the main analyses and hypotheses' testing, preliminary analysis was conducted to study mis-entered data, percentage of missing values, reliability analysis, univariate outliers, multivariate outliers, outliers in the solution, and influential cases.

#### **Mis-entered Data.**

Mis-entered data, on all the variables, were examined using frequencies. This examination revealed that the values of all respective variables fell in the designated ranges of the questionnaire; indicating that there was no mis-entered data in this dataset.

#### **Missing Value Analysis.**

Missing value analysis, on all the variables, were examined to check for the percentage of missing values. The results revealed that there were no missing values on all the variables.

It is important to note that for the treatment outcome scale, more than one-quarter of participants reported that the below questions were not applicable to their experiences with psychotherapy:

- My family is proud of me because I was in therapy (26.8%)
- The relationship with my partner has improved as a result of my therapy (32.0%)
- The therapy helped me to a get a job (46.4%)
- The therapist was intolerant of my sexual orientation (30.9%)
- My application for private insurance was rejected because I was in therapy that was paid for by my health insurance (54.6%)

- My promotion to a job was not approved because I was in therapy that was paid for by my health insurance (39.2%)<sup>1</sup>

### Reliability Analysis.

The reliability analysis was executed using Cronbach's alpha. The results revealed that the subscale first aid had low reliability " $\alpha = .51$ ". The results revealed, however, that the subscales self-help and erroneous beliefs "stereotypes" had good reliability with  $\alpha = .70$  and  $\alpha = .74$ , respectively. Furthermore, the mental health literacy scale also had good reliability with  $\alpha = .78$ . In addition, the subscales positive effects, malpractice, unethical conduct, and side-effects had very good reliability with  $\alpha = .84$ ,  $\alpha = .92$ ,  $\alpha = .86$ , and  $\alpha = .82$ , respectively. Finally, the treatment outcome scale had an excellent reliability with  $\alpha = .95$  (Table 1).

**Table 1**

#### *Reliability Analysis*

Scale	Number of Items	Cronbach's Alpha
Mental Health Literacy	18	.78
First Aid	6	.51
Self Help	4	.70
Erroneous Beliefs "Stereotypes"	8	.74
Treatment Outcome	43	.95
Positive Effects	10	.84
Malpractice	13	.92
Unethical Conduct	7	.86
Side Effects	13	.82

<sup>1</sup> Since on the treatment outcome scale, participants had the option to answer, "not applicable". As such, we used the mean equation when calculating the total score for the positive effects, malpractice, unethical conduct, side-effects subscales, and the treatment outcome total scale. It is also important to note that three participants reported "Not applicable" on all the questions pertaining to the unethical conduct subscale.

### **Univariate Outliers.**

Univariate outliers were inspected using the z-scores on the scales (mental health literacy and treatment outcome) and the subscales (first aid, self-help, erroneous beliefs/ stereotypes, positive effects, malpractice, unethical conduct, and side effects). The criterion for this inspection is that any case with z-score greater than  $\pm 3.29$  standard deviations is considered to be a univariate outlier. The results revealed that the scale (mental health literacy) and the subscales (first aid, self-help, erroneous beliefs/ stereotypes) didn't have any case of univariate outliers (all cases had z-score less than  $\pm 3.29$  standard deviations). The results, however, revealed that the scale (treatment outcome) had one univariate outlier (with case #19). The results also revealed that the subscale (positive effects) had one univariate outlier (with case #87), the subscale malpractice had one univariate outlier (with case #44), and the subscale (unethical conduct) had one univariate outlier (with case #44, 71, and 78). Finally, the subscale (side effects) had one univariate outlier (with case #19).

### **Multivariate Outliers.**

Multivariate outliers were inspected using Mahalanobis Distances. We have five regressions as per below:

- First Regression: first Aid, self-help, and erroneous beliefs/stereotypes as predictors of the outcome variable "positive effects". For this regression, the Mahalanobis Distances revealed that there were no multivariate outliers;  $X^2(3) = 11.41, p < .001$  (critical value = 16.27).
- Second Regression: first Aid as a predictor of the outcome variable "malpractice". For this regression, the Mahalanobis Distances revealed that there were no multivariate outliers;  $X^2(1) = 5.91, p < .001$  (critical value = 10.83).

- Third Regression: first Aid as a predictor of the outcome variable “unethical conduct”. For this regression, the Mahalanobis Distances revealed that there were no multivariate outliers;  $X^2(1) = 5.91, p < .001$  (critical value = 10.83).
- Fourth Regression: self-help and erroneous beliefs “stereotypes” as predictors of the outcome variable “side effects”. For this regression, the Mahalanobis Distances revealed that there were no multivariate outliers;  $X^2(2) = 8.65, p < .001$  (critical value = 13.82).
- Fifth Regression: mental health literacy as a predictor of the outcome variable “treatment outcome”. For this regression, the Mahalanobis Distances revealed that there were no multivariate outliers;  $X^2(1) = 5.20, p < .001$  (critical value = 10.83).

#### **Outliers in the Solution.**

Outliers in the solution were inspected using standardized residuals (with the criterion that any case with standardized residuals greater than  $\pm 3.29$  standard deviations, is considered to be an outlier in the solution. We have five regressions as per below:

- First Regression: first Aid, self-help, and erroneous beliefs/stereotypes as predictors of the outcome variable “positive effects”. For this regression, the standardized residuals ranged between -3.52 and 1.64 with one case of outlier in the solution (case #87)
- Second Regression: first Aid as a predictor of the outcome variable “malpractice”. For this regression, the standardized residuals ranged between -1.10 and 4.92 with one case of outlier in the solution (case #44)
- Third Regression: first Aid as a predictor of the outcome variable “unethical conduct”. For this regression, the standardized residuals ranged between -0.77 and 4.77 with three cases of outliers in the solution (cases #44, 71, and 78).

- Fourth Regression: self-help and erroneous beliefs “stereotypes” as predictors of the outcome variable “side effects”. For this regression, the standardized residuals ranged between -3.76 and 1.20 with two cases of outliers in the solution (cases #19 and 32).
- Fifth Regression: mental health literacy as a predictor of the outcome variable “treatment outcome”. For this regression, the standardized residuals ranged between -4.03 and 1.26 with two cases of outliers in the solution (cases #19 and 32).

### **Influential Cases.**

Influential cases were inspected using Cook’s distances (with the criterion that any case with cook’s distance greater than 1, is considered to be an influential case. We have five regressions as per below:

- First Regression: first Aid, self-help, and erroneous beliefs/stereotypes as predictors of the outcome variable “positive effects”. For this regression, the Cook’s distances ranged between .00 and .16 with no influential cases (no cases with Cook’s distance > 1).
- Second Regression: first Aid as a predictor of the outcome variable “malpractice”. For this regression, the Cook’s distances ranged between .00 and .186 with no influential cases (no cases with Cook’s distance > 1).
- Third Regression: first Aid as a predictor of the outcome variable “unethical conduct”. For this regression, the Cook’s distances ranged between .00 and .17 with no influential cases (no cases with Cook’s distance > 1).
- Fourth Regression: self-help and erroneous beliefs “stereotypes” as predictors of the outcome variable “side effects”. For this regression, the Cook’s distances ranged between .00 and .13 with no influential cases (no cases with Cook’s distance > 1).

- Fifth Regression: mental health literacy as a predictor of the outcome variable “treatment outcome”. For this regression, the Cook’s distances ranged between .00 and .16 with no influential cases (no cases with Cook’s distance  $> 1$ ; Field, 2013).

It is important to note that in this preliminary analysis we had five cases of univariate outliers (cases #19, 44, 71, 78, and 87). We also had six cases of outliers in the solution (cases #19, 32, 44, 71, 78, and 87), out of which 5 cases were found to be also univariate outliers. The data for those six cases<sup>2</sup> were removed from the final analysis as they might distort the findings of the main analysis.

### **Sample Descriptives**

The initial sample of the study was  $N = 104$  participants. The data for one participant was removed as this participant reported that the mental health provider for which the survey is filled is a Speech Therapist. Moreover, based on the preliminary analysis, the data for six cases were removed because they were found to be univariate outliers and/or outliers in the solution. As such, the final sample of the study was  $N = 97$  participants. Those 97 participants met the inclusion criteria for this study (being an adult aged 18 and above, holding the Lebanese nationality and residing in Lebanon for the past 10 years, been enrolled/received individual psychotherapy in the past 5 years, not being a mental health professional, and not having a medical condition that prevents them from giving consent).

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<sup>2</sup> The data for the six outliers in the solution were deleted as these cases are not well predicted by the regression model. In other words, these outliers in the solution increase the variability in the data, which affects the statistical power of the regression test in finding significant relations between the predictors and the outcome variables.

Finally, all the 97 participants voluntarily consented to be part of this research study. Tables 2 and 3 below depict the descriptive statistics of the sample of the study.

**Table 2**

*Descriptive of Sample Characteristics*

		N	%
Gender	Male	28	28.9
	Female	69	71.1
Education	Primary	1	1.0
	Secondary	3	3.1
	High School	3	3.1
	University	89	91.8
	Not Applicable	1	1.0
Marital Status	Single	53	54.6
	Engaged	8	8.2
	Married	31	32.0
	Divorced	5	5.2
Employment Status	Student	26	26.8
	Employed	55	56.7
	Unemployed	16	16.5
Income	No income	33	34.0
	Less than 1,539,000 LBP	11	11.3
	Between 1,540,000 and 5,992,000 LBP	33	34.0
	Between 5,993,000 and 18,562,000 LBP	15	15.5
	Greater than 18,563,000 LBP	5	5.2
Living Area	Beirut	35	36.1
	Mount Lebanon	42	43.3
	North	4	4.1

	South	11	11.3
	Bekaa	1	1.0
	Baalbek-Hermel	2	2.1
	Nabatiyeh	2	2.1
I have been diagnosed with a mental health condition	Yes	87	89.7
	No	10	10.3
I have selected my own Psychotherapist for my Psychotherapy	Yes	89	91.8
	No	8	8.2
Mental health service provider for which the survey is filled	Clinical Psychologist-Psychotherapist	74	76.3
	Psychiatrist	23	23.7
Treatment status for Psychotherapy for which the survey is filled	Therapy in progress	59	60.8
	Therapy completed successfully	17	17.5
	Discontinued due to ineffectiveness or harm	2	2.1
	Discontinued due to organizational reasons (i.e. time, transportation, etc.)	7	7.2
	Discontinued due to financial reasons	4	4.1
	Discontinued due to other reasons	8	8.2
Time since last treatment (in years)	Zero	40	41.2
	Less than 2 years	42	43.3
	Between 3 and 5 years	11	11.3
	More than 5 years	4	4.1

Type of therapy for which the survey is filled	Cognitive Behavioral Therapy (CBT)	36	37.1
	Eclectic Therapy	1	1.0
	Interpersonal Therapy (IPT)	4	4.1
	Psychoanalysis	12	12.4
	Psychodynamic Psychotherapy	13	13.4
	Systemic Therapy	3	3.1
	Other	1	1.0
	I don't know	27	27.8
Number of psychotherapy sessions received	1-5	18	18.6
	6-10	12	12.4
	11-15	10	10.3
	16-20	9	9.3
	21-25	7	7.2
	26 or more	41	42.3
What was/is the duration of psychotherapy for which the survey is filled (in months)	1-3 months	22	22.7
	4-6 months	21	21.6
	7-9 months	7	7.2
	10-12 months	9	9.3
	13-24 months	15	15.5
	25 months or more	23	23.7
My mental health service provider for which the survey is filled was/is	Licensed	88	90.7
	I don't know	9	9.3
Mental Health Diagnostic Category	Anxiety Disorders (like Panic Disorder, Phobias, etc.)	34	35.1
	Bipolar and Related Disorders	18	18.6
	Depressive Disorders	23	23.7

	Feeding and Eating Disorders (like Anorexia Nervosa and Bulimia)	3	3.1
	Neurodevelopmental Disorders (like Autism)	1	1.0
	Obsessive-Compulsive and Related Disorders	4	4.1
	Substance-Related and Addictive Disorders	2	2.1
	Trauma- and Stressor-Related Disorders (like PTSD)	5	5.2
	Other Mental Disorder	3	3.1
	I don't know	4	4.1
Place of psychotherapy for which the survey is filled	Outpatient (like in an external clinic)	94	96.9
	Inpatient (when staying at a hospital or facility)	3	3.1
The place where Psychotherapy sessions were provided was	Adequate (lighting, furniture, etc.)	96	99.0
	Not adequate (noisy, lack of privacy, not accessible, etc.)	1	1.0
Did your therapist, for which the survey is filled, use any instruments or questionnaires to conduct assessment or track progress of therapy?	Yes	50	51.5
	No	32	33.0
	I don't know	15	15.5
Do you or did you take any medication for your mental health condition during the therapy for which this survey is filled?	Yes	61	62.9

	No	36	37.1
I feel I am satisfied with the therapy for which the survey is filled	Yes	90	92.8
	No	7	7.2
I feel the therapy for which the survey is filled has done more harm than good:	Yes	8	8.2
	No	89	91.8

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In terms of gender, the sample is skewed, with females making up for 71% of the sample compared to 29% of males. These results are in line with what is suggested in the literature, that in comparison to women, men show less intention to seek help and are less likely to help someone in need (Coles & Coleman, 2010; Cotton et al., 2006). A study in Lebanon also showed higher help-seeking behavior by females, who also use more positive coping strategies compared to men who use more negative coping strategies (Noubani et al, 2020). As a result, more females may have been available in the population sample. In terms of educational level, given that the sample is young and tech-literate, it is also expected for the sample to have a higher educational level. This is the case here with 92% of the sample having a university degree, followed by 3% High School, 3% Secondary and 1% primary education level. There were no significant correlations on the education level. This is in-line with prior research that showed no direct correlation regarding education on help-seeking for psychological problems (Judd et al., 2006), even though most of the studies has shown that higher education predicts greater likelihood of visiting health professionals for mental health reasons (Amone-P'Olak et al., 2010). In terms of relationship status, 55% of the participants were single, 32% were married, 8% were engaged, and 5% were divorced. Differences from the normal distribution (such as lower rates of married or widowed status) is expected given that participants are from a young population. 57% of participants were employed, 27% were

students, and 17% were unemployed. Rates of unemployment may have been significantly impacted by COVID-19 lockdowns and dire economic circumstances in Lebanon, and the numbers in this study are still less than the reported numbers on news media, which may be a more accurate representation than old census databases given the volatile situation. In terms of income, the bulk of the sample is within the middle-class (50%), with more persons being in the no-income (34%) or low-income groups (11%; given a high student population) than high-income groups (5%).

In-line with global and local prevalence studies, Depressive Disorders, Anxiety Disorders, and Bipolar-related Disorders combined comprised 87% of the type of mental health conditions in the sample. This is expected given that Depression (24%) and Anxiety (35%) are the most common mental health conditions (Barrera et al., 2007; Bienvenu & Ginsburg, 2007). This finding is also to be interpreted positively as studies show that heterogeneity of mental health conditions can be a confounding variable (Halvorsen and Monsen, 2007; Hoglend et al., 2007). This is due to different disorders having different levels of disability, burden of care, impact on interpersonal relationships, wellbeing, prognosis, among others (Ware et al., 1996). Furthermore, moderating effects of the type of mental health condition, type and subtype of treatment (including pharmacological or psychological), and the severity of the illness were not studied in the present study and would be interesting to examine if they predict more negative treatment outcomes, longer duration of treatment, higher number of psychotherapy sessions, and higher relapse rates. Although some of these variables are available in the data set, further analysis was discontinued because they are beyond the scope of this study.

In terms of treatment providers, 76% of the sample received services from a Psychotherapist and 24% from a Psychiatrist. Around 61% of participants were enrolled in therapy at the time of the study, 17% had completed therapy, 7% discontinued therapy due to

organizational reasons, 4% discontinued therapy due to financial reasons, 2% discontinued due to ineffectiveness or harm, and 8% for other reasons. The higher distribution of care among Psychotherapists is expected given the higher available human resources as per the WHO Atlas study conducted in Lebanon in 2017 and is in-line with community-based mental health services (WHO, 2019). Additionally, given the economic situation in Lebanon, it is a positive finding that only 4% of the sample discontinued therapy due to financial reasons compared to another local study which found this number to be around 22% (Karam et al, 2019). This may be due to the bulk of psychotherapy services being provided by NGOs.

An interesting finding is that around 28% of participants did not know what type of therapy they had received. This is the second highest number after participants who received CBT (37%). Although this was not a moderating factor in this study, it may show a low MHL and reflect an important indicator. The number of people receiving CBT is almost triple when compared to Psychodynamic therapy (13%) and Psychoanalysis (12%). This may mean the growing reliance of service providers on evidence-based therapies. It may also be due to the dissemination channels which relied somewhat heavily on NGOs. Furthermore, although the MoPH-NMHP has ramped up the upscaling of IPT, only 4% of the sample had received this form of therapy. However, this is good progress noting that scaling up of IPT was initiated only in the last 3 years and it is expected that this number will grow higher over time as the upscaling continues to certify new IPT therapists and trainers. Other forms of therapies, such as Eclectic and Systemic, remain low at 1% and 3% respectively. An explanation for this could be that the channel of dissemination was stronger for providers who did not perceive this research to violate any ethical standards in their theoretical orientation. With that assumption, it reflects how dominant Psychoanalysis in Lebanon still is, given that participants who sought that type of therapy were recruited only via snowballing methods

without any support from professional associations, NGOs, or individual practitioners, which were identified as the most effective dissemination channels.

Lower aspects of MHL can be traced to the finding that around 5% of participants in the final sample did not know the diagnosis of their mental health condition even though they were told they were being treated for a mental health condition, and 9% did not know whether their therapist was licensed or not in contrast to 91% of the sample that reported that their therapist was licensed. This too may have been influenced by the dissemination channels.

**Table 3**

*Descriptive of Sample Characteristics - Age*

<i>Descriptive of Sample Characteristics</i>	N	Minimum	Maximum	Mean	Std. Deviation
Age	97	19	57	30.31	8.68

Participants were all Lebanese residing in Lebanon had a mean age of 30 with the minimum age being 19 and the maximum age 57. This shows that the study is skewed towards a younger population. Age in itself is an important demographic variable that can affect other demographic characteristics as is the case in this study. This is expected as older populations may have lower levels of tech-literacy (Choi & DiNitto, 2013) and the reliance of this study on digital dissemination.

### **Scale Descriptives**

Table 4 below depicts the descriptives of the scales and subscales in terms of range, mean, and standard deviation.

**Table 4**

*Descriptive of Scales and Subscales*

	N	Minimum	Maximum	Mean	Std. Deviation
First Aid	97	17.00	30.00	23.95	2.84
Self Help	97	11.00	20.00	16.79	2.25
Erroneous Beliefs (Stereotypes)	97	8.00	22.00	12.16	3.53
Mental Health Literacy	97	62.00	90.00	76.58	6.37
Positive Effects	97	1.30	4.00	3.31	.59
Malpractice	97	1.00	2.85	1.29	.39
Unethical Conduct	94	1.00	2.00	1.07	.19
Side Effects	97	1.23	4.00	3.15	.61
Treatment Outcome	97	1.69	3.98	3.36	.42

**Differences on the all the Variables across the Language of the Administered Survey**

Levene's test was conducted to check for the assumption of homogeneity of variance. The Levene's test revealed that the variances of first aid, self-help, erroneous beliefs/stereotypes, mental health literacy, positive effects, malpractice, unethical conduct, side effects, and treatment outcome, were not significantly different between Arabic and English languages;  $F(1, 95) = 1.81, p = .181$ ,  $F(1, 95) = 2.35, p = .128$ ,  $F(1, 95) = .54, p = .464$ ,  $F(1, 95) = .09, p = .764$ ,  $F(1, 95) = .89, p = .348$ ,  $F(1, 95) = .30, p = .583$ ,  $F(1, 92) =$

.03,  $p = .871$ ,  $F(1, 95) = .52$ ,  $p = .472$ , and  $F(1, 95) = .13$ ,  $p = .722$ , respectively, indicating that the homogeneity of variance assumption was met.

Nine independent t-tests were executed to study the differences on the variables (first aid, self-help, erroneous beliefs/stereotypes, mental health literacy, positive effects, malpractice, unethical conduct, side effects, and treatment outcome) across Arabic and English Languages. The t-test revealed that participants who filled the Arabic version of the survey ( $M = 16.00$ ,  $SD = 3.57$ ) had significantly higher levels of erroneous beliefs/stereotypes compared to those who filled the English version ( $M = 11.23$ ,  $SD = 2.83$ );  $t(95) = -6.25$ ,  $p < .001$ ,  $r = .54$  (large effect size). The t-test revealed, however, that participants who filled the Arabic version of the survey ( $M = 71.53$ ,  $SD = 5.73$ ) had significantly lower levels of mental health literacy compared to those who filled the English version ( $M = 77.81$ ,  $SD = 5.92$ );  $t(95) = 4.17$ ,  $p < .001$ ,  $r = .39$  (medium to large effect size). The t-tests finally revealed that there were no differences on first aid, self-help, positive effects, malpractice, unethical conduct, side effects, and treatment outcome between participants who filled the Arabic version and those who filled the English version of the study;  $t(95) = 1.45$ ,  $p = .151$ ,  $t(95) = .80$ ,  $p = .423$ ,  $t(95) = -.84$ ,  $p = .403$ ,  $t(95) = .41$ ,  $p = .683$ ,  $t(92) = -.17$ ,  $p = .864$ ,  $t(95) = .77$ ,  $p = .445$ , and  $t(95) = .51$ ,  $p = .612$ , respectively (Table 5).

Although most participants preferred English, the availability of the survey in Arabic language enabled the study to reach an additional 25% of participants. To assess for significant differences among the English and Arabic surveys, an independent sample t-test was conducted. The results revealed that there are no significant differences among both survey languages with the exception of the scale measuring stigma and the total MHL score. Those who took the survey in Arabic were more likely to hold stigmatizing attitudes and behaviors, and to have a lower MHL level. One possible interpretation is that the vast majority of participants who took the survey in Arabic are from the less-developed South

Lebanon region compared to Beirut and Mount Lebanon. Other studies conducted in Lebanon also came to a similar conclusion. For example, in one study, higher knowledge, positive behaviors and positive attitudes toward mental illness were seen in persons living mostly in Beirut and Mount Lebanon, which the authors of the study attributed to increased social, economic, political and educational activities conducted in these areas (Bennett, 2002). Another possible explanation can be that these participants were not used to the Arabic terminologies used in the surveys when compared to the local spoken dialect.

**Table 5***Independent Sample t-tests*

	English		Arabic		t-test	df	Sig.
	M	SD	M	SD			
First Aid	24.15	2.94	23.11	2.28	1.45	95	.151
Self Help	16.88	2.33	16.42	1.89	.80	95	.423
Erroneous Beliefs (Stereotypes)	11.23	2.83	16.00	3.57	-6.25	95	.000
Mental Health Literacy	77.81	5.92	71.53	5.73	4.17	95	.000
Positive Effects	3.29	.61	3.41	.48	-.84	95	.403
Malpractice	1.30	.41	1.26	.33	.41	95	.683
Unethical Conduct	1.07	.21	1.08	.14	-.17	92	.864
Side Effects	3.18	.61	3.06	.62	.77	95	.445
Treatment Outcome	3.37	.41	3.31	.46	.51	95	.612

**Correlation Analysis**

The assumption of normality was tested using the Shapiro-Wilk test. The Shapiro-Wilk test revealed that the distribution of mental health literacy was not significantly different from that of a normal distribution;  $W(97) = .99, p = .415$ , indicating that the assumption of normality was met. The Shapiro-Wilk tests revealed, however, that the distributions of first aid, self-help, erroneous beliefs/ stereotypes, positive effects, malpractice, unethical conduct, side effects, and treatment outcome, were significantly

different from that of a normal distribution;  $W(97) = .97, p = .034$ ,  $W(97) = .93, p < .001$ ,  $W(97) = .91, p < .001$ ,  $W(97) = .90, p < .001$ ,  $W(97) = .70, p < .001$ ,  $W(94) = .41, p < .001$ ,  $W(97) = .95, p = .001$ , and  $W(97) = .90, p < .001$ , indicating that the assumption of normality was not met.

The correlation analysis was executed using Spearman's Rho correlation test, because the normality assumption was not met except for the distribution of mental health literacy total scale (see Annex 1 for Normality of Variables). Spearman's rho correlation test revealed that there were significant, negative, and small to medium correlations between first aid and the two variables (malpractice and unethical conduct);  $r_s = -.27, p = .004$  (*one-tailed*), and  $r_s = -.21, p = .024$  (*one-tailed*), respectively. This indicates that participants who had higher levels of first aid skills and help seeking behavior were more likely to report lower levels of malpractice and unethical conduct. Spearman's rho correlation test revealed that there was a significant, positive, and small to medium correlation between first aid and treatment outcome;  $r_s = .22, p = .014$  (*one-tailed*). This indicates that participants who had higher levels of first aid skills and help seeking behavior were more likely to report higher levels of positive treatment outcome.

Spearman's rho correlation test also showed that there was a significant, positive, and small to medium correlation between erroneous beliefs/stereotypes and unethical conduct;  $r_s = .23, p = .014$  (*one-tailed*). This indicates that participants who had higher levels of erroneous beliefs/stereotypes were more likely to report higher levels of unethical conduct.

Spearman's rho correlation test also revealed that there were significant, negative, and small to medium correlations between mental health literacy and the two variables (malpractice and unethical conduct);  $r_s = -.24, p = .009$  (*one-tailed*), and  $r_s = -.26, p = .005$  (*one-tailed*), respectively. This indicates that participants who had higher levels of mental health literacy were more likely to report lower levels of malpractice and unethical conduct.

Spearman’s rho correlation test finally revealed that there was a significant, positive, and small to medium correlation between mental health literacy and treatment outcome;  $r_s = .18, p = .041$  (*one-tailed*). This indicates that participants who had higher levels of mental health literacy were more likely to report higher levels of treatment outcome.

There were no other significant correlations between the studied variables (Table 6).

**Table 6**

*Spearman’s Rho Correlation Matrix*

	Positive Effects	Malpractice	Unethical Conduct	Side Effects	Treatment Outcome
First Aid	.16	-.27**	-.21*	.05	.22*
Self-help	.10	-.13	-.08	.05	.13
Erroneous Beliefs/Stereotypes	.08	.11	.23*	.01	-.04
Mental Health Literacy	.06	-.24**	-.26**	.05	.18*

\*. Correlation is significant at the 0.05 level (one-tailed).

\*\* . Correlation is significant at the 0.01 level (one-tailed).

**Regression Analysis: Predictors of Positive Effects<sup>3</sup>**

<sup>3</sup> We conducted several regressions (each one with one dependent variable) to test for the hypotheses, rather than clustering those several regressions into one multivariate regression. This is because we followed the law of parsimony, which states that we move into higher level of analysis only if this level provides more information regarding the statistical analysis. In our case, performing multivariate regression analysis gave us less significant findings compared to performing several regressions.

It is also important to note that in this study, we didn’t include demographic variables as moderators (we didn’t perform hierarchical regression or SEM) as this is a novel study in the Lebanese context. As such, our main goal of the study was to investigate the effect of predictor variables on the outcome variables. Moreover, the sample size of the study was small and including demographic variables requires larger sample size (to preserve the power of the statistical tests implemented).

### **Assumptions of Regression.**

Tabachnick and Fidell (2013) proposed that the sample size must be larger than  $(50 + 8m)$  while studying multiple correlation and regression, and larger than  $(104 + m)$  while studying individual predictors. The current regression analysis had a sample of  $N = 97$  and 3 predictors, thus sample size is not adequate ( $50 + 8(3) = 74$  and  $104 + 3 = 107$ ). In addition, the assumption of no multicollinearity was tested using VIF scores (with the criterion that VIF scores  $< 10$  indicate that the assumption is met). For this analysis, the VIF scores were less than 10, and around 1, indicating that the assumption of no multicollinearity was met. The independence of errors assumption was tested using Durbin Watson score (with the criterion that Durbin Watson scores between 1 and 3 indicate that the assumption is met). For this analysis, the Durbin Watson was 1.75, which is between 1 and 3 and close to 2, indicating that the assumption of the independence of errors was met. The assumption of normality of residuals was tested using the histogram (Figure 1) and P-P plot (Figure 2). The histogram revealed that the distribution of residuals was not normally distributed (negatively skewed). The P-P plot confirmed that the distribution of residuals was not normally distributed (forming an S-shape), indicating that the assumption of normality of residuals was not met. Finally, the assumption of homoscedasticity was tested using the scatterplot (ZRESID vs. ZPRED; Figure 3). The scatterplot revealed that the residuals were unevenly scattered while forming a funnel, indicating that the assumption of homoscedasticity was not met. Since the assumptions of normality of residuals and homoscedasticity were not met, then bootstrapped coefficients were reported in the main regression analysis.

### **Regression Main Analysis**

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A multiple regression analysis was conducted using forced entry method. The variables: first aid, self-help, and erroneous beliefs/stereotypes were entered as predictor variables and positive effects as the outcome variable. The F-test revealed that the whole regression model was a significant model in predicting positive effects;  $F(3, 93) = 2.91, p = .039$ . This regression model explained 8.6% of the variance of positive effects at the sample level and 5.6% at the population level ( $R^2 = .086$  and  $R^2_{adjusted} = .056$ ; Table 7).

By looking at the Bootstrapped table of coefficients, out of the three predictors, first aid and erroneous beliefs/stereotypes were found to be significant predictors of positive effects. First aid, which was not found to be a significant correlate of positive effects at the bivariate level, was found to be the highest predictor of positive effects (with positive and small to medium effect size);  $b = .06, Bias = .001, \beta = .27, SE = .03, p = .021$  (one-tailed),  $95\%CI [.01, .11]$ . This indicates participants who had higher levels of first aid were more likely to report higher levels of positive effects of psychotherapy. As such, hypothesis 1 which states that, the knowledge, and beliefs of individuals on professional help available measured by the MHLQ's First Aid Skills and Help Seeking Behavior subscale will have a positive effect on wanted effects resulting from Psychotherapy measured by PANEPS' Positive Effects subscale, was supported.

Erroneous beliefs/stereotype, which was not found to be a significant correlate of positive effects at the bivariate level, was found to be the lowest predictor of positive effects (with positive and small to medium effect size);  $b = .04, Bias = .000, \beta = .23, SE = .02, p = .020$  (one-tailed),  $95\%CI [.00, .07]$ . This indicates participants who had higher levels of erroneous beliefs/stereotypes were more likely to report higher levels of positive effects of psychotherapy. As such, hypothesis 6 which states that, negative attitudes and beliefs associated with mental health conditions and help-seeking measured by the MHLQ's Erroneous Beliefs/Stereotypes subscale will have a negative effect on wanted effects

resulting from Psychotherapy measured by PANEPS' Positive Effects subscale, was not supported (the reverse of this hypothesis was supported).

Self-help, which was not found to be a significant correlate of positive effects at the bivariate level, was also not found to be a significant predictor of positive effects;  $b = .01$ ,  $Bias = .000$ ,  $\beta = .03$ ,  $SE = .03$ ,  $p = .383$  (one-tailed),  $95\%CI [-.05, .06]$ . This indicates that hypothesis 4, which states that, the knowledge of individuals on effective self-help strategies measured by the MHLQ's Self-Help Strategies subscale will have a positive effect on wanted effects resulting from Psychotherapy measured by PANEPS' Positive Effects subscale, was not supported (Table 8).

**Table 7**

*R, R Square, Adjusted R Square for Regression 1*

Model	R	Adjusted R Square	Std. Error of the Estimate	Change in R Square	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.29	.086	.57	.086	2.91	3	93	.039	1.74

**Table 8**

*Bootstrapped Table of Coefficients for Regression 1*

	B	Bias	SE
Constant	1.37	-.026	.80
First Aid	.06*	.001	.03
Self-help	.01	.000	.03
Erroneous Beliefs/Stereotypes	.04*	.000	.02

\*  $p < .05$

## **Regression Analysis: Predictor of Malpractice**

### **Assumptions of Regression.**

Tabachnick and Fidell (2013) proposed that the sample size must be larger than  $(50 + 8m)$  while studying multiple correlation and regression, and larger than  $(104 + m)$  while studying individual predictors. The current regression analysis had a sample of  $N = 97$  and 1 predictor, thus sample size is not adequate ( $50 + 8(1) = 58$  and  $104 + 1 = 105$ ). In addition, the assumption of no multicollinearity was tested using VIF scores (with the criterion that VIF scores  $< 10$  indicate that the assumption is met). For this analysis, the VIF scores were less than 10, and equal to 1, indicating that the assumption of no multicollinearity was met. The independence of errors assumption was tested using Durbin Watson score (with the criterion that Durbin Watson scores between 1 and 3 indicate that the assumption is met). For this analysis, the Durbin Watson was 1.83, which is between 1 and 3 and close to 2, indicating that the assumption of the independence of errors was met. The assumption of normality of residuals was tested using the histogram (Figure 4) and P-P plot (Figure 5). The histogram revealed that the distribution of residuals was not normally distributed (positively skewed). The P-P plot confirmed that the distribution of residuals was not normally distributed (forming an S-shape), indicating that the assumption of normality of residuals was not met. Finally, the assumption of homoscedasticity was tested using the scatterplot (ZRESID vs. ZPRED; Figure 6). The scatterplot revealed that the residuals were unevenly scattered while forming a funnel, indicating that the assumption of homoscedasticity was not met. Since the assumptions of normality of residuals and homoscedasticity were not met, then bootstrapped coefficients were reported in the main regression analysis.

**Regression Main Analysis.**

A multiple regression analysis was conducted using forced entry method. The variable first aid was entered as a predictor variable and malpractice as the outcome variable. The F-test revealed that the whole regression model was a significant model in predicting malpractice;  $F(1, 95) = 6.32, p = .014$ . This regression model explained 6.2% of the variance of malpractice at the sample level and 5.2% at the population level ( $R^2 = .062$  and  $R^2_{adjusted} = .052$ ; Table 9).

By looking at the Bootstrapped table of coefficients, first aid, which was found to be a significant correlate of malpractice at the bivariate level, was also found to be a significant and negative predictor of malpractice (was small to medium effect size);  $b = -.04, Bias = .000, \beta = -.25, SE = .01, p = .006$  (one-tailed),  $95\%CI [-.06, -.01]$ . This indicates that participants who had higher levels of first aid were more likely to report lower levels of malpractice of psychotherapy. As such, hypothesis 2, which states that, the knowledge and beliefs of individuals on professional help available measured by the MHLQ’s First Aid Skills and Help Seeking Behavior subscale will have a negative effect on malpractice resulting from Psychotherapy measured by PANEPS’ Malpractice subscale, was supported (Table 10).

**Table 9**

*R, R Square, Adjusted R Square for Regression 2*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.25	.062	.052	.38	.062	6.32	1	95	.014	1.83

**Table 10***Bootstrapped Table of Coefficients for Regression 2*

	B	Bias	SE
Constant	2.12	.005	.31
First Aid	-.04**	.000	.01

\*\*  $p < .01$ **Regression Analysis: Predictor of Unethical Conduct****Assumptions of Regression.**

Tabachnick and Fidell (2013) proposed that the sample size must be larger than  $(50 + 8m)$  while studying multiple correlation and regression, and larger than  $(104 + m)$  while studying individual predictors. The current regression analysis had a sample of  $N = 97$  and 1 predictor, thus sample size is not adequate  $(50 + 8(1) = 58)$  and  $(104 + 1 = 105)$ . In addition, the assumption of no multicollinearity was tested using VIF scores (with the criterion that VIF scores  $< 10$  indicate that the assumption is met). For this analysis, the VIF scores were less than 10, and equal to 1, indicating that the assumption of no multicollinearity was met. The independence of errors assumption was tested using Durbin Watson score (with the criterion that Durbin Watson scores between 1 and 3 indicate that the assumption is met). For this analysis, the Durbin Watson was 1.96, which is between 1 and 3 and close to 2, indicating that the assumption of the independence of errors was met. The assumption of normality of residuals was tested using the histogram (Figure 7) and P-P plot (Figure 8). The histogram revealed that the distribution of residuals was not normally distributed (positively skewed). The P-P plot confirmed that the distribution of residuals was not normally distributed (forming an S-shape), indicating that the assumption of normality of residuals was not met. Finally, the assumption of homoscedasticity was tested using the scatterplot

(ZRESID vs. ZPRED; Figure 9). The scatterplot revealed that the residuals were unevenly scattered while forming a funnel, indicating that the assumption of homoscedasticity was not met. Since the assumptions of normality of residuals and homoscedasticity were not met, then bootstrapped coefficients were reported in the main regression analysis.

### **Regression Main Analysis.**

A multiple regression analysis was conducted using forced entry method. The variable first aid was entered as a predictor variable and unethical conduct as the outcome variable. The F-test revealed that the whole regression model was not a significant model in predicting unethical conduct;  $F(1, 92) = 3.25, p = .075$ . Although the regression model was not a good fit<sup>4</sup>, the regression model explained 3.4% of the variance of unethical conduct at the sample level and 2.4% at the population level ( $R^2 = .034$  and  $R^2_{adjusted} = .024$ ; Table 11).

By looking at the Bootstrapped table of coefficients, first aid, which was found to a significant correlate of unethical conduct, was also found to be a significant and negative predictor of unethical conduct (was small to medium effect size);  $b = -.01, Bias = .000, \beta = -.19, SE = .01, p = .031$  (*one-tailed*),  $95\%CI [-.03, -.00]$ . This indicates that participants who had higher levels of first aid were more likely to report lower levels of unethical conduct of psychotherapy. As such, hypothesis 3, which states that, the knowledge and beliefs of individuals on professional help available measured by the MHLQ's First Aid Skills and Help Seeking Behavior subscale will have a negative effect on unethical conduct resulting from Psychotherapy measured by PANEPS' Unethical Conduct subscale, was supported (Table 12).

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<sup>4</sup> Although the total regression model was not found to be a significant model by the ANOVA F-test, the bootstrapped table of coefficient revealed that first aid was a significant predictor of unethical conduct. This is primarily due to the fact that bootstrapping corrects for the violation of normality of residuals and homoscedasticity at the coefficients level only.

**Table 11**

*R, R Square, Adjusted R Square for Regression 3*

Model	R	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson		
				R Square Change	F Change	df1	df2		Sig. F Change	
1	.19	.034	.024	.19	.034	3.25	1	92	.075	1.96

**Table 12**

*Bootstrapped Table of Coefficients for Regression 3*

	B	Bias	SE
Constant	1.37	.003	.17
First Aid	-.01*	.000	.01

\*  $p < .05$

**Regression Analysis: Predictors of Side Effects**

**Assumptions of Regression.**

Tabachnick and Fidell (2013) proposed that the sample size must be larger than (50 + 8m) while studying multiple correlation and regression, and larger than (104 + m) while studying individual predictors. The current regression analysis had a sample of  $N = 97$  and 2 predictors, thus sample size is not adequate ( $50 + 8(2) = 66$  and  $104 + 2 = 106$ ). In addition, the assumption of no multicollinearity was tested using VIF scores (with the criterion that VIF scores  $< 10$  indicate that the assumption is met). For this analysis, the VIF scores were less than 10, and around 1, indicating that the assumption of no multicollinearity was met. The independence of errors assumption was tested using Durbin Watson score (with the criterion that Durbin Watson scores between 1 and 3 indicate that the assumption is met). For

this analysis, the Durbin Watson was 1.81, which is between 1 and 3 and close to 2, indicating that the assumption of the independence of errors was met. The assumption of normality of residuals was tested using the histogram (Figure 10) and P-P plot (Figure 11). The histogram revealed that the distribution of residuals was not normally distributed (negatively skewed). The P-P plot confirmed that the distribution of residuals was not normally distributed (forming an S-shape), indicating that the assumption of normality of residuals was not met. Finally, the assumption of homoscedasticity was tested using the scatterplot (ZRESID vs. ZPRED; Figure 12). The scatterplot revealed that the residuals were evenly scattered without forming a funnel, indicating that the assumption of homoscedasticity was met. Since the assumption of normality of residuals was not met, then bootstrapped coefficients were reported in the main regression analysis.

#### **Regression Main Analysis.**

A multiple regression analysis was conducted using forced entry method. The variables (self-help and erroneous beliefs/stereotypes) were entered as predictor variables and side effects as the outcome variable. The F-test revealed that the whole regression model was not a significant model in predicting side effects;  $F(2, 94) = 0.32, p = .727$  (Table 13)

By looking at the Bootstrapped table of coefficients, self-help, which was not found to be a significant correlate of side effects, was also not found to be a significant predictor of side effects;  $b = -.01, Bias = .000, \beta = .08, SE = .01, p = .244$  (one-tailed), 95%CI [-.02, .01]. As such, hypothesis 5, which states that, the knowledge of individuals on effective self-help strategies measured by the MHLQ's Self-Help Strategies subscale will have a negative effect on side-effects resulting from Psychotherapy measured by PANEPS' Side-Effects subscale, was not supported. Finally, erroneous beliefs/stereotypes, which was not found to be a significant correlate of side effects, was also not found to be a significant predictor of side effects;  $b = .01, Bias = .000, \beta = .01, SE = .01, p = .203$  (one-tailed), 95%CI [-.01, .02]. As

such, hypothesis 7, which states that, negative attitudes and beliefs associated with mental health conditions and help-seeking measured by the MHLQ’s Erroneous Beliefs/Stereotypes subscale will have a positive effect on side-effects resulting from Psychotherapy measured by PANEPS’ Side-Effects subscale, was not supported (Table 14).

**Table 13**

*R, R Square, Adjusted R Square for Regression 4*

Model	R	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson		
				R Square Change	F Change	df1	df2		Sig. F Change	
1	.08	.007	-.014	.61	.007	.32	2	94	.727	1.81

**Table 14**

*Bootstrapped Table of Coefficients for Regression 4*

	B	Bias	SE
Constant	1.10	.008	.18
Self-help	-.01	.000	.01
Erroneous Beliefs/Stereotypes	.01	.000	.01

**Extra Analysis: Regression Analysis - Predictor of Treatment Outcome**

**Assumptions of Regression.**

Tabachnick and Fidell (2013) proposed that the sample size must be larger than (50 +8m) while studying multiple correlation and regression, and larger than (104 +m) while studying individual predictors. The current regression analysis had a sample of  $N = 97$  and 1 predictor, thus sample size is not adequate ( $50 + 8 (1) = 58$  and  $104 + 1 = 105$ ). In addition,

the assumption of no multicollinearity was tested using VIF scores (with the criterion that VIF scores  $< 10$  indicate that the assumption is met). For this analysis, the VIF scores were less than 10, and equal to 1, indicating that the assumption of no multicollinearity was met. The independence of errors assumption was tested using Durbin Watson score (with the criterion that Durbin Watson scores between 1 and 3 indicate that the assumption is met). For this analysis, the Durbin Watson was 1.77, which is between 1 and 3 and close to 2, indicating that the assumption of the independence of errors was met. The assumption of normality of residuals was tested using the histogram (Figure 13) and P-P plot (Figure 14). The histogram revealed that the distribution of residuals was not normally distributed (negatively skewed). The P-P plot confirmed that the distribution of residuals was not normally distributed (forming an S-shape), indicating that the assumption of normality of residuals was not met. Finally, the assumption of homoscedasticity was tested using the scatterplot (ZRESID vs. ZPRED; Figure 15). The scatterplot revealed that the residuals were unevenly scattered while forming a funnel, indicating that the assumption of homoscedasticity was not met. Since the assumptions of normality of residuals and homoscedasticity were not met, then bootstrapped coefficients were reported in the main regression analysis.

### **Regression Main Analysis.**

A multiple regression analysis was conducted using forced entry method. The variable mental health literacy was entered as a predictor variable and treatment outcome as the outcome variable. The F-test revealed that the whole regression model was not a significant model in predicting treatment outcome;  $F(1, 95) = 2.57, p = .112^5$ . Although this

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<sup>5</sup> Although the total regression model was not found to be a significant model by the ANOVA F-test, the bootstrapped table of coefficient revealed that mental health literacy was a significant predictor of treatment

regression model was not a good fit, it explained 2.6% of the variance of treatment outcome at the sample level and 1.6% at the population level ( $R^2 = .026$  and  $R^2_{adjusted} = .016$ ; Table 15).

By looking at the Bootstrapped table of coefficients, mental health literacy, which was found to be a significant correlate of treatment outcome, was also found to be a significant and positive predictor of treatment outcome (with small to medium effect size);  $b = .01$ ,  $Bias = .000$ ,  $\beta = .16$ ,  $SE = .01$ ,  $p = .039$  (one-tailed), 95%CI [-.00, .02]. This indicates that participants who had higher levels of mental health literacy were more likely to report higher levels of positive treatment outcome of psychotherapy (Table 16).

**Table 15**  
*R, R Square, Adjusted R Square for Regression 5*

Model	R	Adjusted R Square	Std. Error of the Estimate	Change in R Square	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.16	.026	.41	.026	2.57	1	95	.112	1.77

**Table 16**  
*Bootstrapped Table of Coefficients for Regression 5*

	B	Bias	SE
Constant	2.54	-.013	.46
Mental Heath Literacy	.01*	.000	.01

\*  $p < .05$

outcome. This is primarily due to the fact that bootstrapping corrects for the violation of normality of residuals and homoscedasticity at the coefficients level only.

## Chapter 5

### Discussion

The present study is the first and only research in Lebanon that aimed to establish predictions between MHL and Treatment Outcomes. While the study yields promising findings that have strong implications for different stakeholders involved in public health, mental health, as well as service users, they remain to be validated by future research that replicates the present findings with a larger sample size, with random sampling procedures to allow for generalizability, and less limitations.

### Interpretation of Findings

This study tested 3 predictors of MHL from Jorm's model (1977) and examined their effect on 4 dependent variables according to Linden's theory of treatment outcomes (2013). The single and multiple regression analyses confirmed that MHL is indeed a positive predictor of treatment outcomes with a small to medium effect size. This answers a fundamental question in the literature (Kim et al., 2017), that similar to the positive relationship between general health literacy and health outcomes (Ratzan and Parker, 2000, p. vi), there is a positive relationship between mental health literacy and mental health treatment outcomes. Thus, this confirms the general hypothesis of this study. Building on the general hypothesis were 7 statistical hypotheses. Three of the 7 statistical hypotheses were also confirmed to be predictors for their respective dependent variables on a regression level in their initial effect direction and 1 predictor was found to be a predictor of its respective dependent variable in the opposite direction.

The first statistical hypothesis was that the knowledge and beliefs of individuals on professional help available will have a positive effect on wanted effects resulting from Psychotherapy. A regression analysis showed that it is the strongest positive predictor of

positive effects resulting from therapy with a small to medium effect size. This is consistent with literature that states that the likelihood of reporting short-term or lasting bad effects of therapy was associated with service users not knowing what type of therapy they had received, and more knowledge about providers, type, and process of therapy was associated with better outcomes (Crawford et al., 2016). Some evidence to the contrary were also found in the literature. First, according to a study, MHL can be a mediating factor for seeking help but does not guarantee better treatment outcomes (Coles et al., 2014). The authors explain that treatment outcomes may also be better predicted by provider-related factors and severity of the disorder. In-line with this research, another study found that increasing the MHL of a depressed population did not yield significant improvement of depressive symptoms compared to the control group (Jorm et al., 2003). Additionally, clinical variables may be more important on influencing treatment outcomes than help-seeking behavior once the person is already receiving therapy from a mental health professional (Crowe et al., 2018). However, this study asserts that knowledge and beliefs regarding adequate help-seeking is in fact a predictor of positive treatment outcomes resulting from therapy, even after checking for pharmacotherapy as a confounding variable.

The second statistical hypothesis was that that knowledge and beliefs of individuals on professional help available will have a negative effect on malpractice resulting from Psychotherapy. This hypothesis was upheld in the regression analysis with the knowledge of professional help available being a negative predictor of malpractice with a small to medium effect size. This result is consistent with other research that shows that among the prominent barriers of not seeking formal help in Lebanon are not trusting service providers, doubting the ability of healthcare providers, and having confidentiality concerns (Noubani et al., 2020). Rates of severe malpractice in the form of breaking confidentiality and physical and sexual abuse are less than 1% in the global literature in both outpatient and inpatient settings, while

some forms of malpractice being more common in inpatient settings (Gerke et al., 2020). In a large study comprising 197 outpatient patients and 118 inpatient patients, at least one side effect was reported by 37% of inpatients and 15% of outpatients, at least one case of malpractice and unethical behavior was reported by 28.8% of inpatients and 7% of outpatients. Inpatients reported significantly more side effects, malpractice and unethical behavior (Gerke et al., 2020). These findings are also consistent with the prevalence of malpractice reported in this study and hence initial concerns that actual rates of harm from psychotherapy may be higher in Lebanon were not upheld. However, it is surprising that this effect was observed in a relatively small sample size. It should also be noted that the sample is biased by relying on NGOs as a prominent channel for data collection (which are also the main providers of this service) where the licensing of psychotherapists, evidence-based practice, and monitoring tools are readily practiced. The actual rates may be higher when compared to other forms of therapies and unlicensed professionals on the field.

The third statistical hypothesis asserted that the knowledge and beliefs of individuals on professional help available will have a negative effect on unethical conduct resulting from Psychotherapy. This hypothesis was also confirmed with the knowledge of professional help available being a negative predictor of unethical conduct with a small to medium effect size. Many of the arguments and rationale for malpractice can be applied to unethical conduct as well, with a few additions. The literature revealed several important service user-centered and therapist-centered predictors of malpractice and unethical behavior which were not considered in this study due to limited resources. These predictors were younger age, seeking care in the outpatient setting, a poor therapeutic alliance, prior negative experience with malpractice and unethical behavior, and higher outcome expectations in the inpatient setting (Gerke et al., 2020). For example, a higher proportion of male than of female therapists were perpetrators of sexual and nonsexual unethical conduct according to the authors. It would be

interesting for future research to see how therapist factors interact with service user related factors with regards to malpractice and unethical conduct.

The fourth and fifth statistical hypotheses predicted that the knowledge of individuals on effective self-help strategies will have a positive effect on wanted effects resulting from Psychotherapy and a negative effect on side-effects resulting from Psychotherapy, respectively. Both of the hypotheses involving self-help did not yield any effects. It can be conceived that the “self-help” scale, having only 4 items, was not sensitive enough to capture any effects. Furthermore, the non-significant effect on side-effects can be explained by the moderating effect of the time elapsed since therapy as argued in the literature. According to a recent study, time passed since psychotherapy emerged as the strongest predictor of side-effects with less side-effects being reported if more time had passed since outpatient psychotherapy (Gerke et al., 2020). The rates of higher side-effects were significantly explained by those who had received psychotherapy less than 3 years ago. This can serve as a potential explanation since 61% of participants in our study were still in therapy. A further explanation by the authors asserted that many side-effects are transitory and may be part of successful psychotherapy, which is why in retrospect, they are being evaluated as less relevant and less severe as more time passes (Gerke et al., 2020). This speculation is beyond the scope of this study and further analysis was abandoned.

The sixth and seventh statistical hypothesis alluded to the role of stigma and they asserted that negative attitudes and beliefs associated with mental health conditions and help-seeking will have a negative effect on wanted effects resulting from Psychotherapy and have a positive effect on side-effects. The converse of the sixth hypothesis was confirmed in the regression analysis, and higher stigma was found to be the lowest positive predictor of higher positive outcomes a small to medium effect size. There is inconsistency in the literature regarding stigma and positive treatment outcomes. Some research shows that erroneous

beliefs and stigma affects help-seeking behavior to get to therapy but does not have a significant effect on the outcome of therapy (Borys & Pope, 1989). Other findings suggest that lower stigma levels contribute to higher adherence to therapy (Crowe et al., 2018), and that higher self-stigma may decrease compliance and hinder improvement in outcomes by, for example, not taking psychotropic medication (Reavley & Jorm, 2011). A common interpretation may be that it is difficult for persons high on stigma to seek formal help, however, when they do, they tend to experience more positive outcomes due to much lower expectations and more pathological outlook (Halvorsen and Monsen, 2007). It seems this finding is inconsistent with the nocebo effect discussed in the literature where negative priming about a particular mental health intervention may cause negative expectations about the occurrence of adverse outcomes from that treatment and is associated with a higher prevalence in reported negative effects, whereas more positive expectations about a mental health intervention is associated with more positive treatment outcomes, just as this study found (Bootzin & Bailey, 2005).

The seventh statistical hypothesis was not confirmed in the regression analysis. Similar to the self-help and side-effects discussion, this may again be explained by the moderating effect of time since psychotherapy on side-effects resulting from psychotherapy. In-line with the nocebo-effect discussed earlier, some persons may show less side-effects because of not benefiting from therapy because of lower expectations due to higher stigma levels, while others, having benefited more due to lower expectations, may show higher levels of side-effects. The inconsistency in the literature, and in the absence of mediators and moderators in the model studied, support for any effect was not detected.

## **Implications**

In light of the correlations and predictors discussed in the study, there are significant implications for public health officials, mental health professionals, researchers, and service users.

Efforts should be made to develop a national MHL scale and a treatment outcome scale, and measure change in perceptions, attitudes, help-seeking behavior, and treatment outcomes at least every 5 years to monitor trends and improve therapy outcomes.

Given the benefits of a higher MHL with regards to help-seeking, response to treatment, and relapse prevention, efforts should also be made to increase the level of MHL in Lebanon while also tailoring awareness messages to specific socio-demographic characteristics to enhance their self-help skills, reduce stigmatizing beliefs, and increase their utilization of appropriate mental health services (Kim et al., 2017). Males and less developed urban and rural areas, for example, should be specially targeted by MHL campaigns. School-based MHL programs should also be explored given that mental health conditions start at a young age and longer periods of non-treatment can have serious ramifications on the long term (Mathieson & Koller, 2008; World Health Organization, 2013). Intervening as early as possible in order to promote positive mental health outcomes and wellbeing can be realized through increasing MHL levels (Brauner & Stephens, 2017; Jorm, 2012). There is also evidence that students participating in school-based MHL programs perform much better than a control group even after the follow-up phase (Campos et al., 2018). Furthermore, mental health professionals should increase their practice of psychoeducation before and during therapy.

Public spending on MHL must be increased and the budget dedicated to mental health spending by the Ministry of Public Health should be re-allocated towards systems

strengthening and towards community-based mental health services (Ganasen et al., 2008; Patel et al., 2008; Rodriguez, 2010). This includes focusing on a sustainable model of affordable, accessible and quality-driven psychotherapy provision by re-organizing services away from NGOs. Government funding should also include supporting research studies that aim to increase our understanding of MHL and treatment outcomes in the Lebanese context and contribute to the global literature.

Similarly, it would be useful to build national quality assurance mechanisms to improve the treatment outcome measures of psychotherapy, thereby reducing prevalence and incidence rates of malpractice and unethical conduct. A national registry of psychotherapists, which includes important provider factors discussed in the study, and which can be used both for auditing and further research purposes is also recommended. Further training of evidence-based psychotherapies should be augmented, and complaint mechanisms for service users should be made more visible and accessible. As recently demanded by the Lancet Psychiatry Commission (Holmes et al., 2018) and the PRISMA guidelines (Zorzela et al., 2016), the measurement of potential negatives effects resulting from psychotherapy should be the rule rather than the exception in psychotherapy research.

### **Limitations & Threats to Validity**

There are no prior studies that have attempted to study the factors and patterns associated with the objectives of the present study in Lebanon, and due to limited resources, there are a number of projected limitations to the present study that require consideration. Among those limitations are threats to internal validity.

First, the use of non-random and non-representative sampling methods are a threat to internal and external validity and does not allow for generalizability of findings. However, a database for service users is not available to ensure cost-effective alternatives. A smaller

sample size than what was statistically recommended (97 instead of 119) also poses a limitation. The skewness of certain characteristics of the sample (mostly young age, exclusion of older adults, gender of 70% females, geographical locations, etc.) and use of only electronic methods of data collection is also acknowledged as a limitation impeding the external validity of the study. Challenges in recruiting participants during the COVID-19 pandemic and dire socio-economic circumstances in Lebanon, and recommendations for future research (such as using stratified sampling methods) are further discussed under the Discussion chapter.

Second, as mentioned earlier, in terms of internal validity, service users might have a higher MHL because of their treatment which can involve psychoeducation. Unfortunately, baseline data for MHL in the general population in Lebanon is not available, which makes it difficult to compare the findings of this research to the MHL of the population who do not have a diagnosis. As mentioned elsewhere, given sufficient resources, it is recommended to replicate the study with a quasi-experimental between-group design (high and low MHL groups with multiple measuring intervals) while screening for mental health conditions and their severity to remedy this and other confounding variables.

Third, the instruments used, although undergoing a piloting phase with 10 participants who met the inclusion criteria, have not yet been validated to the Lebanese context. The lack of available validated tools is a common limitation across studies which makes comparing findings a unique challenge in Lebanon. With regards to scales to measure outcome variables, the tools that have been translated in other studies were not ideal to capture the research questions of the present study.

Fourth, the use of a self-reported survey design may lead to distorted data caused by dishonesty, social desirability, recall bias (affecting the reporting of service user experiences during treatment), primacy-recency effects (only remembering negative effects that happened

early on or very late in therapy), misinterpreting the questions, response bias, response set, order effects, carryover effects, and lack of interest. To minimize these limitations, automatic counterbalancing of the dependent and independent variables were conducted through Survey Monkey, respondent non-respondent analysis was conducted and only complete responses were included in the final sample, and the data was checked for response sets. Furthermore, to minimize recall bias and threats to history, the inclusion criterium for seeking psychotherapy was limited to the last 5 years only. It is worth mentioning that there is no other way other than self-reports to access the information required for this vital research and there is no way of corroborating the responses or experiences of service users. Therefore, the benefits of this study outweigh the risks involved.

Fifth, treatment outcomes are measured only from a service user's perspective which is a threat to internal validity. While ratings by therapists may provide additional insight, it has been shown that service users' ratings are more reflective of treatment outcomes and it was impractical to contact individual therapists and request measures for each service user for confidentiality related reasons.

Sixth, the present study does not measure treatment outcome differences in service users who sought treatment from multiple psychotherapy providers or differentiate between different types of treatments received from the same provider at different points in time. Participants were instructed to answer the questions based on their choice of provider and treatment selected, which may have biased the findings either positively or negatively.

Seventh, the present study does not take into account variations across findings stemming from differences in mental health conditions or their severity. Including screening and severity instruments such as the WHO Composite International Diagnostic Interview 3.0 (WHO-CIDI) would have made the survey arduous and too lengthy to fill in the absence of

incentives. It also does not consider provider-factors such as demographics. These are included as recommendations for future research.

Eighth, the survey is being conducted in the midst of the COVID-19 pandemic where lockdown measures, extended periods of quarantine, and physical distancing may bias person's attitudes towards mental health. In a recent UK study, the prevalence of mental illnesses rose from 18% to 27% only one month into the lockdown (Pierce, Hope, Ford et al, 2020). Moreover, the social and economic unrests in Lebanon combined with the Beirut Port explosion on August 4, 2020 caused a surge of psychoeducation posts circulating on social media which could have increased the public's baseline level of MHL. These factors can be important threats to history. Replicating the findings in a normative time may support the findings of this study.

Finally, the present study does not take into account refugees, children, and minority groups to allow for data homogeneity, which also limits the generalizability of the results to these groups. The results of this study should be interpreted in view of these limitations.

### **Future Research**

Research on MHL and treatment outcomes is still in its infancy and with every research more questions and parameters arise that fuel the need for more research to understand the relationship between correlations, predictors, new independent and dependent variables, and discover new mediators and moderators. Future research on MHL and treatment outcomes in Lebanon should be carried across 3 dimensions. First, they should aim to replicate the findings of this study to ensure further validity. Second, they should aim to do so in a manner that minimizes and addressed the limitations this study has. And finally, they must build on the current findings to increase our understanding and inform relevant policies.

A ground-up approach requires that future research starts by first developing and/or validating a national MHL questionnaire as there aren't any criterion-standard measures of MHL both globally and locally (O'Connor et al., 2014). Current baseline levels of MHL at a population level in Lebanon are inexistent and the scales used, although undergoing pilot testing, are not adapted to the local context. Thus, adequate comparisons cannot be made with confidence. Perhaps future research can start by developing MHL scales for specific mental health conditions only (Bonabi et al., 2016). Furthermore, this will enable us to measure year-on-year progress on MHL scores, which is the case with HONOS in Australia (Jenkins, Mellsoop, & Singh, 2010). A further step would be to develop MHL scales for special populations, such as refugees, to assess variance and tailor specific interventions to increase their MHL (Coleman et al., 2016). MHL literacy in children is also understudied. Developing a MHL scale for children may be helpful in establishing school-based MHL programs. This new scale would also address a key limitation of the "Self-help" scale not being sensitive enough to measure this construct.

With regards to addressing limitations, several suggestions can be made. First and foremost, the study should be repeated with a bigger sample size using random sampling procedures that are representative of the population. This would greatly increase the generalizability of these findings.

Additionally, wider dissemination channels should be adopted, and efforts should be made to increase the accessibility of different population groups. For example, for older adults, this can be achieved by developing a paper-pencil format and providing them with additional support to fill the survey. An instrumental recommendation in this regard is to adopt stratified sampling procedures accounting for age, gender and geographical location. The literature has shown that gender may be a prominent moderator in MHL and treatment outcomes. In one study, the scores of MHL of participants were not statistically significant on

the basis of age group, employment status, level of education, and treatment adherence, but showed statistical significance on gender, while women were also shown to have a higher MHL (Crowe et al., 2018).

The introduction of moderators and mediators in different statistical models is also helpful in guiding future research. Important factors include the type of the mental health condition, the severity of the mental health condition, the type of mental health professional (also including trained Nurses, Social Workers, case workers, etc.), the demographic factors of mental health professionals, the type of psychotherapy received, pharmacotherapy, SES and demographic factors, time since last treatment, among others (Crowe et al., 2018). According to the literature, these factors can be divided into pre-treatment predictors of outcome variables, service-user-based predictors, therapist-based predictors, independent observer-based predictors, and post-treatment predictors (Barber, 2007).

The most commonly used predictors in the literature have been the patient-based predictors. A recent study showed that low outcome expectations, low motivation for psychotherapy, more interpersonal problems, and a poor therapeutic alliance predict more negative effects from therapy (Gerke et al., 2020). Other important service user-based predictors in the literature include demographics, diagnoses, personality dimensions, psychodynamic constructs, cognitive constructs, social constructs, relational constructs, attachment dimensions, and symptom severity (Barber, 2007). However, very little research has been done on therapist-based predictors of outcomes (Barber, 2007) and more research in this area is encouraged. For example, a group of researchers explored the effect of Psychodynamic therapists' values, beliefs, and attitudes on patient outcome both during and after treatment. They found that "patients with therapists who value kindness as a curative factor and neutrality as a therapeutic style and who regard psychotherapy as a form of artistry show particularly positive long-term effects of psychotherapy" (Sandell et al., 2007, p. 196-

204). Although this would enrich the existing literature, it would also require several studies with big sample sizes and incentives.

The literature also shows that pre-treatment variables are a more appropriate group of predictor variables to investigate (Kraemer et al., 2002) and this can be useful in further addressing certain limitations. For example, some may argue that MHL is increased during treatment and measuring MHL retrospectively after completion of therapy does not take into account the treatment as a confounding variable with the treatment acting as a mediating factor (Kraemer et al., 2002). This can be resolved via a quasi-experimental between-group design where pre-treatment predictor variables are assessed, and persons are screened for mental disorders and their respective severity and divided into the treatment and control group. Outcome variables are later compared to the control group. MHL may also be measured across the therapy process (before, during, and after) for further accuracy of findings (Barber et al., 2000). Another alternative may be to assess MHL at baseline and divide participants into groups of high or low MHL and measure outcome variables following treatment.

With regards to treatment outcomes, illness severity is also an important area to be further investigated. In the literature, there is evidence that persons with higher pathological levels respond to treatment and show greater improvement. For example, when service users' pathological self-image (self-attacking, devaluing, etc.) was measured, persons with more pathological levels improved more than those who had a less pathological self-image (Halvorsen and Monsen, 2007). In another study, patients with more severe inter-personal problems and symptomatology responded better to Psychodynamic therapy that included transference interpretations than to therapy without such interpretations (Hoglund et al., 2007). Additionally, incorporating other forms of treatment outcomes, such as overall quality of life and wellbeing indexes, which were not measured in the treatment outcome scales of

this study would also be important (de Cates et al., 2015; Kelly et al., 2007). Finally, the clear distinction and prevalence of side-effects, malpractice, and unethical conduct should gain more attention in research and in clinical practice to encourage proper identification and management of such issues (Gerke et al., 2020).

Some research has shown that MHL can also play a key role post-treatment in the form of relapse prevention and maintaining lower levels of distress. In one study, the voluntary nature of choosing psychotherapy (autonomous motivation), predicted a higher probability of achieving remission and lower post-treatment depression severity (Zuroff et al., 2007). If further investigations yield such results, increasing MHL may also reduce the unnecessary and often unethical practice of involuntary admissions.

Finally, with the ongoing pandemic, it might be useful for further research to study whether the correlation and predictive value between MHL and treatment outcomes remains true in online treatment modalities, and whether there are key differences of treatment between the inpatient and outpatient settings (Gerke et al., 2020).

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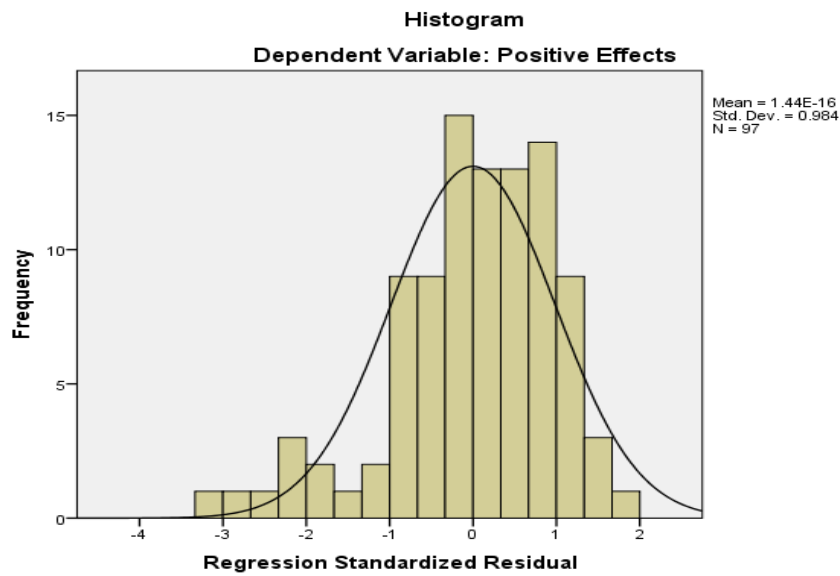
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**Appendix A**  
**Figures Representing the Assumptions of Regressions**

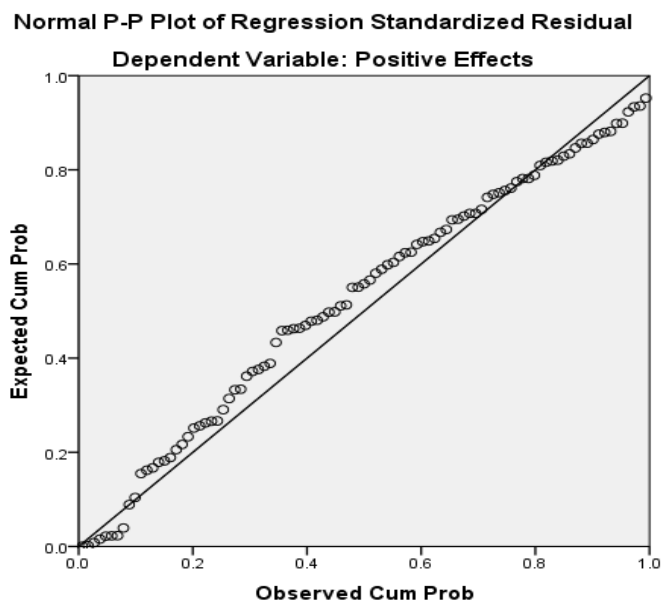
**Figure 1**

*Histogram Testing the Assumption of Normality of Residuals for Regression 1*



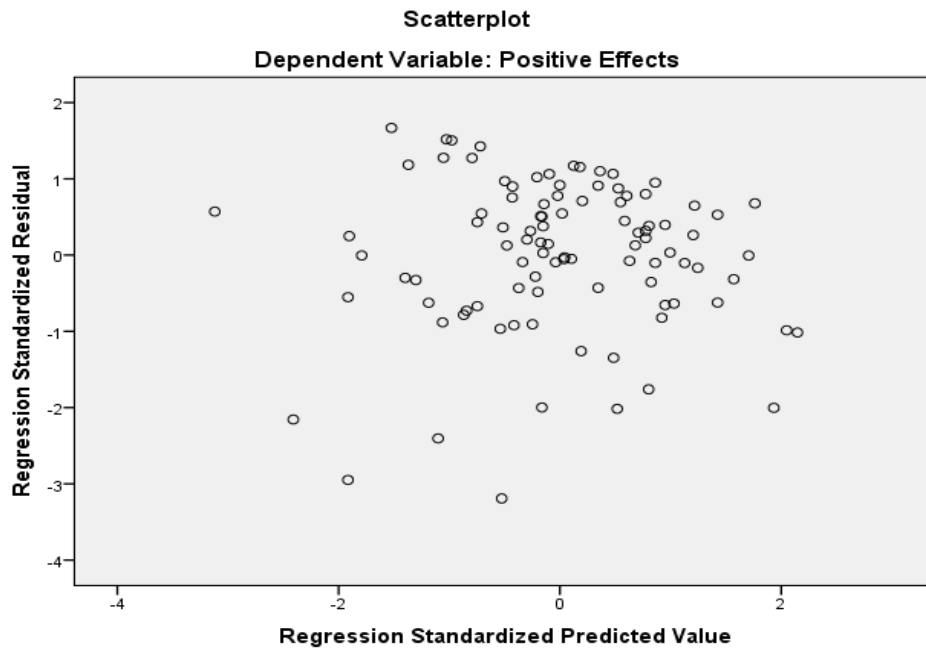
**Figure 2**

*P-Plot Testing the Assumption of Normality of Residuals for Regression 1*



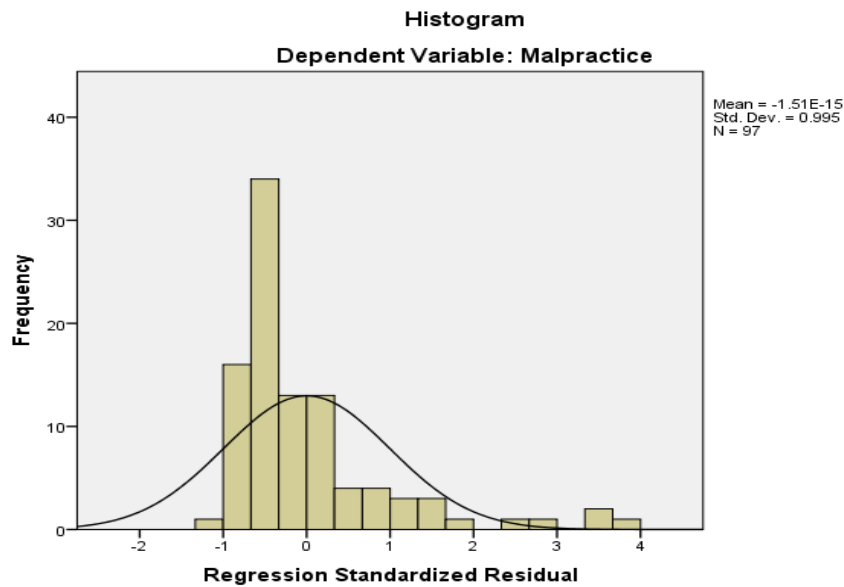
**Figure 3**

*Scatterplot (ZRESID vs. ZPRED) testing the Assumption of Homoscedasticity for Regression 1*



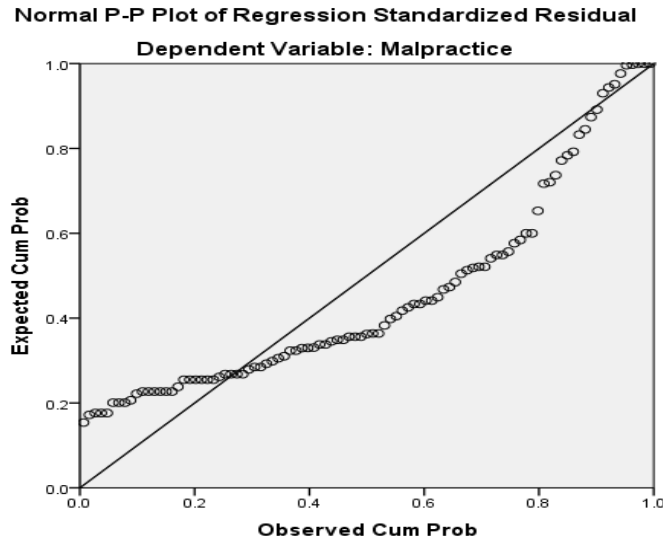
**Figure 4**

*Histogram Testing the Assumption of Normality of Residuals for Regression 2*



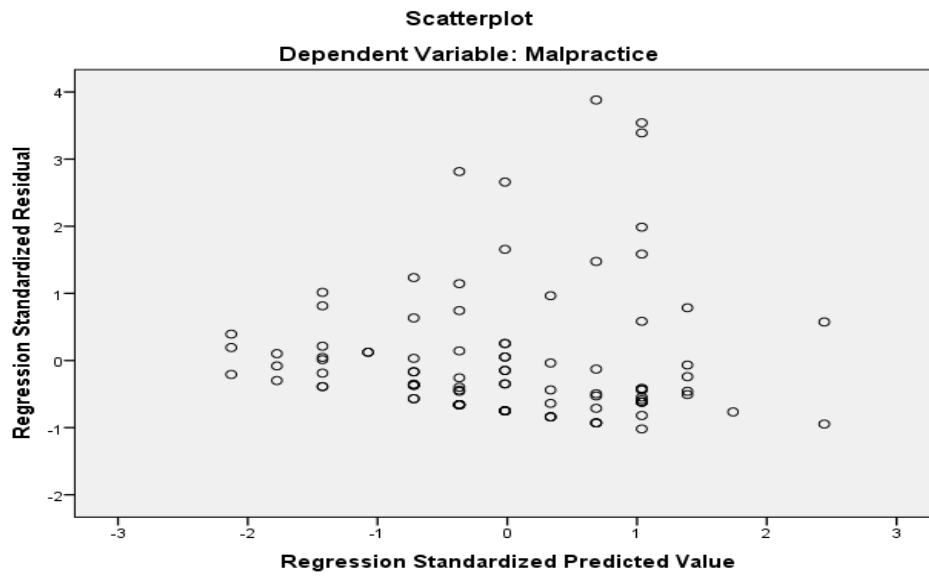
**Figure 5**

*P-Plot Testing the Assumption of Normality of Residuals for Regression 2*



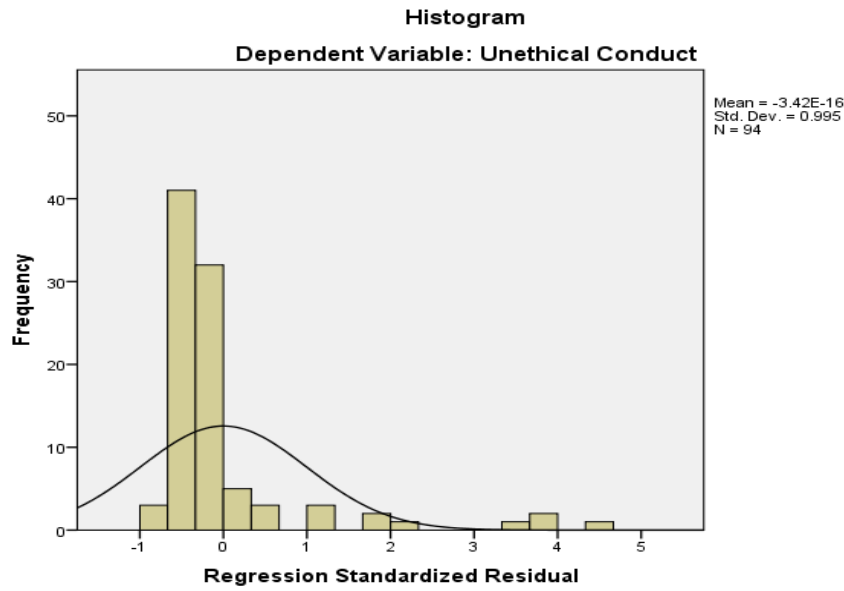
**Figure 6**

*Scatterplot (ZRESID vs. ZPRED) testing the Assumption of Homoscedasticity for Regression 2*



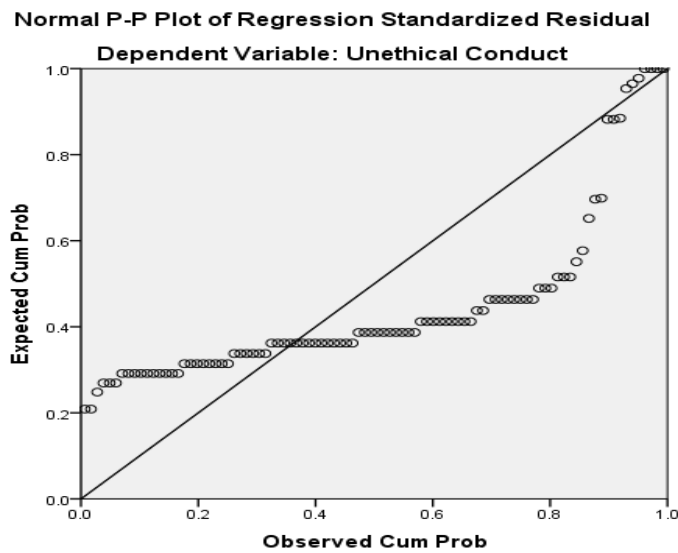
**Figure 7**

*Histogram Testing the Assumption of Normality of Residuals for Regression 3*



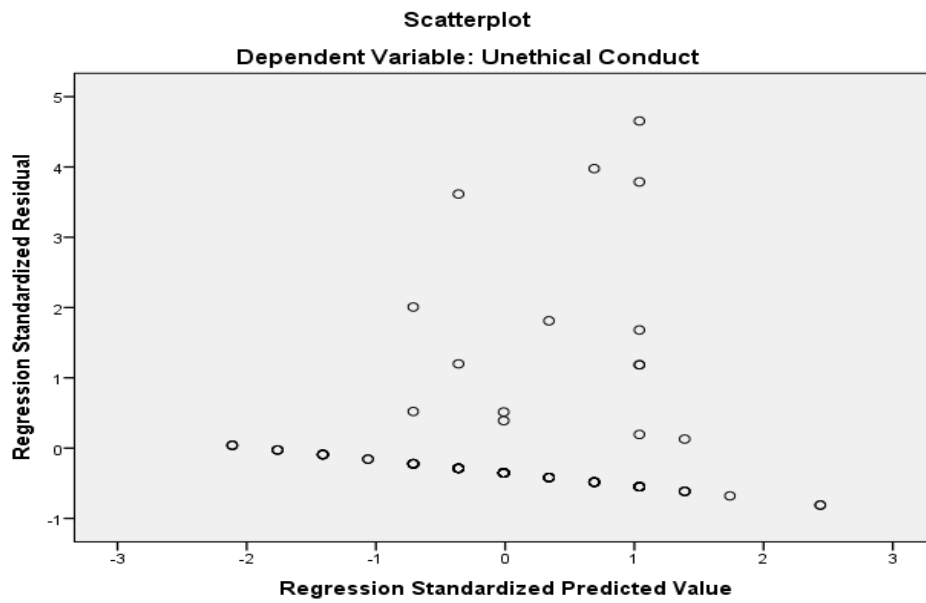
**Figure 8**

*P-Plot Testing the Assumption of Normality of Residuals for Regression 3*



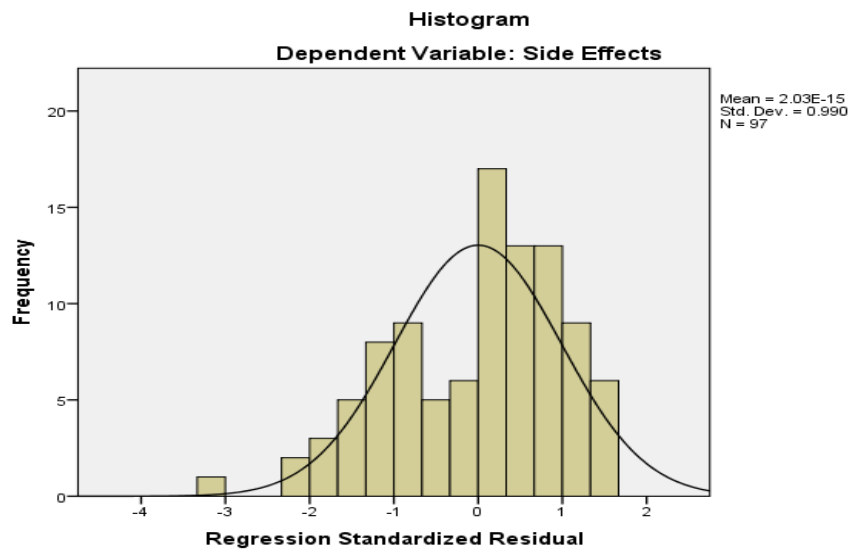
**Figure 9**

*Scatterplot (ZRESID vs. ZPRED) testing the Assumption of Homoscedasticity for Regression 3*



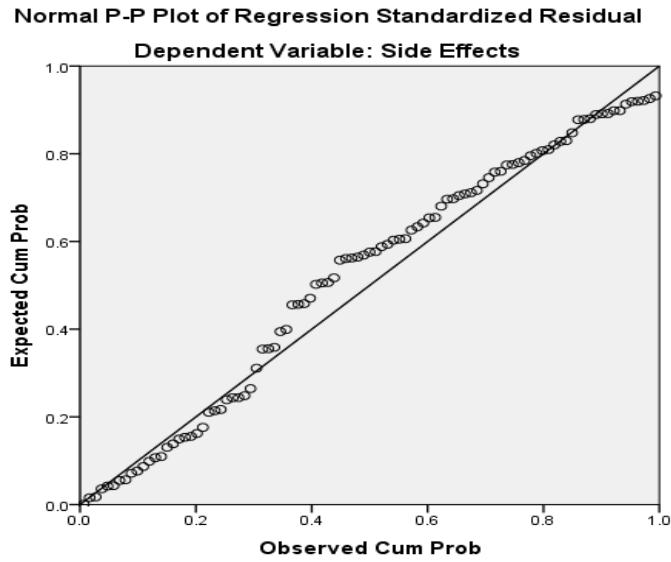
**Figure 10**

*Histogram Testing the Assumption of Normality of Residuals for Regression 4*



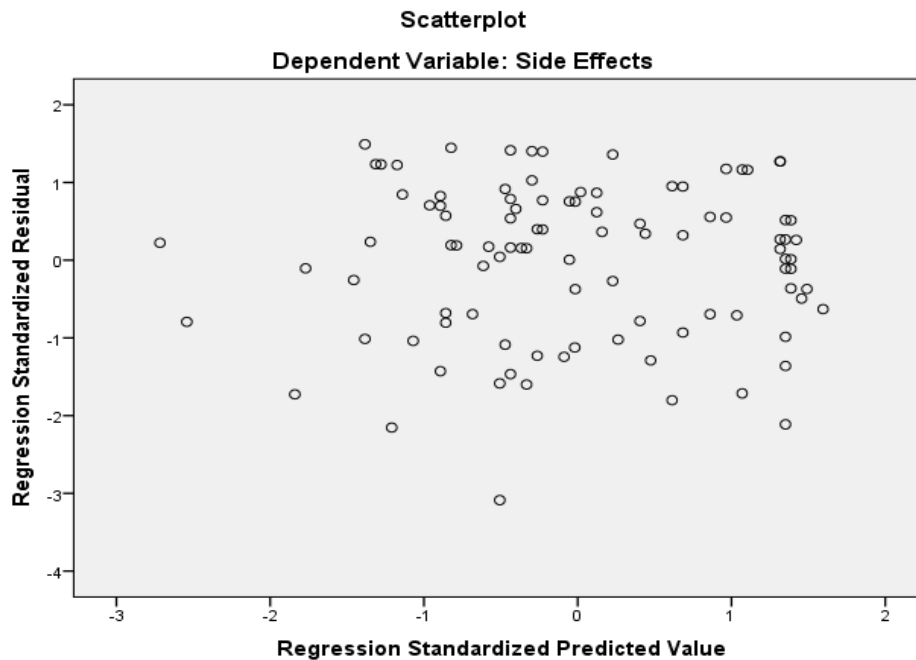
**Figure 11**

*P-Plot Testing the Assumption of Normality of Residuals for Regression 4*



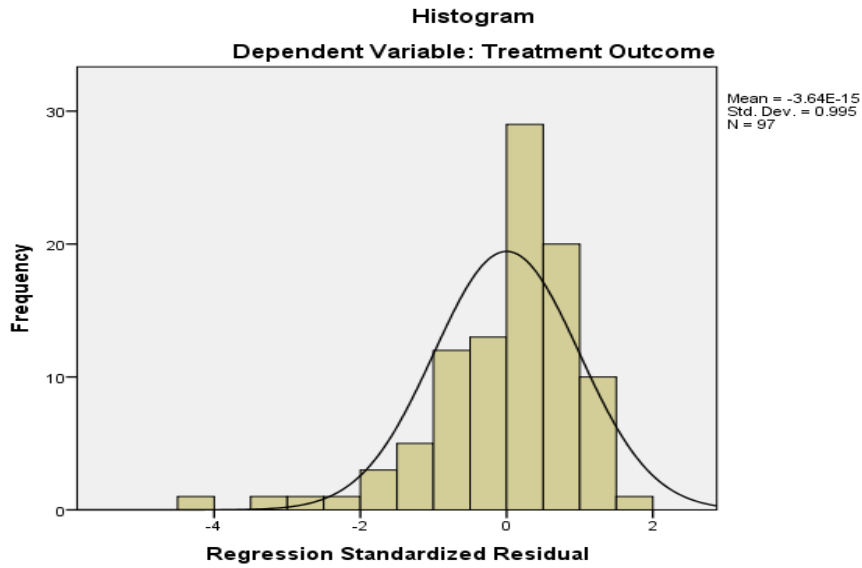
**Figure 12**

*Scatterplot (ZRESID vs. ZPRED) testing the Assumption of Homoscedasticity for Regression 4*



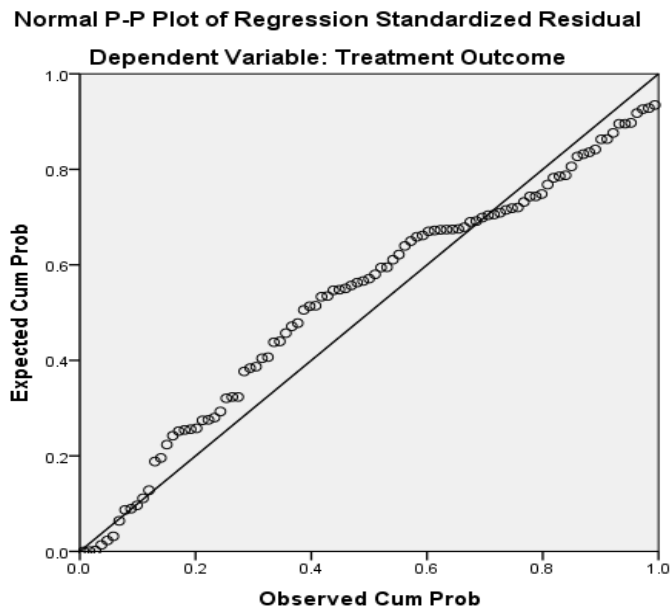
**Figure 13**

*Histogram Testing the Assumption of Normality of Residuals for Regression 5*



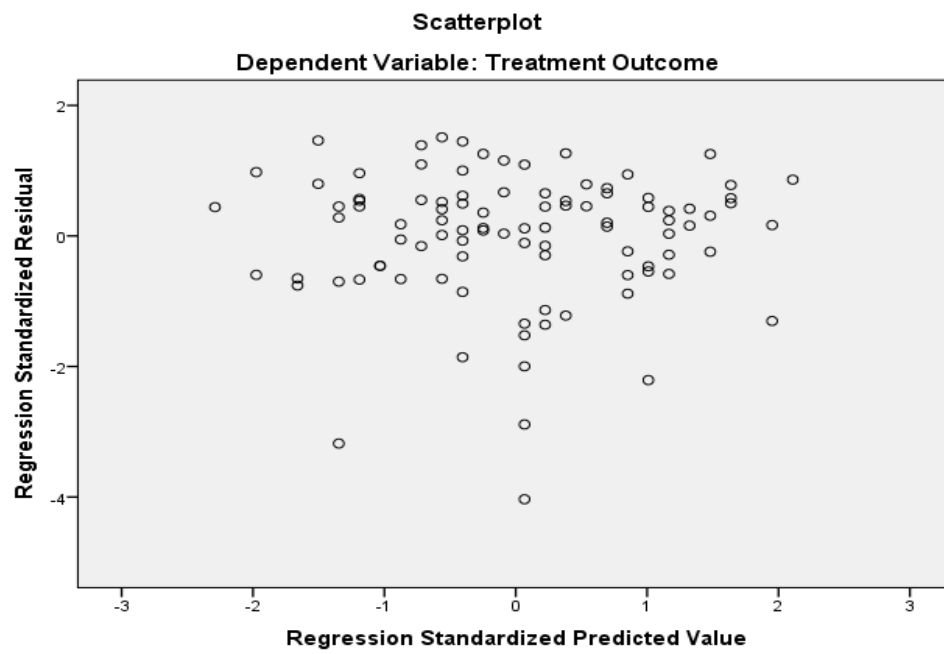
**Figure 14**

*P-Plot Testing the Assumption of Normality of Residuals for Regression 5*



**Figure 15**

*Scatterplot (ZRESID vs. ZPRED) testing the Assumption of Homoscedasticity for Regression*  
5





## Appendix B Participant Information Letter

Dear Ms./Mr.

My name is Bedros Kazazian, a MA student at Haigazian University from the Department of Social and Behavioral Sciences. I am currently carrying out a research study titled “The Effect of Global Mental Health Literacy on Multidimensional Treatment Outcome Measures: A Cross-sectional Quantitative Survey Study among Lebanese Adult Service Users in Lebanon” advised by Dr. Wissam Kheir.

You are being asked to take part in this study because you are an adult, Lebanese, mental health service user, who was or is enrolled in Psychotherapy within this 5-year period and can provide insight on treatment outcomes based on your experience in Psychotherapy.

Kindly read the below information to decide whether you would like to participate in this research study.

### **Purpose of the Research Project**

This research aims to study whether mental health literacy (knowing about professional treatment options and providers, having erroneous beliefs about mental health, etc.) influences service user-rated treatment outcomes (deterioration or emergence of symptoms, quality of therapy, etc.) and reduces the risk of adverse effects resulting from therapy.

The results will provide an insight to mental health literacy as a barrier to quality care and sensitize policy makers and stakeholders to evaluate the effectiveness of psychotherapies in Lebanon and increase policies on regulating the profession in terms of evidence-based psychotherapies and ethical practice. The study also has a special value for current and future service users as it serves to reduce the impact of mental health conditions in Lebanon, reduce the treatment gap, increase mental health service utilization, increase access to quality care and evidence-based treatments, and reduce adverse effects resulting from therapy malpractice or unethical conduct

This study will contribute towards the partial fulfillment of my academic study requirements at Haigazian University.

### **What will I be asked to do?**

- If you choose to participate in this research study, you will be asked to complete a survey that entails statements that you will rate based on your agreement and fill out a demographic form which together take approximately 15 minutes.
- Participation in this project is voluntary. You are free to withdraw anytime without having to give any reason for your withdrawal.

### **What are my rights?**

- Participation in this study is completely voluntary, anonymous and confidential. Your name or any other identifying information will not be asked.

- Data you provide along with data from all participants in the present research will be stored in a secure location, on a password-protected computer and in a password-protected file under the care of the study investigator, Mr. Bedros Kazazian.
- The data will be analyzed and reported in aggregate. Only the principle investigators of this study will have access to the compiled data which will be stored for a period of 10 years. During this time, you have the right to inspect the data if you have provided any identifying information (like an ID code).
- You have the right to withdraw your consent or discontinue participation at any time for any reason. Your decision to refuse participation or withdraw will not involve any penalty or loss of benefits to which you are entitled. Discontinuing participation in no way affects your relationship with Haigazian University.
- This research study has been reviewed and has received clearance from the Ethics Committee of the Haigazian University (Dr. Wissam Kheir, Dr. Lucy Tavitian, and Dr. Hanine Hout). If you have any further concerns about your rights as a research participant, please, do not hesitate to contact Dr. Wissam Kheir at [wkheir@gmail.com](mailto:wkheir@gmail.com)

#### **What are the risks and benefits of participation?**

- Participation in this study does not involve any physical risk or emotional risk to you beyond the risks of daily life. Potential negative consequences from participation include remembering harmful experiences from Psychotherapy (if any) and boredom.
- You will not receive any direct financial benefits from participating in this research. However, after the completion of the survey, you will receive self-care tips to improve your overall wellbeing in addition to links to mental health services in Lebanon where you can receive Psychotherapy for symbolic fees, and a link to important mental health bodies in Lebanon which you can follow to be updated about mental health in Lebanon.

#### **Contact information**

If you have any questions or concerns about the research, you may contact:

##### **Student**

Mr. Bedros Kazazian  
Haigazian University  
Mobile: 70867283  
[Bedros.Kazazian@students.haigazian.edu.lb](mailto:Bedros.Kazazian@students.haigazian.edu.lb)

##### **Supervisor**

Dr. Wissam Kheir, PHD  
Haigazian University  
Mobile: 03020664  
[wkheir@gmail.com](mailto:wkheir@gmail.com)



### Appendix C Participant Consent Form

Please read the following statements and place a check mark in the boxes adjacent to them.

- I have volunteered to participate in this research project conducted for purposes of study. My participation is voluntary and does not involve payment of any kind.
- I agree to participate in this research project conducted for purposes of study. My decision is voluntary and does not involve financial compensation of any kind.
- I know that I can choose to withdraw from participation any time without any penalties or consequences whatsoever. I also hold the right to decline to respond to any question(s) that I may feel uncomfortable with.
- My participation involves answering a questionnaire for approximately 15 minutes.
- I have been assured that the researcher will maintain my identity confidential.
- I have been assured that the information from this survey will be used for the purpose of academic study, discussions for improving public policies, and publication.
- I have received the assurance that this research study has been duly reviewed and approved by the Ethics Committee of Haigazian University.
- I agree that the data gathered will be kept in a secure location, in a password-protected computer and a password-protected file, under the care of the study investigators for a period of 10 years.
- I have been assured that I can access my data (if identified) at any time.
- I have read and fully understand the explanation given to me. All my questions have been satisfactorily answered.
- I, therefore, choose to voluntarily participate in this research study.
- I have received a copy of this consent form co-signed by the researcher.

	<b>Participant Consent</b>		<b>Investigator</b>
Date:	_____	Date:	_____
Name:	_____	Name:	_____
Signature:	_____	Signature:	_____



## Appendix D Inclusion and Exclusion Criteria

Your answers to these questions will determine whether you are eligible to participate in this study.

**1. I am an adult (above 18).**

- Yes
- No

**2. I am a Lebanese residing in Lebanon for 10 years.**

- Yes
- No

**3. I have been diagnosed with a mental health condition (i.e. Depression, Anxiety, etc.).**

- Yes
- No

**4. I have selected my own Psychotherapist for my Psychotherapy.**

- Yes
- No

**5. I am enrolled in or have received individual Psychotherapy in the last 5 years.**

- Yes
- No

**6. I am not a mental health professional (a Clinical Psychologist, Psychiatrist, Neurologist, Mental Health Social Worker, or a Psychiatric Nurse).**

- Yes, I am a mental health professional
- No, I am not a mental health professional

**7. I do not have a medical condition that prevents me from giving consent to participate in this research study.**

- Yes, I do
- No, I do not



## Appendix E

### Information about Psychotherapy

If you have had multiple Psychotherapists, please choose one.

**1. Mental health service provider for which the survey is filled (choose one):**

- Clinical Psychologist-Psychotherapist
- Psychiatrist
- Other (please specify)

**2. Treatment status for Psychotherapy for which the survey is filled:**

- Therapy in progress
- Therapy completed successfully
- Discontinued due to ineffectiveness or harm
- Discontinued due to organizational reasons (i.e. time, transportation, etc.)
- Discontinued due to financial reasons
- Discontinued due to other reasons

**3. Time since last treatment (in years):**

- Less than 2 years
- Between 3 and 5 years
- More than 5 years

**4. Type of therapy for which the survey is filled:**

- Cognitive Behavioral Therapy (CBT)
- Eclectic Therapy
- Interpersonal Therapy (IPT)
- Psychoanalysis
- Psychodynamic Psychotherapy
- Systemic Therapy
- Other
- I don't know

**5. Number of psychotherapy sessions received:**

- 1-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26 or more

**6. What was/is the duration of psychotherapy for which the survey is filled (in months)?**

- 1-3 months
- 4-6 months
- 7-9 months
- 10-12 months
- 13-24 months
- 25 months or more

**7. My mental health service provider for which the survey is filled was/is:**

- Licensed
- Not licensed
- I don't know

**8. Mental Health Diagnostic Category:**

- Anxiety Disorders (like Panic Disorder, Phobias, etc.)
- Bipolar and Related Disorders
- Depressive Disorders
- Disruptive, Impulse-Control, and Conduct Disorders
- Dissociative Disorders
- Elimination Disorders (like Enuresis and Encopresis)
- Feeding and Eating Disorders (like Anorexia Nervosa and Bulimia)
- Gender Dysphoria
- Neurocognitive Disorders
- Neurodevelopmental Disorders (like Autism)
- Obsessive-Compulsive and Related Disorders
- Paraphilic Disorders
- Personality Disorders
- Schizophrenia Spectrum and Other Psychotic Disorders
- Sexual Dysfunctions
- Sleep-Wake Disorders
- Somatic Symptom and Related Disorders
- Substance-Related and Addictive Disorders
- Trauma- and Stressor-Related Disorders (like PTSD)
- Other Mental Disorder
- I don't know

**9. Place of psychotherapy for which the survey is filled:**

- Outpatient (like in an external clinic)
- Inpatient (when staying at a hospital or facility)

**10. The place where Psychotherapy sessions were provided was:**

- Adequate (lighting, furniture, etc.)
- Not adequate (noisy, lack of privacy, not accessible, etc.)

**11. Did your therapist, for which the survey is filled, use any instruments or questionnaires to conduct assessment or track progress of therapy?**

- Yes
- No
- I don't know

**12. Do you or did you take any medication for your mental health condition during the therapy for which this survey is filled?**

- Yes
- No

**13. I feel I am satisfied with the therapy for which the survey is filled:**

- Yes
- No

**14. I feel the therapy for which the survey is filled has done more harm than good:**

- Yes
- No



### Appendix F

#### Questionnaire Related to Mental Health Literacy

	<b>Strongly Disagree</b> (-2)	<b>Disagree</b> (-1)	<b>Neither Agree nor Disagree</b> (0)	<b>Agree</b> (+1)	<b>Strongly Agree</b> (+2)
1. A balanced diet contributes to good mental health.					
2. A person with anxiety disorder may panic in situations that she/he fears.					
3. A person with depression feels very miserable.					
4. A person with schizophrenia may see and hear things that nobody else sees and hears.					
5. Alcohol use may cause mental disorders.					
6. Changes in brain function may lead to the onset of mental disorders.					
7. Depression is not a true mental disorder.					
8. Doing something enjoyable contributes to a good mental health.					
9. Drug addiction may cause mental disorders.					
10. Highly stressful situations may cause mental disorders.					
11. If I had a mental disorder, I would seek a psychiatrist's help					
12. If I had a mental disorder, I would seek a psychologist's help.					
13. If I had a mental disorder, I would seek friends' help.					
14. If I had a mental disorder, I would seek my relatives' help.					
15. If someone close to me had a mental disorder, I could not be of any assistance.					
16. If someone close to me had a mental disorder, I would encourage her/him to look for a psychologist.					

17. If someone close to me had a mental disorder, I would encourage her/him to see a psychiatrist.					
18. If someone close to me had a mental disorder, I would listen to her/him without judging or criticizing.					
19. Mental disorders affect people's thoughts.					
20. Mental disorders don't affect people's behaviors.					
21. Mental disorders don't affect people's feelings.					
22. One of the symptoms of depression is the loss of interest or pleasure in most things.					
23. Only adults have mental disorders.					
24. People with mental disorders belong to low-income families.					
25. People with schizophrenia usually have delusions (e.g., they may believe they are constantly being followed and observed).					
26. Physical exercise contributes to good mental health.					
27. Sleeping well contributes to good mental health.					
28. The sooner mental disorders are identified and treated, the better.					
29. The symptom's length is one of the important criteria for the diagnosis of a mental disorder.					



**Appendix G**  
**Questionnaire Related to Treatment Outcomes**

	<b>True (4)</b>	<b>Rather True (3)</b>	<b>Rather not True (2)</b>	<b>Not True (1)</b>	<b>Does not Apply (0)</b>
1. Through this therapy, I was able to create new hope.					
2. After therapy, I gained confidence in my own abilities.					
3. Through therapy, I have learned to take responsibility for myself.					
4. My functioning has improved through therapy.					
5. My family is proud of me because I was in therapy.					
6. I am proud that I tried therapy.					
7. The relationship with my partner has improved as a result of my therapy.					
8. The therapist prepared me well for the time after the end of the therapy.					
9. The therapy helped me to disengage from stressful relationships.					
10. The therapy helped me to get a job.					
11. The therapist was intolerant of my sexual orientation.					
12. The therapist tried to separate me from my partner.					
13. My therapist insinuated that I was faking my symptoms.					
14. The therapist was intolerant of my religion.					
15. During therapy, I experienced sexual abuse by my therapist.					
16. During therapy, I had to endure sexual harassment by my therapist.					
17. The therapist was prejudiced against foreigners.					
18. I experienced verbal abuse/mockery/impatience from the therapist.					
19. I had the feeling that the therapist was absent-minded during therapy and was not focused on me.					
20. I had the feeling that the therapist did not like me.					
21. The therapy was only aimed at “eliminating problems”; there was no positive goal-oriented work.					

22. I believe that the therapist's analysis of the cause of my problems was wrong.
23. In my opinion, the applied therapeutic techniques were wrong.
24. The therapist had no understanding of my problems.
25. In therapy, I learned behaviors that were very bad for me (e.g., saying "no" excessively, limiting myself).
26. In my opinion, I received a false diagnosis during therapy.
27. The therapist did not take me seriously.
28. The treatment has been a financial strain.
29. I feel that I have changed for the negative due to therapy.
30. In the course of therapy, I made decisions that I regret in retrospect.
31. My application for private insurance was rejected because I was in therapy that was paid for by my health insurance.
32. I felt exhausted after the therapeutic sessions.
33. After therapy ended, I felt worse because I missed the conversations with my therapist.
34. I am fearful that people I know will learn that I have been in therapy.
35. My relationships with my family and friends have deteriorated because of my therapy.
36. The therapy has strained my relationship with my partner.
37. Because of the exercises my therapist asked me to do, my free time was limited.
38. It bothers me that my friends treat me differently after my therapy.
39. Since therapy, I feel stigmatized as mentally ill.
40. My family is ashamed of me because I was in therapy.
41. I am ashamed because I was in therapy.
42. My promotion to a job was not approved because I was in therapy that was paid for by my health insurance.
43. Due to therapy, my work situation has worsened.



## Appendix H

### Questionnaire Related to Demographic Information

**1. Identification Code (a code you write if you want to review your information later)**

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**2. Age (in years):**

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**3. Gender**

- Male
- Female
- Prefer not to say
- Other

**4. Education**

- Primary
- Secondary
- High School
- University
- NA

**5. Marital Status:**

- Single
- Engaged
- Married
- Divorced
- Widowed

**6. Employment Status:**

- Student
- Employed
- Unemployed
- Retired

**7. Income (per month):**

- No income
- Less than 1,539,000 LBP
- Between 1,540,000 and 5,992,000 LBP
- Between 5,993,000 and 18,562,000 LBP
- Greater than 18,563,000 LBP

**8. Living area:**

- Beirut
- Mount Lebanon
- North
- South
- Akkar
- Bekaa
- Baalbek-Hermel
- Nabatiyeh



## Appendix I Survey Completion Message

Thank you for your time!

### **For Self-care Tips**

<https://www.youtube.com/watch?v=cyEdZ23Cp1E&t=88s>

### **To Find Mental Health Treatment Facilities in Lebanon – 4Ws**

<https://app.moph.gov.lb/4ws/>

The National Hotline for Emotional Support and Suicide Prevention:  
Embrace Lifeline: 1564

### **For more Information about Mental Health in Lebanon**

The Ministry of Public Health-National Mental Health Program:

<https://moph.gov.lb/en/DynamicPages/index/6#/en/Pages/6/553/nmhp>

<https://www.facebook.com/nmhplebanon/>



## Appendix J Disqualification Message

Thank you for your time.

The system has detected that one or more responses you entered are considered as disqualification criteria. This should not be interpreted negatively as these restrictions help to ensure the data is homogeneous and increase the scientific integrity of the research study.

### **For Self-care Tips**

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