THE EFFECT OF MENTAL HEALTH LITERACY ON PSYCHOLOGICAL HELP-SEEKING INTENTION, MEDIATED BY SOCIAL STIGMA, SELF-STIGMA AND ATTITUDES TOWARD SEEKING PSYCHOLOGICAL HELP AMONG UNDERGRADUATE STUDENTS IN BANGKOK

Davud Shahidi

A Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY IN COUNSELING PSYCHOLOGY

Graduate School of Human Sciences

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Field of Study: COUNSELING PSYCHOLOGY

Advisor: DR. DOANLD A. JOHNSON

Accepted by the Graduate School of Human Sciences, Assumption University in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Counseling Psychology

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ABSTRACT

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Key Words: Mental Health Literacy, Stigma, Help-Seeking Attitude, Help-Seeking Intention, Thai Undergraduate

Name: DAVUD SHAHIDI

Dissertation Title: THE EFFECT OF MENTAL HEALTH LITERACY ON PSYCHOLOGICAL HELP-SEEKING INTENTION, MEDIATED BY SOCIAL STIGMA, SELF-STIGMA AND ATTITUDES TOWARD SEEKING PSYCHOLOGICAL HELP AMONG UNDERGRADUATE STUDENTS IN BANGKOK

Dissertation Advisor: DR. DONALD A. JOHNSON

The purpose of this study was to examine the relationships between mental health literacy and psychological help-seeking intention, mediated by social stigma and self-stigma (at level 1) and attitudes toward seeking professional psychological help (at level 2) as posited in the form of 4 nested models. Based on the data from 1000 Thai undergraduate students from universities across Bangkok, Thailand, the results of reliability (in the form of the Cronbach's alpha) and validity (in the form of exploratory factor analysis and confirmatory factor analysis) analyses revealed that the research instruments were reliable and valid for the intended population. The results from the model analysis portion of the study revealed that the full path model (model number 4) was the best fitting model, and that the students' mental health literacy positively influenced their attitudes and psychological help-seeking intention. This level of literacy led to the students being highly aware of the stigmas present in their context and it was reflected in their middling stigma scores. Social stigma and self-stigma negatively mediated the relationship between mental health literacy with attitudes and intention. And ultimately attitudes had a direct positive effect on students' psychological help-seeking intention in the form of its two components, each presenting a

strong, significant and positive relationship. The model was adequate in predicting the students' psychological help-seeking intention. In the next step the best fitting model was tested for the presence of gender related difference in the structural paths, which indicated that such differences were present and accounted for, in line with the relevant literature, in that female participants showed more openness to the experience of psychological help seeking. The model also presented a much-improved fit when applied to female participants. Findings of this study could help students, their families, counselors, university staff and even regional and national policy makers in alleviating general concern when it comes to seeking psychological help.

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CHAPTER I

Introduction

Emerging adulthood is one of the critical developmental stages that has received considerable attention from researchers; That is the period between 18 to 25 years old, in which young adults are expressing their identity, weighing career options, and forming adult romantic relationships without the expectation of adopting adulthood responsibilities soon (Arnett, 2004).

Coming to terms with all these choices one has to make and the consideration of the profound repercussions the said choices can have on one's future, may easily become overwhelming and can potentially lead to mental health complications if the individual finds themselves in a less than favorable situation, and they will need help if such a situation arises.

In such situations the individual is often facing a dilemma, an internal conflict in seeking help, that is the confrontation of wanting to be independent, yet at the same time yearning for support and guidance. The interesting fact is that most individuals, on a personal level, are aware of such a conflict and try their best to protect themselves by trying not to seek help (Nadler, 1997).

Unfortunately, statistics support the assertion, and show that most people needing mental health care do not receive the help they need (Thornicroft, 2007). For example, in continental Europe each year about 38.2 percent of the population suffers from a mental disorder, out of which less than one third of those needing professional psychological help receive any type of mental health care (Wittchen et al., 2011).

Statistics paint a much grimmer picture when the focus is shifted to college students and their struggles with mental disorders. According to the World Health Organization World Mental Health Surveys, one in every five (20.3%) college student around the world suffers

from a form of mental disorder, with most disorders having an onset before enrolling in college, and only 16.4% of those students received any form of mental health care in the prior 12-month period (Auerbach et al., 2016).

Background of the study

Finding help for mental health concerns is not an easy task and usually involves four important steps: first is the simple recognition that one is having problems of a mental health nature, second is coming to the realization that they cannot rid themselves of the problem alone and that one needs to seek appropriate services in order to alleviate their concerns, third is deciding to use professional psychological help, and fourth is to find and initiate contact with such services (Saunders, 1996). Engaging in this process and contemplating seeking professional psychological help results in a conflict within the individual, a conflict between approach tendencies (the pain and distress caused by the problem) and avoidance tendencies (fear of stigmatization) (Kushner & Sher, 1991).

Now, considering the aforementioned statistics, it is evident what an individual's awareness about mental health and their level of knowledge about mental disorders entails and how one should be on the lookout for symptoms of such complications, and how one goes about seeking help on such matters is of utmost importance. This concept is succinctly identified under the label of "Mental Health Literacy". Unfortunately, mental health literacy is low in most populations and that is one of the important contributing factors in individuals not receiving the mental health care they need (Furnham & Swami, 2018; Jorm et al., 2006).

Mental health literacy as a concept was first introduced as "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm et al., 1997, p. 166). It later got revised to include one's competence in providing support to an individual who exhibits signs of mental health problems (Jorm, 2012). Mental health literacy

encompasses more than just the knowledge about mental health and mental disorders, as knowledge influences and is related to one's beliefs. The culmination of knowledge and beliefs is attitudes which according to the theory of reasoned action, can inform one's action (or inaction) through their intention (Fishbein & Ajzen, 2011).

With regards to seeking and receiving mental health care, it has been suggested that the low rates of access to mental health care, even in developed countries, seem to be based more on attitudinal barriers than structural ones (Outram et al., 2004). It has been shown that the sense of perceived stigmatization and the resulting embarrassment, lack of knowledge in identifying mental disorder symptoms, and a false sense of self-efficacy and the preference to rely on oneself in dealing with such complications are the most important roadblocks in individuals seeking and receiving the help they so desperately need (Gulliver et al., 2010).

When one assesses the knowledge and beliefs about mental disorders, they are able to identify stigmas that are associated with said disorders, which are among the most important factors hindering the early and effective diagnosis and treatment of mental disorders. This highlighting of the lack of knowledge, false beliefs and the associated stigmas can actually be beneficial in developing strategies to promote mental health literacy (Schulze et al., 2003).

The concept of mental health literacy itself, having been around for more than two decades, has been suffering from a lack of an all-encompassing, scale-based objective measure, with the first scale-based objective measures being proposed in the latter half of the 2010s (Jung et al., 2016; O'Connor et al., 2014). Before, the most common form of assessing mental health literacy, the "Vignette Interview" happened to be very time consuming in its administration and provided no scale-based scoring system (Jorm et al., 1997). Previous scale-based mental health literacy measures have always been very focused either on specific

disorders (depression, schizophrenia) or on specific domains of mental health literacy, mainly on knowledge and to some extent stigmas, attitudes and help-seeking (Wei et al., 2015).

Coming back to college students and considering the developmental stage they are in, they are one of the most sensitive groups with regards to mental health issues, yet studies on the mental disorder prevalence and treatment among them is not widely available across the world compared to their younger counterparts in elementary and secondary school, with the exception of the USA; at the same time college students are among the least served when it comes to mental health care (Auerbach et al., 2016). And thus, the importance of mental health literacy as an important starting off point in the saga of seeking mental health care for this group cannot be stated enough, as that influences their attitudes and as previously mentioned, attitudes inform intentions and in turn, action (Fishbein & Ajzen, 2011).

Asian university students, especially young adults, have been shown to shy away from seeking mental health services in their native countries and they tend to carry the same cultural tendencies with them even when they are studying abroad in a western setting where they are an unknown entity (nobody knows who they are) and seeking such help may not carry as much, if any, stigma; For example, it's been shown that Asian international students hold very negative views about seeking mental health care and counseling in general, and see that as a shameful and stigmatizing process. It is no wonder, it was shown that they have unfavorable attitudes towards counseling and report low levels of psychological help-seeking intention (Brinson & Kottler, 1995). They also have shown that they are not willing to seek help from informal sources (friends and family) because they have this fear that they may cause those sources unnecessary worry and concern (Constantine et al., 2005; Olivas & Li, 2006). All these examples can be explained through the use of the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2011).

Theory of Reasoned Action model

Theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2011) serves as the foundation for the prediction of an individual's volitional behavior and looks at human behavior as being systematic and the result of thoughtful deliberation, hence the "reasoned" in the name. It helps predict the behavior in a novel situation based on a specific set of factors, with behavioral intentions assumed as the best predictor of actual performed behavior, and the attitudes toward that behavior and the perceived subjective norms surrounding that behavior being the immediate determinants of behavioral intentions. It is assumed that attitudes and subjective norms are both heavily influenced by external factors such as demographic and personal characteristics of the individual, cultural elements, etc. (Ajzen & Albarracín, 2007).

This theory, more specifically an attitude-based variation of it, was chosen as the foundation of the current research as it provides an established framework to investigate the attitudinal aspect of the psychological help-seeking behavior. As mentioned previously, it's been shown that even in contexts were availability of and accessibility to mental health services pose no problems for the individual, it is still the attitude of the individual that guides their psychological help-seeking behavior (Outram et al., 2004).

Mental health in Thailand

Thailand is a nation of 67 million, with around 67% of the population falling within the 15 to 60 years old range. Among this population, depression has proven to be the most common mental health issue, and mental health issues in general are under-reported and under-diagnosed in Thailand, which according to estimates from a nationally representative household survey in 2008, around 1.5 million people were living with major depressive disorder. The prevalence was highest in Bangkok, followed by northeastern regions of the

country. About 59% of the population with major depressive symptoms were assessed to be at risk of suicide (Kongsuk et al., 2017).

The rate of death by suicide in Thailand has been declining in the past two decades, from over 8% to around 6% in 100,000 of the population in recent years as reported by department of mental health of the ministry of public health (*Reported rates of suicide, year 2540–2562*, 2020)

The low rates of reporting and diagnosis makes sense when one considers the historical and cultural context dominant in Thailand, with mental illnesses, traditionally believed to be caused by black magic, or possession by a spirit or other supernatural elements. The traditional remedies included beating the spirit out of the person (by whipping), torturing the individuals until they showed no symptoms or consulting monks and religious figures to use their wares (holy water and incantations) to cure the person of evil (Burnard & Naiyapatana, 2004; Burnard et al., 2006). Later, remedies such as herbs were also used in treating violence and unstable mood, however the modern approaches to mental health care did not reach Thailand until the establishment of the first ever psychiatric hospital dubbed the "the insane asylum" by King Rama the V in 1889 which later had its name changed to Thonburi Psychiatric Hospital (Pitakchinnapong & Rhein, 2019).

Considering the above information, Thailand, according to the most recent report by the ministry of public health in 2017, still reports a mortality rate of 2.2 per 100.000 of the population directly tied to mental and behavioral disorders, with men making up the bulk of that number. This number is showing a steady increase year over year. Mortality rate among men caused by mental and behavioral disorders in 2017 was reported as 3.9 per 100.000 compared to women's which sat at 0.6 per 100.000. it should be noted that the majority of

deaths cause by mental and behavioral disorders are reported as being induced by psychoactive substance use. (*Public Health Statistics A.D.2017*, 2017).

Family structure and communication patterns in Thailand can also have an important part to play in an individual's psychological help-seeking behavior. According to Charoenthaweesub and Hale (2011), Thai families, especially in rural settings, tend to live in multigenerational households and according to Ritchie (1988) tend to adopt a socio-orientation communication style within the family, in which the family should strive to maintain good relationships within themselves and avoid any confrontation that could disrupt the harmonious state of the family (as cited in Pitakchinnapong & Rhein, 2019). Logically, one can assume that any expression of psychological discomfort would fall in the "disrupting the harmony of the family" category, and that could pose as an important barrier to psychological help-seeking in a Thai family context.

Still it has been suggested that Thais, just like everyone else, will be more receptive and open to psychological help-seeking if the whole process was more focused on the existential worries of life (Conrad & Johnson, 2020), but at the same time the role and importance of astrology in the lives of Thai people, and the belief in fortune-telling should not be discounted (Temcharoenkit & Johnson, 2021).

Gender Differences

Gender has been shown to play a significant role in psychological help-seeking behavior; for example, a study of psychological help-seeking behavior showed that a notable gender difference was at play, with females showing more openness to the idea of seeking professional psychological help (Fischer & Turner, 1970). Another study found that older age suggested lower mental health literacy and more unfavorable attitudes, especially so in

women. (Lee et al., 2020). Gender role conflicts have also been found to exert a considerable negative influence on one's psychological help-seeking attitudes (Loganathan & Foo, 2019).

Statement of the problem

College students, and young adults in general, developmentally, are at a very delicate stage. Any mental health related complication can have profound effects on the individual's academic and personal life, as well as having the potential to shape their future (Arnett, 2004). Ensuring students are aware of mental health issues and the common complications that could occur, and the mental health resources readily available to them, can ease the burden of many and even save lives (Stene-Larsen & Reneflot, 2019).

The most common mental health issues among college age individuals across the world are anxiety disorders at number one, followed by mood disorders, substance use disorders, and finally behavioral disorders. The most common strain of mental disorder currently is phobias, followed by Major Depressive Disorder. Many of these disorders have their onset usually before the individual enters college, and so for many, especially those from low-income families, college can be the only freely available and easily accessible source of mental health care (Auerbach et al., 2016).

The repercussions of these complications can manifest in different ways; for example, impacting the academic achievement and adjustment of the individual in a detrimental way which could make it harder for them be successful in the job market (Tinto, 2006).

Another important point to consider is the prevalence of Major Depressive Disorder among the young adult (Thai) population. MDD has been shown to be significantly related to a sense of hopelessness and suicide ideation (Ribeiro et al., 2018).

Asian student populations, Thais included, have been shown to carry a significant amount of cultural baggage when it comes to roadblocks associated with mental health help-

seeking behavior, so much so that they carry the baggage even when their environment changes and they can find themselves in a place where seeking professional psychological help may not carry much stigma or may even be actively encouraged (Brinson & Kottler, 1995; Olivas & Li, 2006).

The role of one's general knowledge about mental health and its associated issues has also been shown to be of great importance. This aspect, aptly named mental health literacy, has not been the subject of quantitative study until recently, due to the fact that no comprehensive, objective, psychometrically sound measure existed until less than a decade ago. This fact has led to a gap in the literature that warrants attention and further quantitative investigation (O'Connor & Casey, 2015; O'Connor et al., 2014); And in doing so employing the theory of reasoned action can serve as a solid foundation and a great starting point, in the sense that it provides an established framework within which the proposed effects of mental health literacy can be investigated using sound research methodology.

Literature also suggests that there are gender differences with regards to mental health literacy and mental health attitudes, with males scoring significantly lower than their female counterparts. Within the same population, age has also been shown to play a significant role, with older age suggesting lower mental health literacy and more unfavorable attitudes, especially so in women. (Lee et al., 2020). Gender role conflicts have also been found to exert a considerable negative influence on one's psychological help-seeking attitudes (Loganathan & Foo, 2019).

Promoting mental health awareness and increasing the population's Mental Health Literacy is of utmost importance, as college age individuals, just like the general population are usually very low in their knowledge of mental health. It happens that young adults may be aware of some non-specific information regarding mental illness, yet their mental health

literacy levels are still low; for example, they tend to mischaracterize and misidentify schizophrenia and depression (Farrer et al., 2008).

As discussed previously, assessing the level of and promoting increased mental health literacy, by virtue of increasing the knowledge, and shaping beliefs based on that knowledge, has been shown to influence associated stigmas and attitudes, which in turn informs the individual's action, which in this case refers to their reluctance or lack thereof in seeking professional psychological help (Kim & Yon, 2019).

Purpose of the study

For the purpose of bridging the research gap on the effect of Mental Health Literacy on psychological help-seeking intention among students from undergraduate programs, the current study was designed in the form of three separate and interrelated studies with the goal of achieving the following objectives:

1. To investigate the psychometric properties of the assessment tools used in this study, based on undergraduate university students in Bangkok as sample.

2. To investigate the direct effects of Mental Health Literacy on psychological help-seeking intention of undergraduate university students in Bangkok, Thailand;

3. To investigate the indirect effects of Mental Health Literacy on psychological help-seeking intention of undergraduate university students in Bangkok, Thailand as mediated by social stigma, self-stigma and attitudes towards seeking psychological help;

4. To investigate whether the structure of the paths (direct and/or indirect) between mental health literacy, psychological help-seeking intention, attitudes toward seeking psychological help, social stigma and self-stigma vary as a function of Gender.

Significance of the study

Results of this study could provide avenues to test the psychological help-seeking behavior model, according to the theory of reasoned action, with mental health literacy, social stigma and self-stigma, and attitudes towards seeking psychological help in a Southeast Asian setting, as cultural and societal differences, especially with regards to gender roles and norms, and family structure differences may play a role in the level of mental health literacy and the effect of stigma on the individual in their psychological help-seeking behavior.

This study could help understand the psychological help-seeking behavior of undergraduate students and identify important roadblocks in said behavior based on the proposed model and the important effect of mental health literacy.

Findings of this study could also help students gain a better understanding of their own, oft unknown, stigmas and biases toward seeking psychological help, in order to empower them to lead healthier lives and at the same time help others come to terms with their own issues with regards to mental health and its associated help-seeking behaviors.

The results of this study could also be used to help parents gain a better understanding of the impact of their beliefs and biases toward mental health and its associated help-seeking behaviors on their children, especially so as indicated by the social stigma of mental health help-seeking in this study.

This study could help university staff have a better understanding of the reasons for the students' general reluctance to seek psychological help and at the same time provide possible avenues for institutional policy making in helping raise awareness in students, increasing their mental health literacy, and providing them with facilities that better serve the students' needs and requirements.

The results could also serve as a guideline for policy makers at the provincial and national levels to initiate programs and campaigns that target the general public's mental health literacy and educate them in confronting and managing their beliefs and biases when it comes to general mental health and its associated complications and help-seeking behaviors.

Operational Definitions

Undergraduate Students in Bangkok: In this study, all students, aged 18 to 25, currently enrolled in an undergraduate level program at universities across Bangkok will be considered through a convenience sampling method.

Mental Health Literacy: In this study, the mental health literacy is defined in terms of The Mental Health Literacy questionnaire-young adults form (Dias et al., 2018). This measure was employed to assess mental health literacy in the research population. This conceptualization of mental health literacy refers to an individual's beliefs and general level of information about mental health complications and what to do if one suspects themselves or others of being afflicted with such complications across four hypothesized domains: erroneous beliefs / stereotypes, help-seeking and first aid skills, knowledge of mental health problems, and self-help strategies.

Social stigma: In this study, social stigma is defined in terms of The Stigma Scale for Receiving Psychological Help (Komiya et al., 2000). This measure was employed to assess the individual's perceived social stigma. This conceptualization refers to the stigma one feels others have toward those engaged in mental health help-seeking. It should also be pointed out that the other measures of social stigma usually are focused on the stigma associated with mental illness, while this conceptualization aims to focus on and measure the perceived stigma associated with seeking psychological help and as it has been argued in the literature, the two concepts are separate and therefore should not be confused (Fox et al., 2018).

Self-stigma: In this study, self-stigma is defined in terms of The Self-Stigma of Seeking Help scale (Vogel et al., 2006). This measure was employed to assess the self-stigma for seeking psychological help. This measure has been validated across different cultures (Vogel et al., 2013). This conceptualization refers to the stigma one feels about themselves when engaging in mental health help-seeking behaviors. It also considers this as the internalization of public (social) stigma by the individual. Research has also indicated that this conceptualization of self-stigma can present itself as a two-factor solution in certain (non-Anglo sphere) contexts, in which it would present itself in the form of its two components, namely threat to confidence and feelings of inadequacy.

Attitude toward seeking psychological help: In this study attitude toward seeking psychological help is defined in terms of the Attitudes Toward Seeking Professional Psychological Help-Short Form (Fischer & Farina, 1995). This measure was employed to assess psychological help-seeking attitudes in this study. According to this conceptualization, cognitive and affective evaluations of engaging in mental health help-seeking behaviors by an individual is under the influence of two very important factors: (1) recognition of personal need of professional help (also referred to as openness to seeking treatment in the literature), (2) confidence in the ability of the psychological professional to be of assistance (also referred to as value and need in seeking treatment in the literature). It should be noted that in a number of studies this scale has been found to be made up of three factors (the third factor was referred to as preference to cope on one's own) (Picco et al., 2016). The result of these evaluation, or one’s attitudes, could be in favor or against engaging in mental health help-seeking behaviors.

Psychological help-seeking intention: In this study psychological help-seeking intention is defined in terms of The Mental Help-Seeking Intention Scale (Hammer & Spiker, 2018). This measure was employed to assess the students' psychological help-seeking intention. This conceptualization refers to any future-oriented intentions to engage in mental health help-seeking behaviors.

CHAPTER II

Literature Review

In this chapter, a comprehensive review of literature on the undergraduate student's intentions to seeking counseling is provided. Chapter starts with an overview of the theoretical foundation of the present research by reviewing literature relevant to the Theory of Reasoned Action model followed by a review of relevant literature for each of the variables under investigation, and their proposed relationships. This chapter concludes by presenting the hypotheses that are assumed in this study.

The Theory of Reasoned Action as a Framework

The tradition of trying to explain and predict human behavior in psychology is marked with considerable amount of research into broad dispositional factors that were hypothesized to influence the ways in which humans behave, with constructs such as self-esteem, locus of control, sensation seeking and so on and so forth, and the amount of research that showed their shortcomings in explaining and predicting human behavior seemed to not matter in the grand scheme of psychological research (Ajzen & Albarracín, 2007). For example, research on self-esteem as the major predictor of problematic behavior in children and adolescents, which was very in vogue in psychological literature, received a scathing review, citing a clear lack of evidence to link problematic behavior in adolescents with low levels of self-esteem (Baumeister et al., 2003). This was not to say that considering the effects of such dispositional factors is useless, but just to show that they usually do not account much in explaining the variance observed in any particular human behavior.

The reliance on a broad global dispositional factor to explain and predict human behavior was questioned by Fishbein and Ajzen (1975) when they proposed that the focus of research should be brought down to a specific behavior and then trying to find the

antecedents to that behavior and identify its determinants, instead of looking at global dispositional factors such as self-esteem or locus of control, as the overarching cause that can account for many types of different behavior within the domain that could be applied to that specific disposition. The proposed method by Fishbein and Ajzen (1975) provides the opportunity to explain and predict a specific behavior via a thorough look at that particular behavior's antecedents which in turn can act as a basis for designing an intervention that could be used to modify that behavior.

This should not lead one to believe that they assumed each behavior as having its own unique set of antecedents. The reasoned action model of behavior (or the theory of reasoned action) holds that to explain and predict human behavior, there exist a small set of causal factors, with the central factor being the intention of the individual to perform the specific behavior (Ajzen & Albarracín, 2007).

Theory of reasoned action was also based on the long tradition in social psychology of trying to understand the relationship between one's attitude and their performance of an associated behavior (Ajzen & Fishbein, 1980). Attitudes are defined as "learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" (Fishbein & Ajzen 1975, p. 6). In simpler words, the assumed relationship between attitudes and behavior posits that when one believes a behavior will lead to a favorable outcome, they will be more likely to hold a more positive attitude toward the behavior, similarly, when they believe that a behavior will beget unfavorable outcomes, they will be more likely to hold a more negative attitude toward the behavior (Ajzen & Fishbein, 1980).

This theory assumes that people are thoughtful and act deliberately and that they systematically try to take advantage of the bevy of information that is accessible to them

when considering the possible outcome(s) of their actions before they decide on the performance or nonperformance of that specific behavior (Fishbein & Ajzen, 2011). Ajzen and Fishbein (1980) posit that the intent of an individual to engage in certain behavior cannot be considered as the best predictor of that individual's behavior, but that intent can be considered as being the most useful when one is trying to predict a novel (never before performed) future behavior.

It is important to remember that the theory of reasoned action, as the name suggests, only considers voluntary actions done out of the volition of the individual. This theory makes it possible to predict one's behavior based on a set of cognitive predictors. The cognitive predictors of volitional behavior are as follows: 1) *Behavioral Intentions*, or the desire an individual expresses in engaging in a behavior, 2) *Attitudes* one holds about the costs or benefits of engaging in a behavior, and 3) *Subjective norms* which dictate whether the behavior is socially sanctioned (Fishbein & Ajzen, 2011) (see Figure 1). The model is discussed in great detail here, walking backwards from behavior in the following sections.

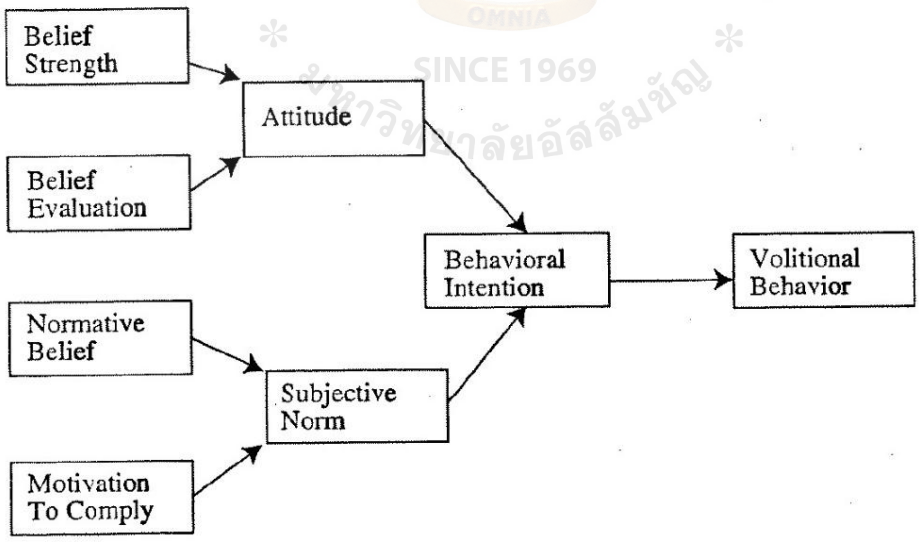


Figure 1. Theory of Reasoned Action (Fishbein & Ajzen, 1975)

Brief Overview of the major components of the Theory of Reasoned Action:

Behavior

Behavior as described in the theory of reasoned action model is a set of overt actions that an individual engages in. The scope of behavior in this definition can be as broad or narrow as envisioned by the researcher, meaning a researcher has complete control on what behavior they choose to focus on. According to the theory of reasoned action, a behavior is conceptualized as having four main components, namely *action*, *target* of the action, *context* of the action, and *time* of the action (Fishbein & Ajzen, 2011). It logically follows that each of the components can have a broad range. For example, an action could be just that, a single action or it may indicate a behavioral category which can include a set of actions, or the target can be a single target of an action or the action may include multiple targets and so on and so forth.

Another important point that needs to be elaborated here is the clear distinction one has to make between behaviors and outcomes of said behaviors, as any confusion between the two can lead to faulty predictions and explanations. In other words, the theory of reasoned action posits that for a behavior to be successfully understood and predicted, it needs to have its four main components clearly laid out, otherwise one may, by mistake, measure the outcome of the behavior instead of the desired behavior itself (Fishbein & Ajzen, 2011); For example, consider exercising and weight loss. Here the behavior is exercising, and weight loss is the outcome, in fact weight loss is one of the possible outcomes and can be influenced by other elements such as dieting. Thus, it is of utmost importance that one takes great care to measure the behavior and not the outcome, as that greatly increases the accuracy in predicting the desired behavior.

Behavioral Intentions

Behavioral intentions, as the theory of reasoned action posits, are the closest predictors of behavior (see Figure 2.1). Behavioral intentions are described as the perceived likelihood of an individual in whether they engage in the performance of a behavior. This description has a number of important implications as in 1) intention being the best predictor of behavior, 2) any other predictor of behavior not having a direct relationship with, and therefore a direct influence on behavior and 3) intention predicting all behavior and therefore all behavior being purposeful and planned (Fishbein & Ajzen, 2011).

The accuracy level of intentions in predicting behavior relies on two factors: 1) the accuracy of prediction can be increased by making sure that the four components of intention and the four components of behavior correspond, and 2) stability of intention, meaning as the time between measuring the intention and measuring the corresponding behavior gets shorter, the accuracy of prediction of behavior based on intent increases. In simpler words, measuring intentions as close to behavior as possible, greatly increases the level of accuracy in prediction. This shows it's best that intention be measured as close to behavior as possible (Zeigler-Hill & Shackelford, 2020).

Attitude

The theory of reasoned action assumes the existence of two immediate determinants to behavioral intentions (see Figure 2.1), first of which is the attitude toward the behavior. The attitude toward the behavior is defined as one's evaluation of favorability or unfavourability of performing the behavior while considering the behavior's four main components. It should be noted that as assumed by the theory of reasoned action, the attitude toward the behavior refers only to the behavior itself and not the object of a behavior, and also it only refers to the specific individual's performance of the behavior and does not

consider the behavior being performed in general (Ajzen & Fishbein, 1980). For example, a researcher should take care to measure one's evaluation of owning guns, rather than the guns themselves.

This way of conceptualizing attitudes was novel at the time and it was in direct contrast to the conceptualization of attitude prevalent in previous studies, which only considered the evaluation of the individual about the object itself (Fishbein & Ajzen, 2011).

Measuring attitudes toward behavior can be a complicated process. when measuring an individual's attitudes towards a behavior, according to the theory of reasoned action, it is only their behavioral beliefs that should be measured (Ajzen & Fishbein, 1980).

As can be seen in Figure 2.1 the theory of reasoned action assumes two main factors influencing one's attitudes toward a behavior, one is the belief that a behavior leads to certain outcomes and the other is the evaluation of the individual on the outcomes, or in other words, whether one considers these outcomes as likely results of the behavior and how favorable (positive) or unfavorable (negative) these outcomes are to the individual. According to this view, a very positive attitude is the result of the individual viewing the outcomes of the behavior as very positive and highly likely. In the same vein a very negative attitude is the result of the individual viewing the outcomes of the behavior as very negative and highly likely (Fishbein & Ajzen, 2011).

With regards to the present study, and seeking psychological help in general, the connection between attitudes and behavior is of utmost importance as one's attitudes are an integral part in one's ultimate decision to seek counseling. But it should be noted that the path between one's attitudes and their performance of a related action is not direct nor is it easily predictable. For example, those who have a history of seeking professional psychological help, hold a more positive attitude toward counseling than those without such history, but it

does not signify a direct relationship between one's attitudes and behaviors (Fischer & Turner, 1970).

Attitudes are among the many factors than can influence one's behavior (e.g., personality types) and as shown by Miville and Constantine (2006) it cannot be assumed with certainty that someone who holds a more favorable attitude toward counseling would actually seek counseling when they need the help or not.

Subjective Norms

Subjective norms, as assumed by the theory of reasoned action, is the second closest predictor of an individual's behavioral intention. It is defined as an individual's perception that the people whom they consider close and important, think whether they should or should not engage in the performance of a behavior. Interestingly, how much this perception mirrors reality is another matter, meaning this perception may or may not be accurate in reflecting what those important people actually think (Fishbein & Ajzen, 2011).

The theory of reasoned action posits that subjective norms has two immediate determinants, with those being 1) *normative beliefs* which refers to the beliefs of an individual on how a referent thinks about whether they should or should not be engaging in the performance of a behavior, and 2) *motivation to comply* with regards to specific referents (or the important people). As previously mentioned, not all referents are of equal importance to the individual, and that ultimately determines how likely the individual feels to comply with the referent (Yan, 2014).

The interplay of Attitudes toward behavior and subjective norms

Attitudes toward behavior and subjective norms, as described by the theory of reasoned action, are immediate determinants to one's intention while also considering that one may play a more important role in some situations for some individuals than the other. It

is assumed that these two factors may not always be in concert, or their contribution to one's intention may not always be equal. Therefore when attitudes toward behavior is considered as being more influential than subjective norms with regards to a specific behavior for a certain individual, then in that case the attitudes towards behavior will have more influence than subjective norms on intentions and vice versa (Ajzen & Albarracín, 2007).

The role of external variables

Theory of reasoned action assumes that the only factor directly influencing behavior is intention, with intention itself beings impacted by subjective norms and attitudes towards the behavior. When it comes to the role of external variables, theory of reasoned action posits that they can only exert influence on the behavior through indirect channels, by influencing behavioral beliefs, which is the immediate determinant of attitudes towards the behavior, and through influencing normative beliefs, with normative beliefs being the immediate predictor of subjective norms, and the interplay between the two. When looking at the theory of reasoned action, there is no clear pattern as to how the external variables would be influencing the behavior, since their effects on attitudes towards the behavior and subjective norms can vary according to the specific behavior being considered (Zeigler-Hill & Shackelford, 2020). External variables can include personality traits, and demographic variables such as sex, age and race.

Theory of planned behavior

Theory of reasoned action has served as a prominent foundation in explaining and predicting human behavior and has strong evidence in its support. The theory itself and the resulting studies have all assumed a high level of volition (as the theory aptly calls it the volitional behavior) in one's behavior. Meaning, the individual is in control of what they do and can willingly decide whether to engage in the performance of a specific behavior or not

(Ajzen & Albarracín, 2007). Considering that the level of volitional control that an individual has in performing a behavior can be different with regards to different behaviors, the Theory of Planned Behavior was proposed. Theory of planned behavior in fact expands and extends the theory of reasoned action, in that it retains all key elements of the theory of reasoned action and proposes *perceived behavioral control* as the third immediate predictor of intention (Ajzen, 1991) (see Figure 2).

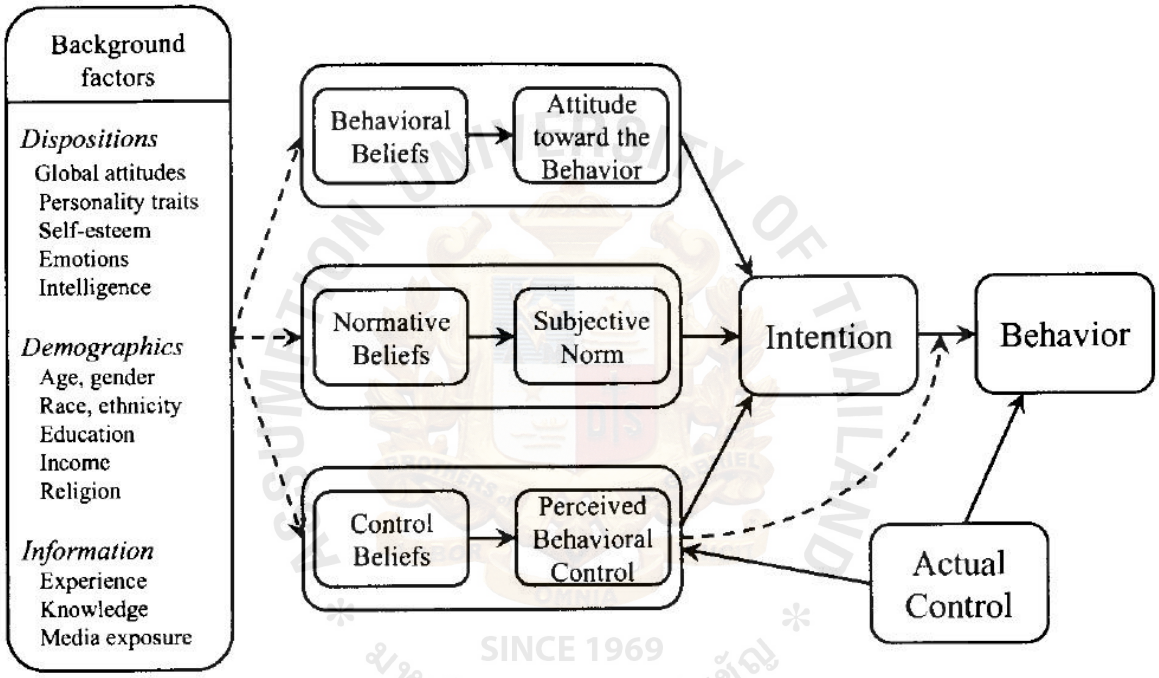


Figure 2. Theory of Planned Behavior (as cited in Zeigler-Hill & Shackelford, 2020)

Perceived behavioral control, to some extent, impacts whether an individual performs a behavior, in the sense that whether the individual is capable of performing the behavior, as performance of a behavior depends on the opportunities and resources (e.g., time, money, etc.) required by that behavior, and as these resources and opportunities increase, so does the individual's chances and likelihood of engaging in the performance of the behavior. Thus, perceived behavioral control, based on this conceptualization, can be described as an

individual's perception of how easy or hard it would be to engage in the performance of a desired behavior (Ajzen, 1985; Fishbein & Ajzen, 2011).

Perceived behavioral control, according to the theory of planned behavior (Figure 2), can impact an individual's behavior in 2 ways. 1) It can affect intention directly, as in an individual who does not perceive themselves as having the resources or opportunities to engage in the performance of a certain behavior, they will be less likely to have high levels of intention to engage in the performance of that specific behavior, regardless of them having favorable attitudes toward the behavior or there being favorable subjective norms for engaging in the performance of that particular behavior. 2) It can influence actual behavior without any mediator, directly, whenever perceived behavioral control exhibits high level of correspondence with the actual behavior. This correspondence is not always high and thus this assumed link does not always apply. The level of correspondence goes down significantly when there is little information about the behavior, or the resources and opportunities required by the behavior do not exist or they have changed, or when novel elements are found in the context surrounding the performance of a behavior (Zhang, 2018). This relationship has been indicated by a dotted arrow in Figure 2.

Perceived behavioral control, like the other immediate determinants of intention, namely attitude and subjective norms, has its own associated set of beliefs that act as its closest predictors, referred to as Control Beliefs. They are defined as one's beliefs about the existence or lack thereof, of elements that can help or inhibit an individual engaging in a behavior. They can be the result of a previous experience of performing the behavior or observing other individuals engage in the performance of that behavior. These beliefs, depending on the specific behavior, can also be subject to the influence of external variables (Ajzen, 1991).

Criticisms of Theory of Reasoned Action / Theory of Planned Behavior

It is, unsurprisingly, evident that theory of planned behavior and the theory of reasoned action are not without criticisms, when one combs through the literature. Main criticisms can be categorized in two broad groups, first group are those that hold that the immediate determinants of intention as posited by theory of reasoned action (attitude towards the behavior and subjective norms) and theory of planned behavior (which extended the model and added perceived control) are not enough, arguing that the models cannot be generalized to account for all behavior and in the case of some behaviors other factors such as moral obligation that one perceives (Schwartz & Tessler, 1972) or an individual's past behavior / habits (Ouellette & Wood, 1998) or the level of perceived expertise and trust (Tsai et al., 2010; Willemsen et al., 2011) could prove to be just as important. Out of these suggested alternative variables, past behavior / habits has the most support in the literature (Webb & Sheeran, 2006).

Second, the fact that theory of reasoned action and theory of planned behavior both assume rationality and thought on the part of the individual involved in the performance of the behavior. In other words, they argue that the model only applies to deliberate, volitional behavior and does not account for spontaneous or habit-based performance of a behavior. For example, Fazio and Olson (2014) proposed the MODE model of behavior which claims to be able to account for both volitional and spontaneous behavior, by considering motivation and opportunity associated with the specific behavior (Fazio & Olson, 2014).

Other theories have been proposed that try to explain and predict behavior based more on spontaneous models and less so on the deliberative models. Such theories posit that behavior, most often than not, is strongly influenced by habits. In this conceptualization, outside environment acts as contextual cues for the individual which can trigger the mental

representation within that individual associated with those cues, therefore shaping the response associated with the habit (Wood et al., 2014). At the same time, it has been argued that habits, as spontaneous as they might be, can still be controlled. For example Quinn et al. (2010) posit that it happens that an individual might have an intention that is not in accordance with their habits, in such cases, the individual can and will try to inhibit the habit induced response by focusing attention on the response and making sure that it is not performed (Quinn et al., 2010).

Interestingly, it's been shown that both approaches apply to behavior depending on the "strength" of the habit in question, meaning that the frequency of past behavior determines habit strength and that in turn can influence behavior above all else, especially so when the individual has limited access to motivation or cognition to guide their behavior. In such cases the individual tries to draw inferences based on their experience in previous performances of the behavior (Neal et al., 2012).

Support for the Theory of Reasoned Action / Theory of Planned Behavior

Citing criticisms for the theory of reasoned action and theory of planned behavior does not detract from their considerable support in the literature. Strong support for the theory has been presented in the form of numerous meta-analysis studies on the subject. For example, the posited relationship between intention and behavior by the model was found to have a mean correlation of .53 in the literature, or the posited relationship between attitudes and intentions, and the possibility of predicting intentions based on one's attitudes was found to have a mean correlation ranging from .45 to .60 in the literature. The assertion in the model that attitudes can be predicted from its associated set of beliefs was also shown to be true in the literature, with the mean correlation between expectancy-value index of the beliefs

associated with that behavior and a direct measure of attitude towards that behavior being .55 (Armitage & Conner, 2001; Godin & Kok, 1996; McEachan et al., 2011; Sheeran, 2002).

The application of the theory has not been limited to only the fields of psychology or health, and it has been shown to be an effective way to explain and predict behavior in other fields, for example in social justice and governance (Nchise, 2012), eating and nutrition-related behavior (Riebl et al., 2015), knowledge sharing (Nguyen et al., 2019), consumer behavior (Taufique & Vaithianathan, 2018), information systems (Jokonya, 2017), and even tourism and hospitality industry (Ulker-Demirel & Cıftcı, 2020).

The application of the theory of reasoned action / planned behavior in the study of help-seeking behavior has also amassed considerable literature. In a study in the United States employing the theory of reasoned action model to investigate the participation and academic help-seeking behavior of adolescents from racially-ethnic and low-income backgrounds (those in eighth and ninth grade in middle schools and high schools in the Midwestern United States, with 118 for baseline study and 96 for follow-up) in a college readiness program, it was found that when looking at help-seeking behavior from friends and peers, the expected direct and indirect effects of subjective norms, attitudes, intentions and help-seeking behavior were found to be strong and statistically significant. Investigating the same path of help-seeking behavior from parents and teachers showed no conclusive results (Ellis & Helaire, 2020).

In another study, the effects of the Japanese concept of *sekentei* (conforming to social norms and avoiding shame), positive impressions of counseling, and subjective norms of family and friends on psychological help-seeking intention among undergraduate students in seven central Japan universities was investigated using the theory of reasoned action model as the guiding principle. 273 students participated in the study. The results indicated that

psychological help-seeking intention was in fact made up of two factors: help needs and seeking help without hesitation. It was found that *sekentei* exerted significant negative effect on both factors, but that effect was moderated by positive impressions of counseling and the subjective norms of both family and friends in a significant way (Maekawa & Kanai, 2015).

In a similar vein, another study on the effectiveness of different campaigns to enhance psychological help-seeking intentions among Thai (at a private university in Bangkok) and American (at a small mid-Atlantic university) undergraduate college students based on the principles of the theory of reasoned action, it was found that, in accordance with the theory of reasoned action, to enhance the psychological help-seeking intention of the students, their attitudes and subjective norms needed to change. Thai students were significantly more responsive to campaigns that targeted their subjective norms in enhancing their psychological help-seeking intention, compared to American student whom were significantly more responsive to campaigns that targeted their behavioral beliefs. American students generally reported more positive behavioral beliefs and higher levels of positive attitude towards seeking professional psychological help, when exposed to information campaigns that emphasized behavioral persuasion, which resulted in enhancing their help-seeking intentions. In contrast in Thailand, Thai students were found to report higher help-seeking intentions when they were targeted by information campaigns that emphasized normative persuasion, as in important others (friends, family, professors) believe that it is ok for the student to seek professional psychological help (Christopher et al., 2006).

In another study by Mo and Mak (2009), psychological help-seeking behavior among the Chinese population in Hong Kong was examined using the theory of planned behavior as a guiding principle. The participants in this study were chosen randomly by employing a random household survey method with the help of the Hong Kong Census and Statistics Department, with the age range between 18 to 65 years old. In total 941 participated in the

survey. The results demonstrated that the theory of planned behavior had significant utility in predicting psychological help-seeking behavior in the target population. It was shown that, in line with literature, attitudes towards seeking professional psychological help had a significant and strong influence on an individual's psychological help-seeking behavior. Interestingly, and in direct contrast to literature, their results showed the least influence for perceived behavioral control on an individual's psychological help-seeking intentions. It was argued that this discrepancy could be explained by cultural factors, citing the collectivistic nature of the culture among the population. At the same time, subjective norms were found to be a major predictor of an individual's psychological help-seeking intentions which was in line with the more recent literature on Asian populations. The effect of structural barriers to psychological help-seeking was also investigated and found to be significant, but their combined effect was very modest (Mo & Mak, 2009).

In a cross-cultural study on the effects of beliefs about mental illness and help-seeking history and likelihood of an individual's psychological help-seeking behavior by Chen and Mak (2008), 747 students in undergraduate programs from universities in the US, Hong Kong and China were chosen as participants. The results of the study demonstrated that European Americans had the highest scores on help-seeking history and likelihood and therefore were the most likely to seek psychological help from professional sources, followed by Chinese Americans, Hong Kong Chinese and Mainland Chinese. The scores from mainland Chinese and the Hong Kong Chinese did not show a significant difference, yet mainland Chinese scores were lower. The effect of beliefs about mental illness, especially the belief about the environmental, hereditary causes of mental illness was significantly lower in Chinese Americans compared to other groups, which did not show a marked difference among them. The effect of the social-personal causes part of the beliefs about mental illness did not show a significant difference among the cultural groups. In summary the results supported the notion

that there would be a gradual decline in psychological help-seeking behavior going from European Americans to Chinese Americans, Hong Kong Chinese, and finally mainland Chinese (Chen & Mak, 2008).

In a three part study on the theory of planned behavior model by Bohon et al. (2016), of which only study three is discussed here as it relates to the discussion at hand, 495 students from a large Northern California university were selected as participants. The results of their study indicated that in line with the theory of planned behavior, subjective norms, perceived behavioral control, and attitudes towards psychological help-seeking were significant predictors of psychological help-seeking intention, in that these three factors were shown to account for nearly 93% of the variance in psychological help-seeking intention. The results show that higher levels of perceived behavioral control and attitudes were immediate determinants of psychological help-seeking intentions. Results also indicated a strong correlation between attitudes, subjective norms and perceived behavioral control (Bohon et al., 2016).

In a study on the relationship between the psychological help-seeking intention and social stigma, self-stigma and attitudes toward seeking professional psychological help among university students at Botswana University in Botswana, 519 students were selected to participate. Results demonstrated that social stigma and self-stigma were positively correlated. The same variables showed a negative correlation with attitude toward seeking professional psychological help and the psychological help-seeking intention. Regression analysis showed the predictive power of attitudes, in line with literature, on one's psychological help-seeking intention. Results also indicated that the psychological help-seeking intention among Botswana University students were slightly higher compared to a number of other studies in the literature. Some concerns in the intention to seek counseling scale turned out to be culturally nonsignificant, such as being overweight, which according to

the author is considered normal and even sometimes desirable among the dominant culture group (Pheko et al., 2013).

In a study by Kuo et al. (2015) on the assessment of a novel, culturally expanded theory of reasoned action model, to investigate the psychological help-seeking behavior among 223 adult Latino immigrants in Canada, results demonstrated that the proposed model according to the theory of reasoned action failed to achieve a good model fit, but still managed to show the expected significant associations among intention, subjective norms and attitudes. Authors reason that the lack of a good model fit could be explained by their sample size. In the next step, the expanded model was tested by introducing gender, bi-directional acculturation, previous use of mental health services, stigma, cultural and religious coping, psychological distress, and familism into the model. This expanded model still failed to show adequate model fit and only two of the proposed additions, namely Psychological Distress and Latino Cultural Orientation, showed any significant association with intention. Further analysis showed a mediation role of subjective norms in the relationship between attitudes and intention. This helped highlight the effects of other elements such as familism and its functions among the Latino population. Acculturation yielded unexpected results in that more adherence to Latino native cultural norms, in line with acculturation to Canadian cultural norms, was linked with higher psychological help-seeking intentions. Interestingly acculturation to Canadian cultural norms also showed an indirect effect on intention, mediated negatively via subjective norms. Psychological distress was also shown to have direct positive association with intention. Gender differences were also observed in the participants with women reporting higher levels of negative subjective norms. Stigma as defined in this study, in the form of stigma of significant others, did not show any significance in the path model. Authors suggest that self-stigma could be a better predictor (Kuo et al., 2015).

Study variables:

Mental Health Literacy

Mental health literacy as a concept was first proposed in the late 1990s. It is based on the concept of health literacy (HL). Exploring the concept of health literacy is important to have a better understanding of mental health literacy (Jorm et al., 1997). Health literacy refers to one's knowledge and their possessed skills in navigating and interacting with their native health care system (Baker, 2006). The development of health literacy itself was prompted by the observation that it directly relates to health outcomes, such that the lower an individual's health literacy, the poorer their health outcomes, in other words lower health literacy was associated with one's more limited understanding of their current medical condition which would lead to worse health conditions for the individual (Dewalt et al., 2004).

The definition of health literacy was later expanded upon by the WHO to also include the social and cognitive skills one must possess in order to be able to find, process and use information so that they may attain and maintain good health (Kutcher et al., 2016).

Just as with the health literacy, mental health literacy is also experiencing its evolution. Mental health literacy, upon its first conceptualization, was described as the culmination of one's knowledge and beliefs on mental health related matters that can aid the individual in recognizing, managing or preventing the mental health complications, or in the words of the authors:

> *"...the ability to recognize specific disorders; knowing how to seek mental health information; knowledge of risk factors and causes, of self-treatments, and of professional help available; and attitudes that promote recognition and appropriate help-seeking*" (Jorm et al., 1997, p. 182).

Mental health literacy was conceptualized as having six general domains:

> "*1) the ability to recognise specific disorders or different types of psychological distress; 2) knowledge and beliefs about risk factors and causes; 3) knowledge and beliefs about self-help interventions; 4) knowledge and beliefs about professional help available; 5) attitudes which facilitate recognition and appropriate help-seeking, and 6) knowledge of how to seek mental health information*" (Jorm, 2000, p. 396).

It was later revised to include the ability to give support to someone who exhibits mental health problems. In the revised definition four important factors are proposed: Knowledge about the ways to prevent mental disorders; the ability to recognize mental disorder related symptoms when they first emerge; knowledge of ways to help oneself in mild to moderate cases of mental health complications; and knowledge of first aid skills to help others in need (Jorm, 2012). Based on this researcher's findings, an alternative definition of mental health literacy has yet to be proposed.

Based on the provided definition, a thorough measurement process and tool is needed to paint a comprehensive picture of one's mental health literacy. To this end, one of the first measures proposed was an interview schedule dubbed the "Vignette Interview". The vignette interview is carried out by presenting a vignette that included a description of a person showing symptoms of a mental health complication and then asking the participants a number of questions in order to assess their perception of what seemed to be the problem with that person (Jorm et al., 2006).

The use of vignette interview in the study of mental health literacy has been extensive as it was the only available instrument for a considerable part of the concept's lifetime, though this should not impede the discussion of its shortcomings. The biggest limitation of

this measure was its inability to produce a total or subscale score for mental health literacy. The vignette interview was not designed to do so in its original form. Later it got revised to allow for scoring (O'Connor et al., 2014).

Recent developments in the field of mental health literacy, in concert with new developments in health literacy, has resulted in a more refined and expanded definition of the concept of mental health literacy, such that it now includes: the ways in which to keep oneself in good mental health, increasing awareness about mental disorders and the available therapies, being informed about and trying to decrease the stigma that follows mental disorders, and enhancing the efficacy of the individual in help-seeking behaviors (Kutcher & Wei, 2014).

Identical to health literacy, mental health literacy accounts for the context in which it is being considered (designed for and applied in distress situations or everyday life situations) (Kutcher et al., 2015), it considers the participants' developmental stage (Kutcher & Wei, 2014), and it also considers the existing structures at play, such as social or organizational ones (Mcluckie et al., 2014).

This new expanded definition of mental health literacy is an extension of the originally proposed conceptualization by Jorm et al. (1997). It is also in lockstep with the advances in the field of health literacy and accounts for the role of the concept of stigma which for the longest time, was being studied separately (Link & Phelan, 2001; Sørensen et al., 2012). This new definition also expands the originally proposed self-help strategies (Jorm, 2012) and considers the bigger construct of self-help efficacy. It is based on robust literature that help describe the various relationships between the level of mental health knowledge and different types of stigmas (Evans-Lacko et al., 2010; Hadlaczky et al., 2014) which has shown that the lack of knowledge can be the root cause of prejudice (a type of

negative attitude) which in itself exerts great influence on one's behavior (in this case being discrimination). It has also been shown that lack of knowledge on the subject of mental health and related help-seeking behaviors and the perceived stigma, in addition to lack of access to psychological help, negative perceived value, cultural barriers, and discomfort with emotions are among the important barriers to psychological help-seeking among college students (Shea et al., 2019).

As discussed above, just like the concept of mental health literacy itself, measuring it also has not been subject to the creation and standardization of a considerable number of instruments that can cover all domains of the mental health literacy. In fact such developments are very recent with the first scale-based all-encompassing measures being proposed in the latter half of the 2010s (O'Connor & Casey, 2015; O'Connor et al., 2014).

Mental Health Literacy, Review of Literature

Regarding the literature, in a study on the effect of mental health literacy, subjective norms and stigma on help-seeking behavior for difficulties with self or others in male undergraduate and graduate students by Rafal et al. (2018) at a US southeastern university with 1242 participants (917 students at undergraduate level and 325 students at graduate levels), the results indicated that undergraduate students scored lower on the measure of mental health literacy, both in total score and subscale scores compared to graduate students. They similarly showed a higher level of self-stigma. In contrast graduate students showed higher intentions to seek professional psychological help. Results also indicated the presence of significant cultural and ethnic differences, with Asian students reporting higher total scale score for mental health literacy. White undergraduate students scored higher in subjective norms scale and knowledge subscale of the mental health literacy measure compared to Asian and other undergraduate students. With regards to the beliefs subscale of the mental health

literacy measure, Asian and other undergraduate students scored higher compared to white undergraduate students, while white undergraduate students exhibited more self-stigma (Rafal et al., 2018).

In a study on the effect of Mental health literacy and its interplay with self-stigma on the psychological help-seeking behavior of students at a public university in mid-west US, the researchers used vignettes describing individuals with generalized anxiety disorder and depression, to measure mental health literacy. Their results indicated that depression literacy, meaning the percentage of participants that correctly identified depression in the vignettes were very high. It turned out that about one third of the participants had gone for professional psychological help in the prior 12-month period and in general about 41% had a history of seeking professional psychological help. Asian Americans (male students) presented the lowest levels of psychological help-seeking in general compared to other ethnic groups in the study. Their analysis showed that mental health literacy and self-stigma were the major predictors of students' attitude toward psychological help-seeking, even more than the individual's gender or race or their history of psychological help-seeking. The link between self-stigma and attitudes toward psychological help-seeking was significant and negative, and in line with literature. Students who identified generalized anxiety disorder correctly in the vignettes were more likely to hold favorable attitudes toward psychological help-seeking. No interaction effect between self-stigma and mental health literacy was detected. Students' detection rate of depression in the vignettes were significantly higher than generalized anxiety disorder which could account for the literacy campaigns about depression on university campuses (Cheng et al., 2018).

In a nonsystematic review of mental health literacy literature according to the definition presented by Jorm et al. (1997), Furnham and Swami (2018) indicated that the level of mental health literacy in the general public is very low, and that is reflected in

people's recognition of mental health disorder symptoms which, it being so prone to errors, acts as a considerable barrier in psychological help-seeking behavior. Other detected barrier in relation to the level of mental health literacy was the observed insistence of the individuals on helping and healing themselves and not feeling the need to seek professional help and if need be, medical interventions. In their review, they also found significant variance in mental health literacy based on gender, education, race, place of living (urban setting or rural setting) and culture (Furnham & Swami, 2018).

In a study by Gorczynski et al. (2017) on the level of mental health literacy and its association with favorable psychological help-seeking intentions and outcomes among 380 university students at a southern England university, results demonstrated that students at this university exhibited lower levels of mental health literacy compared to similar studies in other western countries. Among the students, men demonstrated as being significantly lower on mental health literacy compared to women, and in the same vein, undergraduate students presented significantly lower levels of mental health literacy compared to graduate students. Female students, sexual minorities, and those with a history of mental illness and professional psychological help-seeking showed significantly higher levels of mental health literacy. Students' preference in psychological help-seeking were shown to lie with close friends and family members and intimate partners. They exhibited a level of self-help tendency, in line with the literature, of being able to seek the necessary mental health information among internet resources. This study also showed a significant, positive association between mental health literacy and psychological help-seeking outcomes (Gorczynski et al., 2017).

In a scoping review of mental health related studies in China from 1997 to 2018 available in five English and two Chinese language databases, by Lu et al. (2019), it was demonstrated that mental health literacy field in China has been on an upward trajectory. 350 peer-reviewed works met the study's inclusion criteria and therefore were investigated. Out

of the 350 studies, about 90% were published in Chinese language journals. Their review found that, in line with the associated literature, most mental health literacy studies had only focused on the knowledge about mental health and the beliefs about mental health parts of the concept of mental health literacy. Studies focusing on developing interventions to increase mental health literacy were almost nonexistent. For the most part, studies of mental health literacy only covered suicide and general mental health, with some studies covering anxiety, psychosis, and depression. Specific disorder based mental health literacy was not found. Mental health literacy measures employed in these studies, in 80% of cases were developed in China with an alarming number of those studies (57.8%) not reporting their psychometrics in details (Lu et al., 2019).

In a longitudinal study on the relationship between mental health literacy, attitudes towards psychological help-seeking, perceived need of professional help and mental health service use in a 6 month follow up period in canton of Zurich in Switzerland, with the eventual participant number of 172 individuals screening positive for mental disorders, results demonstrated that the use of mental health services (which includes psychotherapy and medication) followed a dichotomous pattern, in that the participants either made use of the services or they did not at all. Their analysis, in line with literature, showed a significant positive relationship between mental health literacy, perceived need, and attitudes towards psychological help-seeking with the individual's use of psychotherapy in the follow up period. The same association was also found to be true for age and life time use of mental health services and higher pathology. The same positive relationships held true for the individual's use of medication, except for the relationship with attitudes toward psychological help-seeking, which upon closer inspection made sense, since scale used in this study measured attitudes towards therapy and not the use of medication (Bonabi et al., 2016).

In another study, among Latino women at a community-based clinic in the US on the relationship between education level, depression knowledge (as a measure of mental health literacy) and the associated stigma, results demonstrated that an individual's level of mental health literacy was negatively associated to their level of perceived stigma, and positively related to their acceptance of someone who had a history of treatment for depression. Their results, surprisingly, showed that an individual's education level was positively correlated with their level of perceived stigma about anti-depressant medication use. Authors posit that this unexpected result could be caused by the increased awareness of a highly educated individual of the general attitude of people around them toward anti-depressant medication use, or it could be the result of deeply ingrained social and cultural norms within the person that proves too hard to break free from (Lopez et al., 2018).

In a study on the relationship between mental health literacy and psychological help-seeking intention among students enrolled in a psychology course at the Queensland University of Technology in Australia, results indicated that mental health literacy was a significant predictor of students' psychological help-seeking intention. Their analysis showed that mental health literacy can account for as much as 27% of the variance in psychological help-seeking intention among students. Their study assumed a five-factor structure conceptualization of mental health literacy and used a measure created for this study, in which four of the factors proved to be significant determinants of the psychological help-seeking intention: knowledge about interventions, Knowledge about affordability, Knowledge about confidentiality, and Beliefs about mental illness. The one remaining factor, Knowledge about importance of help seeking, even though found to be a significant predictor, did not show a unique contribution to the regression analysis. Authors argue that further research or use of a more comprehensive measure of mental health literacy (which

had yet to be developed at the time) could help explain this situation (Smith & Shochet, 2011).

Stigma

Stigma has been described as a characteristic that is harmful and disadvantageous in nature and that being afflicted by or possessing that characteristic can brand the individual as undesirable and tainted. It can manifest itself as the relationship between the undesirable characteristic and the dominant social stereotypes (DeFleur & Goffman, 1964). The specific stigmas associated with mental illness, signal a negative preconceived notion, a prejudice of some kind, towards individuals afflicted with such illness, as these individuals possess characteristics that are linked to dominant negative stereotypes (Link & Phelan, 2001).

To elaborate, "… the stigmas associated with seeking mental health services, therefore, is the perception that a person who seeks psychological treatment is undesirable or socially unacceptable" (Vogel et al., 2006, p. 325).

The process of seeking professional mental health care can be perceived as the individual suffering from some form of mental illness, which can create this interference that the individual cannot handle their own affairs, and this can be one of the aforementioned dominant negative stereotypes (Nadler, 1997). The general public, for the most part, seems to be aware of the existence of stigmas associated with mental health help-seeking and the devastating influence they may exert, so much so that they believe some may simply forgo seeking professional psychological help for the fear of being labeled crazy by their peers and their communities (Nelson & Barbaro, 1985).

Stigmas can be so ingrained in people's perceptions that even mental health professionals are not immune to them, as research has shown that they may also subscribe to such stigmatizing and discriminatory notions (Corrigan & Watson, 2006). This is not that

surprising when one takes into account that many psychological theories, in describing pathology, put the onus on the individual's internal functioning rather than any outside conflict that may exert great influence on the individual's well-being, and so the not so subtle take away message becomes clear, the stronger the individual the lesser their chances of being afflicted by pathology under similar circumstances. The stigma associated with psychological disorders starts here (Scheff, 2017).

The stigma associated with mental illness is identified under two broad categories, namely public stigma and the effect of public stigma on the individual, their close social circles (friends, partners and family) and the society in general. This second category of stigma encompasses self-stigma, structural stigma, label avoidance, double stigma, courtesy stigma, automatic stigma, and stigma power (Sheehan et al., 2017).

The relationship between public stigma and self-stigma and their association with attitudes and intentions, according to Vogel et al. (2007) can be summed up as shown in the following figure:

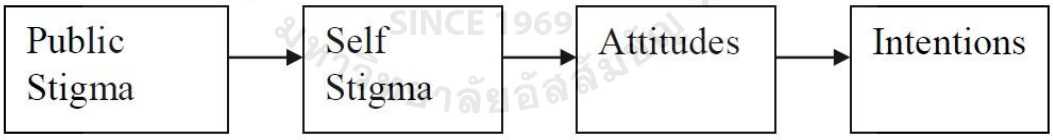


Figure 3. relationship between stigma, attitudes and intention (Vogel et al., 2007)

In this research the focus will be only on public stigma (in the form of social stigma) and self-stigma. Public stigma can be summarized as the negative view and the prejudice of the general population on individuals with psychological disorders, and self-stigma is the result of the individual internalizing those negative views or to put it simply, public stigma can be defined as when others perceive the individual with a mental health problem as

undesirable and unacceptable, and self-stigma is when the individual perceives themselves as being socially unacceptable (Vogel et al., 2006).

When an individual starts experiencing symptoms of a mental disorder, all the stereotypes associated with mental illness that they have internalized before receiving a label linking them with such illness suddenly become very personal and relevant (Watson et al., 2007).

Curiously, the same level of stigmatization rarely, if ever, extends to seeking help for physical problems. For example, in a study on undergraduate students studying in a psychology program, it came out that students would rate someone suffering from a mental health complication as being not as competent, or interesting, and lacking confidence, compared to those presenting a physical problem. The same study also showed that how individuals looking for help for a mental health complication were viewed as more emotionally unstable compared to those who did not seek help for such complications (Ben-Porath, 2002). Considering the existence of such evidence for stigma, it is easy to imagine why avoidance of treatment is the chosen approach of many in need of mental health care (Wrigley et al., 2005).

The stigma process has been described as having 4 distinct factors, namely cues, stereotypes, prejudice, and discrimination. When it comes to individuals with mental health problems, there are usually four kinds of cues that the general public can pick up on, namely social skill deficits, psychiatric symptoms, physical appearance, and label. Observing the social skill deficits, psychiatric symptoms, and physical appearance in an individual can lead to a stigmatizing reaction in the observer as the presence of those cues can lead one to reach the conclusion that the individual is suffering from a mental health problem. And finally, the last of the cues, labeling, causes stigma by the simple fact that the individual has received

such a label as the result of receiving a diagnosis from a metal health professional, or by simple association such as being seen leaving a psychiatrist's office (Corrigan, 2004).

The presence of these cues can make one feel the experience of negative stereotypes that are linked with suffering from a mental health problem, however this knowledge and experience alone does not lead one to condone such negative perceptions. That's where the third factor comes into play, meaning an individual must be prejudiced against individuals afflicted with mental health complications and endorse the negative stereotypes in order to form a negative response and reaction towards people afflicted with such conditions which is the basis of discrimination, in other words, prejudice is the link between stereotypes and discrimination (Sheehan et al., 2017).

Stereotypes and prejudices commonly associated with mental illness can be summed up in three categories: Dangerousness, Incompetence, and Permanence. These categories paint a very grim picture of someone with a mental illness as it views them as an individual who is violent and unpredictable (Dangerousness), is not able to manage their own affairs and should not be trusted with responsibilities or decision making at any level (Incompetence), and are untreatable and thus any and all effort in treatment or rehabilitation would be futile and they forever shall remain in the same situation (Permanence) (Sheehan et al., 2017).

This can cause an individual who is suffering from mental health complications to deny the existence and experience of such problems, in an effort to distance themselves from the negative stereotypes, prejudice, and the resulting discriminatory behaviors, which ultimately will stop them from seeking the mental health care they so desperately need (the interplay of public stigma and self-stigma) (Corrigan, 2004).

To better illustrate this point, the following figure from Sheehan et al. (2017) can be helpful:

	Public stigma	Self-stigma	Label avoidance
Stereotype (cognitive)	People with mental illness are violent	People with mental illness are incompetent	People with mental illness are "psycho"
Prejudice (affective)	Landlord feels scared of Bob because he has a mental illness	I am a person with mental illness and therefore incompetent. Who would want to date me?	I have a mental illness and am ashamed to be seen as "psycho"
Discrimination (behavior)	Landlord won't rent apartment to Bob	I think "why try" and stop looking for a relationship	I don't tell my boss I need time off to see a therapist for fear I will lose my job

Figure 4. A matrix of stigma and stereotypes, prejudice and discriminatory behavior (Sheehan et al., 2017)

Public and self-stigma are both linked to the person's attitudes towards seeking professional psychological help, and with the self-stigma being a personally held belief, it can exert greater influence on one's attitudes towards psychological help-seeking, with individuals higher in self-stigma being lower in their psychological help-seeking intention (Vogel et al., 2006). Self-stigma has been shown to be one of the best determinants of psychological help-seeking attitudes, and similarly attitude being one of the best predictors of intention (Vogel et al., 2007).

Stigma, Review of Literature

Regarding the literature, in a meta-analysis of the effects of stigma on help-seeking behavior by Schnyder et al. (2017) which included 27 studies with 31667 participants of 15 years of age or older, it was found that mental health related stigma in general exerts a negative influence on one's help-seeking behavior which causes lower levels of engagement in help-seeking behavior. It was also found that the strength of stigma was more central to its

influence on the individual's help-seeking behavior than the specific type of stigma. Among the types of stigmas considered (personal, self, and public) it was the personal stigma that showed the highest association with attitudes and help-seeking behavior, with its effect being negative on one's attitudes and help-seeking behavior. It was also shown that self-stigma and public-stigma were statistically insignificant, with the results contradicting the related literature with regards to self-stigma (Schnyder et al., 2017).

In a recent study by Ross et al. (2020) on the effects of different types of stigma and mental health literacy in undergraduate students, and their parent's beliefs on students' help-seeking behavior, the results demonstrated that treatment stigma in students was the subject of significant effect by perceived, personal and self-stigma, with personal stigma as the best predictor followed by self-stigma and perceived stigma exhibiting similar predictive qualities. The results are in line with the literature that any increase in any of the types of stigmas will lead to less favorable attitudes towards psychological help-seeking or lower psychological help-seeking intention. Interestingly, children of parents with high reported levels of stigma towards individuals with mental disorders (public), exhibited higher self-stigma which meant that they were internalizing their parents' behavior and that would cause them to feel bad about themselves in case they were afflicted with a mental disorder. These findings highlights the role of stigma and more importantly the role of mental health literacy, as this study has shown any amount of education on the matter will have positive results on students and their parents (Ross et al., 2020).

In another study on university student's mental health and its relationship with stigma, with focus on three major areas of impact on studies, support, and disclosure, in an Australian university, it was demonstrated that most students were not willing to share their mental health concerns with their teachers and university staff as they had fears that such disclosure would result in them becoming the subject of discrimination arising from stigma

associated with mental disorders, and at the same time have detrimental effects on their studies and any future prospects in a job market. In fact, some students would go as far to intentionally hide any disorder like mental health conditions or concerns they may have had. These students would not do well in their studies and would end up with warnings and notices from the teachers and staff about their academic situation which would have a compounding disempowering effect on the student. Those that disclosed their concerns and their mental health condition were met with support from teachers and university staff and it was found that the university's facilities and services were this group's main source of help and support. Close friends and family turned out to be the resource of choice for those who did not feel comfortable sharing their concerns with the university staff (Martin, 2010).

In a study on the effects of mental health literacy, social support, and stigma on psychological help-seeking attitudes, 211 participants with an age range of 22 to 64 in Texas, US were selected. Results of the study, in line with literature, demonstrated that higher levels of mental health literacy and social support would lead to more favorable attitudes toward psychological help-seeking. The relationship between mental health literacy and personal stigma was found to be significant, in line with literature, where higher awareness of mental health problems and what they entail and how to effectively deal with those problems (mental health literacy), leads to the individual's higher acceptance of people with a history of mental health problems. Interestingly the link between mental health literacy and self-stigma did not show statistical significance. This discrepancy, as the authors reason, could be because of the different conceptualization that self-stigma (stigma toward the self) and personal stigma (stigma toward other people) associated with mental disorders are based on. In other words, authors argue, an individual can become accepting of the problems of others, but when it comes to themselves being diagnosed with a mental disorder, the level of awareness and

knowledge would not be enough to account for the shame and general negative feelings they might experience (Jung et al., 2017).

In a systematic review of studies with Arab populations in their native countries and abroad and how they perceive mental illness and the stigmas that come as a result of that perception by Zolezzi et al. (2018), it was found that the majority of the studies reported a negative perception and portrayal of mental disorder among the Arab populations, both in their native countries in the Middle East and those living in western countries. Investigating the origins and causes of mental disorders indicated that cultural stereotypes originating from religious teachings and beliefs mixed with family traditions were among the main sources reinforcing the negative perceptions of mental disorders. For example, considering mental disorders as being the result of possession by evil spirit, demons, or a curse was common, with divine punishment and God's will, also being noted. Interestingly the same findings held true even for Arabs living in western countries. The biggest stigmatizing behavior against those with mental disorders was the social distance people kept from them. It was shown that being mentally ill was considered shameful for the person themselves and their families, and a sign of incompetence and was reported as making one not suitable for a romantic relationship, having children or even friendship. This stigmatizing behavior was reported as being prevalent among students and even a section of healthcare workers in both of the investigated contexts. In contrast, false beliefs about the resulting behavior caused by mental disorders, as in being violent, dangerous or criminal or incompetent in general were more prevalent among Arabs in western countries. When seeking help, stigma still reigned supreme, with religious based approaches such as surrendering oneself to the will of God on an individual self-help level or seeking faith-based healers being noted as major preferences for psychological help-seeking. In the same vein, taking medication for a mental disorder was

reported as being stigmatizing, as medication is believed to cause addiction, and that the person would not be able to function normally without them (Zolezzi et al., 2018).

In a study by DeFreitas et al. (2018) on the nature of mental health related stigma among African American and Latino college students in the US, results demonstrated that Latino students presented significantly lower levels of personal stigma and also perceived stigma compared to their African American counterparts. For both African Americans and Latinos, higher level of perceived and personal stigma was associated with higher reported anxiety levels when confronted with someone identified as being mentally ill. Similarly, lower levels of Personal stigma were associated with the students' beliefs that a mental illness can be successfully treated by a mental health professional and that being diagnosed with a mental illness does not necessary disrupt the individual's relationships. Perception of the severity of mental disorders in general, among the African American students seemed to lead to the belief that such an individual would be highly visible and thus subject to stigma. For both groups, the understanding seemed to lie in the belief that mental disorders are very hard to treat and therefore basically permeant, and can be only of the severe kind that would ever warrant a health care professional consultation, or use of medication or hospitalization. When these concerns are alleviated the students would be more accepting of individuals with mental disorder and consequently will exhibit less stigma (DeFreitas et al., 2018).

In a study investigating the effect of stigma associated with mental health care on individual's under-reporting of mental illnesses compared to other health concerns in New South Wales, Australia among a 45 years old and up population, results indicated that people were highly likely to under-report any diagnosis and prescription medication use associated with mental health compared to any other health concern. Authors argue that stigmas associated with mental health problems are the root cause of such behaviors. They note that due to the nature of their study they were not able to distinguish between different types of

stigmas and thus use the stigma in its broad definition. For example, they were not able to ascertain that the under-reporting would be done because of personal stigma with mental illness (stigma one understands to exist for other people with mental disorders) or self-stigma (stigma one feels about themselves when diagnosed with a mental disorder). Though they were able to rule out the effect of concerns about discrimination in the job market, since the majority of participants were retired (Bharadwaj et al., 2017).

In a study by Sandhu et al. (2019) on explicit and implicit stigmatizing attitudes associated with mental health in university students in Canada, 538 students from undergraduate, medicine and psychiatry programs at McMaster university were chosen. Results of this study demonstrated that among the students, as expected, students of psychiatry scored the lowest on the disclosure/help-seeking subscale of the employed measure of explicit stigmatizing attitudes, followed by students of medicine and undergraduate students of other disciplines, which surprisingly did not show a significant difference. Coming to the attitudes toward people with mental illness subscale of the measure, the same rank order held true, only this time there was a significant difference between students of medicine, and other undergraduate students, with students of medicine scoring lower. Investigating the same explicit measure further indicated that there was a significant difference between the scores of those who had a history of a mental disorder diagnosis (who scored lower) and those with no such history. Considering implicit stigmatizing attitudes, there was a significant difference among the student groups, in that students of psychiatry scored the lowest, followed by other graduate students and students of medicine at the same level, because of no significant differences. Regression analysis also showed that the major predictors of explicit stigmatizing attitudes were a history of mental illness diagnosis and having first-hand experience and close contact with someone dealing

with a mental illness. No other significant relationship were detected for implicit stigmatizing attitudes or among other variables (Sandhu et al., 2019).

In another study, by Bhavsar et al. (2019) on stigmatizing attitudes variations across different regions of England using data from a national health survey in England conducted in 2014, results demonstrated that even after accounting for the effects that social or demographic factors may have on one's stigmatizing attitudes toward mental disorders along two dimensions of tolerance and support and prejudice and exclusion, it turned out that participants form south western and south eastern regions reported significantly less favorable attitudes compared to participants in north eastern regions. It was also shown that, in general, the city of London had unfavorable attitudes along the two aforementioned dimensions. Further analysis indicated that the relationship of regions was significant with attitudes toward mental health and its two associated dimensions (Bhavsar et al., 2019).

Attitudes and Attitude Formation

According to Zanna and Rempel (1988) attitudes are the culmination of feelings (both positive and negative), beliefs, and behavioral information about an attitude object. This attitude object can be anything and anyone, ranging from people to kitchen supplies (Zanna & Rempel, 1988). When one encounters a new object or person, no matter good or bad, friendly or not, they usually reach a conclusion on whether they like the thing or the person or not. Attitudes being the snap summary of that thing or person to the individual is the very thing that makes attitudes so efficient and flexible (Fazio, 2000). In other words, attitudes are akin to ready-made evaluations within an individual that allow one to navigate a novel situation without having to constantly stop and take a moment to figure out whether they should approach the new person in their neighborhood or buy the new frozen food available at their local grocery store (Olson & Kendrick, 2011).

Attitudes can arise from different sources within an individual and the sources of attitude formation have been a focus of study in psychology for years. Two different individuals may form similar attitudes about the very same object, that arise from different foundations (Eagly & Chaiken, 1993), for example an object such as a cellular phone, one person may arrive at their favorable attitude towards that object based on the perceived prestige and the sense of superiority that device may bring them, while at the same time another individual may form their favorable attitude based on the more technical aspect of the device. Both individuals in our example have positive attitudes towards the same object, yet their attitude formation and its basis could not have been more different.

Different bases of attitude formation have long been an area of interest in psychological research, and just like the provided example, it has been posited to arise from a number of different sources, namely emotions or affect, beliefs or cognition, and finally past behavior. These form the ABCs of attitude formation (affect, cognition, and behavior), which is commonly referred to as the tripartite approach. It is interesting to consider that sometimes behavior can precede attitude, in the form of past behaviors serving as the foundation of attitude formation (Zanna & Rempel, 1988). Research has also shown that attitude formation can even happen through implicit process, with the individual being oblivious to those processes (Rudman, 2004). It has been suggested that there could be unlearned, inherited components to some attitudes (Tesser, 1993).

Here the focus will be mainly on the cognitive origins of attitude formation as it is strongly related to the present research.

An individual's favorable evaluation of an object, person or topic can be the result of acquiring positive beliefs or thoughts about that object, person or topic. Imagine a situation in which one reads the health benefits of exercising, and how it can lead to physical and

psychological health. This individual may develop beliefs that exercising can produce a number of favorable outcomes for them (better body shape, less knee and back pain). It is through this rational and thoughtful process that the individual develops attitudes, by creating cognition that the attitude object (exercising) can lead to favorable (or unfavorable) outcomes for them, and whether the attitude object possess desirable (or undesirable) traits for them (Eagly & Chaiken, 1993).

In describing the cognitive origins of attitude formation many theories and models have been proposed such as information integration theory (Anderson, 1981), reception-yielding model (McGuire, 1972), and the cognitive response model (Greenwald, 1968).

Among these models, the expectancy-value model proposed by Fishbein and Ajzen (1975) will be discussed here as it relates to the model employed in this research. This model describes how one takes the information about an object and uses that information to evaluate the object. Model assumes that attitudes are the result of an individual's beliefs, and these beliefs in turn are the result of expectancy and value that one attaches to the assumed attributes of the attitude object. Expectancy refers to one's perceived likelihood that the attribute occurs and value refers to the individual's evaluation of said attribute. In other words, attributes are associated with expectancy and a value, and the culmination of all the relevant attributes and their associated expectancy and values lead to the formation of an overall attitude towards the attitude object (Fishbein & Ajzen, 1975).

Other models trying to explain the cognitive origins of attitudes have been proposed that rely on the information processing theories, these models are referred to as the dual-process models. These models are mostly used to describe attitude change, but in the presence of no previous attitude, they can also account for the formation of attitudes, including the Petty and Cacioppo (1986)'s elaboration likelihood model, or the heuristic

systematic model by Chaiken and Stangor (1987). These models try to argue than attitude formation can be the result of two different processes.

Attitudes, Review of Literature

In psychological help-seeking literature the role of attitudes, posited by the theory of reasoned action / planned behavior has been the subject of considerable research. For example, in a study on the psychological help-seeking behavior in an ethnically diverse clinical sample, it was found that self-stigma is the major determinant of attitudes towards seeking professional psychological help, and the individual's ethnicity, attitude towards seeking professional psychological help and the level of perceived support and encouragement from friends and family were the major predictors of one's psychological help-seeking intention. Final analysis of this study demonstrated that in predicting an individual's actual behavior in a diverse clinical sample, the minority identity, public stigma and the individual's level of intention in seeking professional psychological help were among the most significant predictors (Bitman-Heinrichs, 2017).

In the same vein, in a meta-analysis on major factors influencing college students' attitude towards seeking professional psychological help, Nam et al. (2013) found that among the studied variables, most of them correlated significantly with the attitude towards seeking professional psychological help. It was found the biggest effect size was for self-stigma, with anticipated benefits coming in second. Other factors such an anticipated risks, self-disclosure, and public stigma exhibited a medium effect size, while social support and self-concealment showed a very small effect size. Their results also showed that social support, anticipated benefits, and self-disclosure demonstrated a positive correlation with attitudes towards seeking professional psychological help, while self-concealment, stigma, and anticipated

risks exhibited a negative correlation. These results were in line with literature (Nam et al., 2013).

In a study on college students' attitude towards seeking professional psychological help among a diverse population including Asian, African, Latin American and European international students in United States using the Attitude Towards Seeking Professional Psychological Help scale (original, 29 item form), the results indicated that in general students of Asian and African origin, both with a mean score of 46.4, held unfavorable attitudes towards seeking professional psychological help compared to students from Europe with a mean score of 53.9 and Latin America with a mean score of 57.1 (Dadfar & Friedlander, 1982).

Another study on the Asian international students' attitude towards seeking professional psychological help and its relationship with one's cultural background and their level of acculturation with a diverse sample of students from different Asian countries in the United States, showed no significant relationship between one's age, country of origin, or even gender to their attitude towards seeking professional psychological help, but found an important predictor in the individual's level of acculturation in that as the individual becomes more acculturated, they are more likely to have a positive attitude towards seeking professional psychological help, especially so when it came to tolerance of help-seeking related stigma and their level of confidence and trust in mental health care profession (Zhang & Dixon, 2003).

In another study on the subject of the Asian international students and their US born counterparts' expectation from counseling and their attitudes towards seeking counseling, it was demonstrated that Asian international students reported significantly higher levels of negative attitude towards seeking counseling compared to American students. They also

reported significantly lower levels of perceived need to seek counseling, lower levels of emotional openness, and expressed significantly more discomfort and shame in seeking counseling than their American counterparts. Gender differences also, in line with literature, emerged in the results, with females expressing higher levels of perceived need for counseling, higher emotional openness, and less experiences of shame and discomfort. Interestingly in the overall results, it was found that the participants respective countries (Asian versus American) had a much larger effect than even gender (Yoon & Jepsen, 2008).

In a study on the attitudes towards seeking professional psychological help among 2508 university students from seven universities in Malaysia, results indicated that Malaysian university students held unfavorable attitudes toward seeking professional psychological help and were not ready to make use of counseling facilities available at their respective institutions. It was mentioned that help-seeking stigma could be the major barrier in students' psychological help-seeking behavior. It was suggested that renaming the counseling facilities to something more general like "life and culture center" could help reduce the stigma and increase the students' use of mental health care resources. Creating awareness and increasing students' knowledge on mental disorders and available therapies could also help improve the situation (Salim, 2010).

Gender differences

Gender differences have been the subject of numerous studies in psychology. In this context, gender differences refer to the divergent ways in which different cultures view males and females and therefore define masculinity and femininity. In this definition, each sex has distinct characteristics and associated roles such as males expected of being aggressive, goal-oriented, competitive, outspoken, showing less emotions and not being reliant on others in

accomplishing their tasks. At the same time this definition views females as gentle, soft-spoken, nurturing and an emotional caretaker (Archer & Lloyd, 2002).

Research has shown that males and females are divergent the most in their interests, beliefs, attitudes and the resulting behaviors. Fischer and Turner (1970) in their study of psychological help-seeking behavior showed that a notable gender difference was at play, with females showing more openness to the idea of seeking professional psychological help (Fischer & Turner, 1970).

Other studies, such as the one by Fishbein and Ajzen (2011) demonstrated the same results when discussing the differences between men and women with regards to hunting as a leisure activity. Their results suggest that gender had considerable influence on the hunting behavior. They argue this stark difference according to the theory of reasoned action model, that the difference is caused, on the first step, by a difference in each gender's intention to go hunting (r= .57). interestingly, considering the effect of perceived behavioral control (theory of planned behavior) did not improve behavior prediction in this case. As intentions are considered the immediate determinant of behavior, they looked at the most important antecedent of intention, the attitudes, to find differences. Not surprisingly, males and females showed significant differences in their attitudes towards hunting as a leisure activity. Males showed positive intentions towards going hunting in the next 12 months (M= .53) and females showed significant negative intention in the same context (M= -2.61). The genders also showed the same level of significant difference in their perceived control of hunting (Fishbein & Ajzen, 2011)

Further analysis demonstrated that intentions were being primarily influenced by attitudes towards the behavior. Immediate determinants of attitudes, according to the theory of reasoned action / planned behavior, are the behavioral beliefs. These and their strength and

the evaluation of associated outcomes and the subjective probability of those outcomes were found to be points of difference between the genders. For example, both genders considered some of the outcomes associated with hunting as highly favorable, such as enjoying nature, and having some time alone to think back and reflect. At the same time, outcomes such as being competitive and getting exercise, and witnessing a wounded or dead animal were points of significant difference between the genders, with men considering these outcomes as more positive (or simply, not as negative). Another point of difference lied in each genders' assumed level of likelihood of each of the outcomes happening. For example females saw the chances of their favorable outcomes materializing through hunting as very low, while males thought otherwise (Fishbein & Ajzen, 2011).

Presence of gender differences have been shown to be consistent across diverse demographic groups and even national borders. The same gender differences have been observed in children and adolescents between the ages of 10 to 19, the same has been observed among adolescents in Australia, it has been confirmed to exist the same among black and white elderly between the ages of 54 up to 70, and it has been shown to have the same prevalence among different sexual orientations, with gay men exhibiting the same attitudes towards seeking professional psychological help as straight men, meaning their likelihood of seeking professional psychological help was very low, and lower than lesbian couples (Garland & Zigler, 1994; Husaini et al., 1994; Modrcin & Wyers, 1990; Rickwood & Braithwaite, 1994).

Generally speaking, it has been demonstrated that the more an individual adopts the stereotypical masculine attitudes, such as limited display of emotions and an unusually high dedication to work at the expense of other parts of life, the less likely they will be to seek professional psychological help (Good & Wood, 1995).

In a qualitative study by Tang et al. (2014) on 21 male college students, it was found that more adherence to masculine gender roles by male students in college, meant the odds of them seeking professional psychological help in dealing with depression related problems were lower. Based on their research three main themes with regards to masculine gender roles and hampering their willingness in seeking professional help was observed among the male students: 1. They denied anything that could be construed as a weakness, 2. They disclosed as little as possible and preferred to deal with their problems on their own, and 3. They redefined strength on their own terms that was not in conflict with help-seeking for depression (Tang et al., 2014).

In a cross-sectional online survey on gender differences in the preference of individuals in seeking professional psychological help, the results show that support groups were preferred by men more than women. In their coping with stress, men used sex or pornography more than women. Men mentioned that they feel a lack of male-friendly option in seeking professional psychological help, more than women did with regards to their own female-friendly options. When it came to the preferred sex of the professional (therapist) majority expressed no preference, but among those who did express a preference, men only slightly more preferred a therapist of the opposite sex, this preference among women skewed heavily towards a preference for female therapist (Liddon et al., 2018).

A study on the 2006 General Social Surveys mental health module in the US, demonstrated that to seek psychological help from informal sources (friends, family and religious leaders) in dealing with depression and schizophrenia was endorsed the same between men and women, but when it came to seeking help from a formal, professional source men exhibited lower tendencies to approve of such help-seeking methods in dealing with depression, but not in dealing with schizophrenia which lead the researchers to assume that it could be the result of men considering schizophrenia as a much more “serious”

condition than depression. Endorsement of psychological help-seeking by others did not show any variance with regards to gender of the afflicted individual, among men and women (Wendt & Shafer, 2016).

In a meta-analysis study on gender and attitudes towards seeking professional psychological help among undergraduate and graduate students by Nam et al. (2010) with a total of 5700 participants, it was found that gender had significant effect on the individual's attitude toward psychological help-seeking, in that female students showed more favorable attitudes compared to male students across all races. The effects of stigma were also found to be significant with male students. Stigma was perceived through one's fear about being judged by others for being in therapy and how one would feel about themselves by being in therapy. Stigma exerts a negative influence on one's attitudes towards professional psychological help. Other significant finding pointed to the interaction of gender and the individual's cultural backgrounds with Caucasian Americans holding more positive attitudes than Asian Americans and Asians (Nam et al., 2010).

In a study by Topkaya (2014) conducted in a university in Turkey on the effects of gender, self-stigma, and public stigma on attitudes towards psychological help-seeking, the results pointed towards the existence of a significant effect by gender and self-stigma on attitudes toward psychological help-seeking, with the effect of public stigma being non-significant, such that female participants held more favorable attitudes toward psychological help-seeking, and male participants reported experiencing more self-stigma of psychological help-seeking than female participants, and in the same vein male participants reported experiencing more public stigma compared to females (Topkaya, 2014).

In another study in the Philippines, among the university students of a metropolitan Manila area university on the subject of the effects of gender, social support, self-

concealment, loss of face, and problem severity on psychological help-seeking intention, results suggested a significant effect by gender on problem severity and social support, with men reporting lower levels on both variables. Their study showed no variance with regards to gender on any other variable, and also on the intention of the individual to seek counseling which contradicted the literature, which has shown men as being less likely to seek professional psychological help compared to women (Tuliao et al., 2016).

The Current Investigation

The present study is designed to pursue three main goals and therefore consists of three separate but interrelated studies that aim to fulfill said goals, as follows:

1. To investigate the psychometric properties of the employed measures on undergraduate university students in Bangkok

2. To evaluate and compare the direct and indirect influence of mental health literacy on university students' psychological help-seeking intention, as mediate by self-stigma, social stigma and attitude towards seeking psychological help. Four nested models (direct model, indirect models at level 1& 2, and full path model) were examined by multi-model path analysis via Structural Equation Modeling (SEM). It is hypothesized that SEM provides the necessary means for a direct comparison of the nested models' goodness-of-fit indices, and to check which model provides the best explanation of the hypothesized direct and indirect effects in relation to the models' exogenous mediators and criterion variables. These nested models are as follows:

Model 1- Direct Model: Model one represents the direct model with the hypothesized structural linkage between mental health literacy (in the form of its 2 underlying factors) and the criterion variable of psychological help-seeking intention.

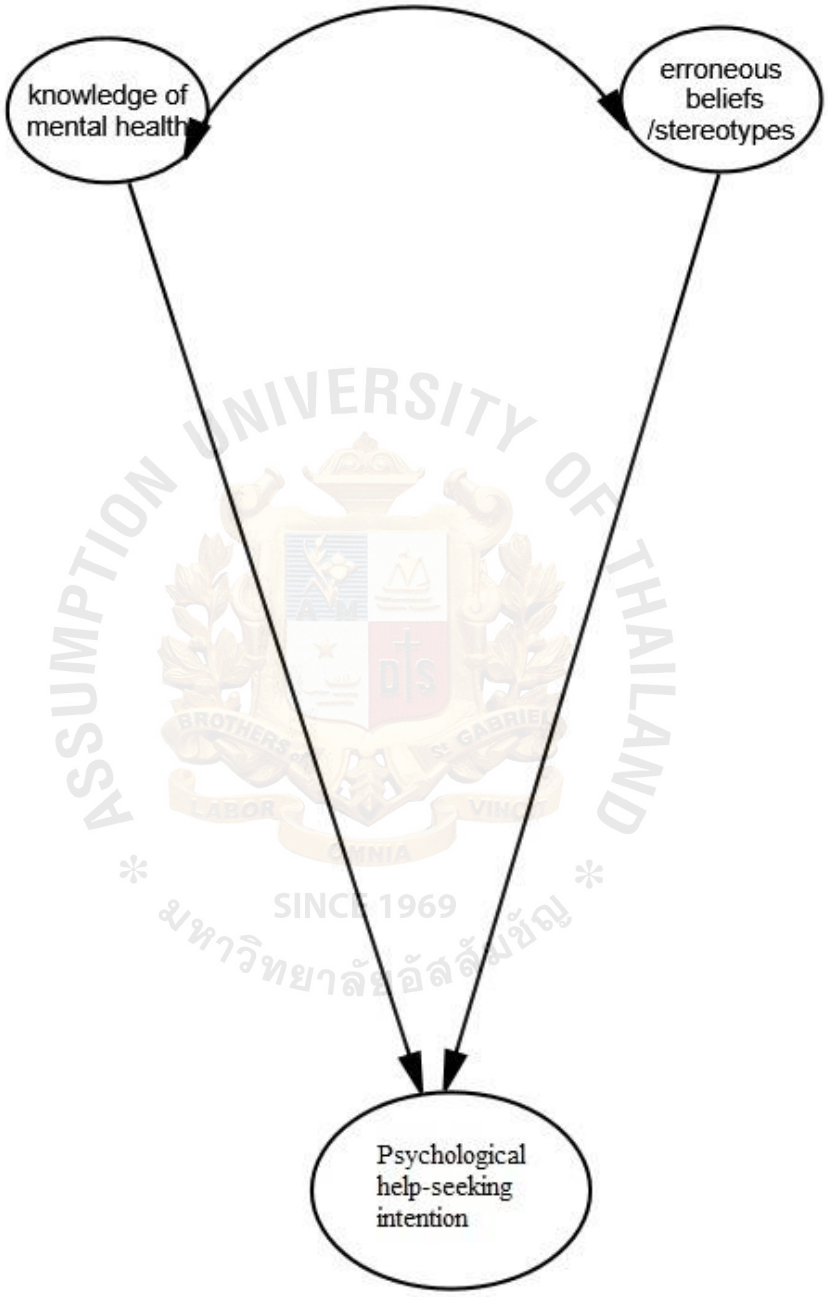


Figure 5. Direct model: The relationship between the two dimensions of mental health literacy (Knowledge of mental health, erroneous beliefs / stereotypes) with the criterion variable psychological help-seeking intention

Model 2: Indirect Model - Level 1 Mediation*:* Indirect model level one in which the hypothesized relationships between mental health literacy and psychological help-seeking intention are posited to be mediated by social stigma and self-stigma

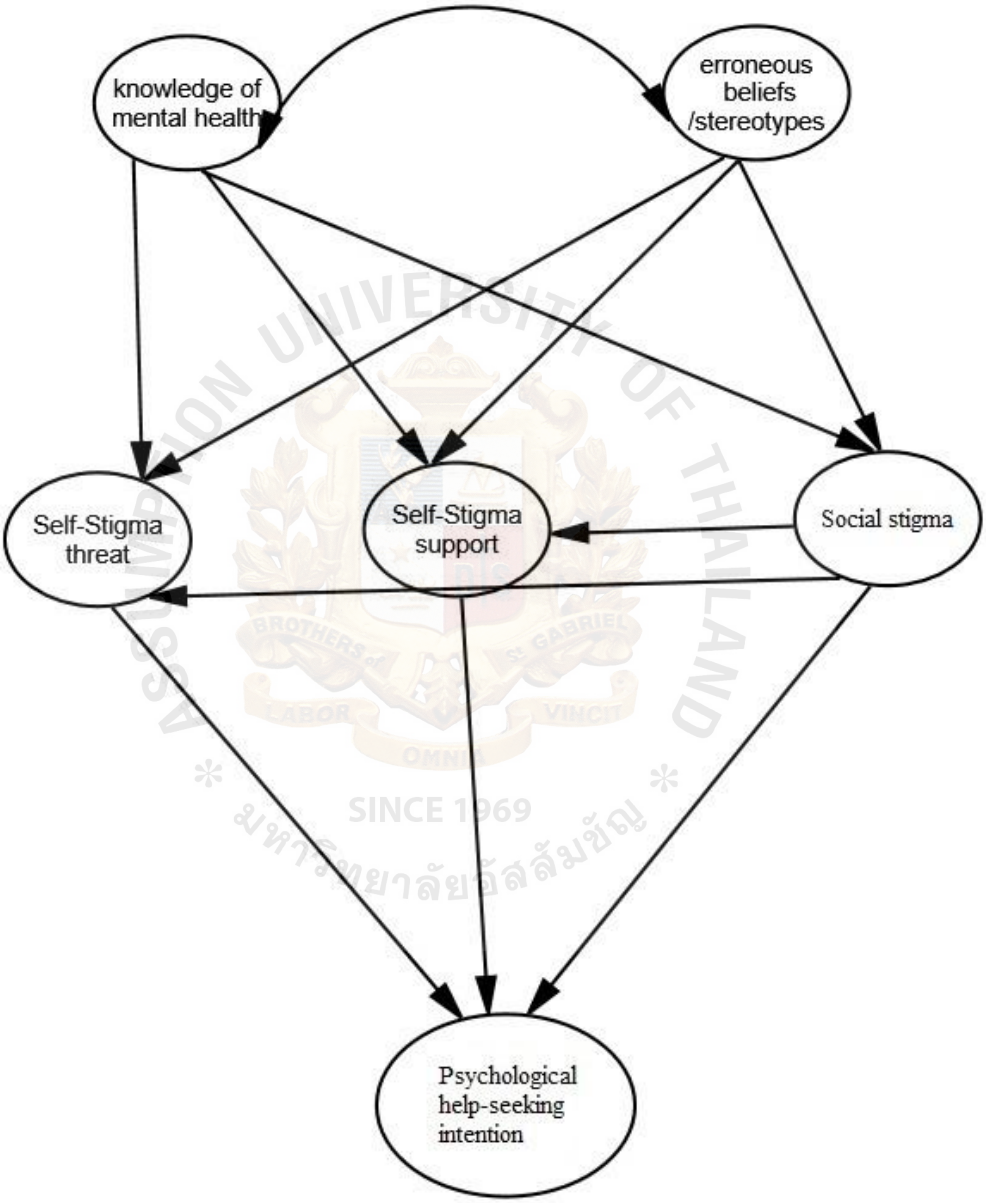


Figure 6. Indirect model level one mediators: The relationships between the two dimensions of mental health literacy (Knowledge of mental health, erroneous beliefs / stereotypes) with the criterion variable psychological help-seeking intention, being mediated by social stigma and the two dimensions of self-stigma (self-stigma threat and self-stigma support).

Model 3: Indirect Model - Level 2 Mediation*:* Indirect model level two in which the hypothesized relationships between mental health literacy and psychological help-seeking intention are posited to be mediated by self-stigma, social stigma, and attitudes towards seeking psychological help.

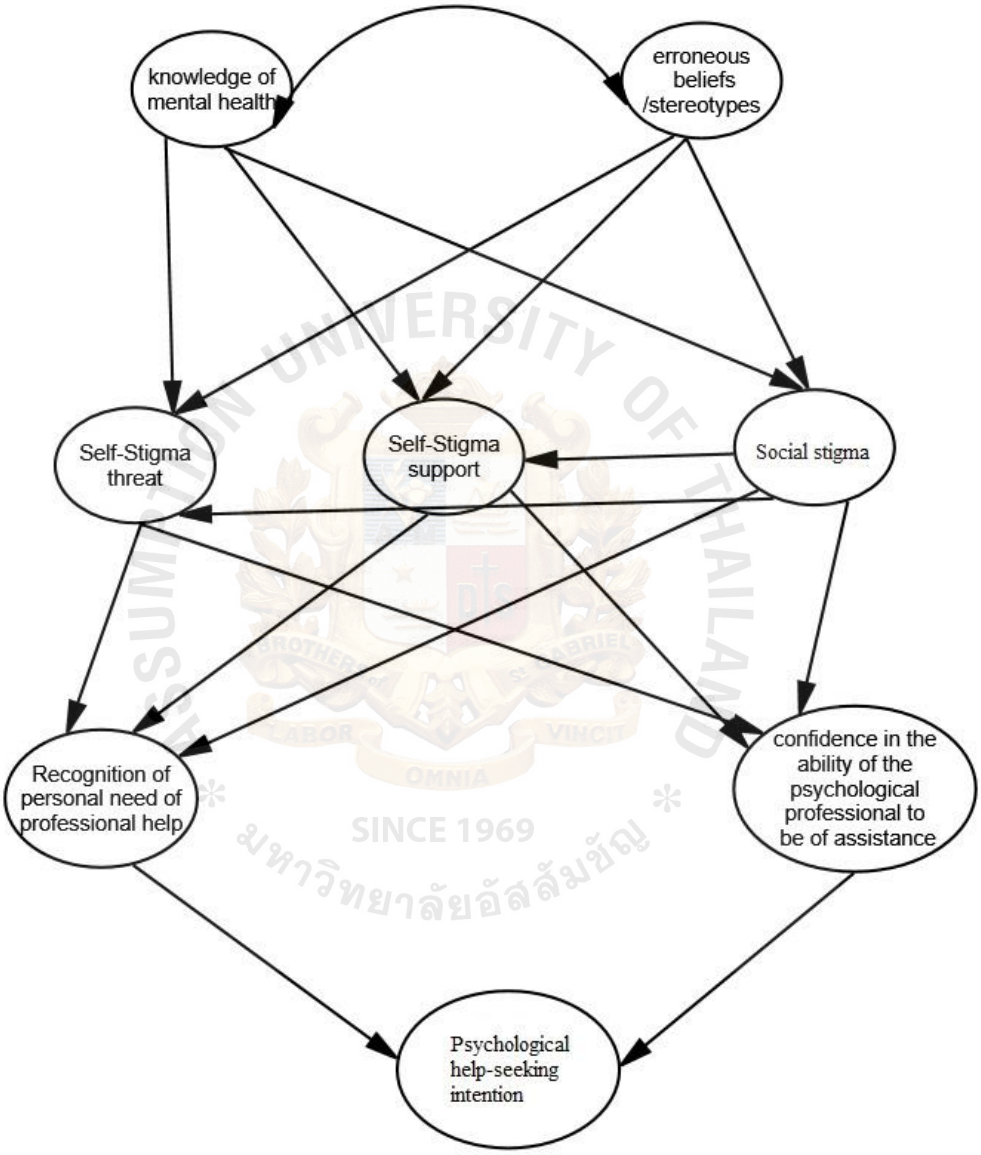


Figure 7. Indirect model level two mediators: The relationships between the two dimensions of mental health literacy (Knowledge of mental health, erroneous beliefs / stereotypes) with the criterion variable psychological help-seeking intention, being mediated by social stigma and the two dimensions of self-stigma (self-stigma threat and self-stigma support) and the two dimensions of attitudes toward seeking psychological help (recognition of personal need of professional help and confidence in the ability of the psychological professional to be of assistance)

Model 4: Full Path Model*:* Model 4 presents the full path model in which all the hypothesized relationships between mental health literacy and psychological help-seeking intention, as mediated self-stigma, social stigma, and attitudes towards seeking psychological help are considered.

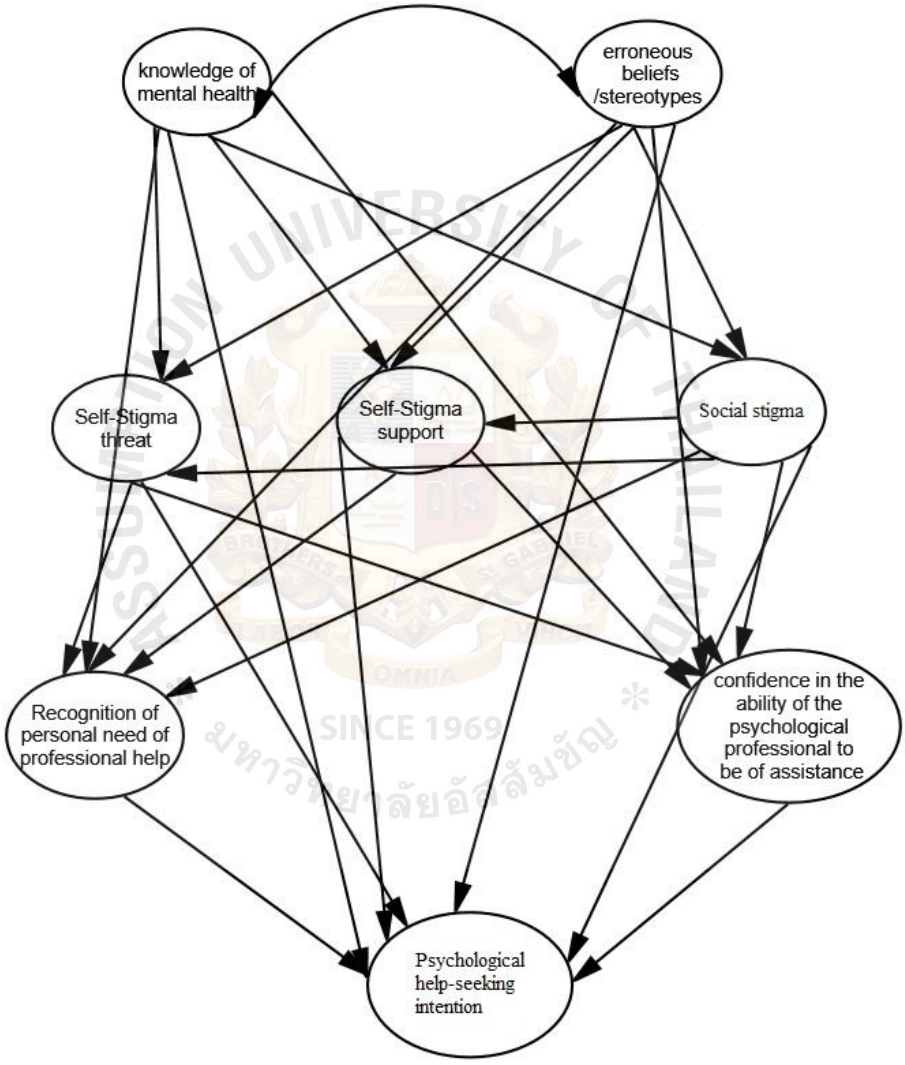


Figure 8. Full Path Model- Path relationships between the two dimensions of mental health literacy (Knowledge of mental health, erroneous beliefs / stereotypes) with the criterion variable psychological help-seeking intention, being mediated by social stigma and two dimensions of self-stigma (self-stigma threat and self-stigma support) and the two dimensions of attitudes toward seeking psychological help (recognition of personal need of professional help and confidence in the ability of the psychological professional to be of assistance).

3. And finally to examine whether the structure of paths between mental health literacy on university students' psychological help-seeking intention would vary as a function of gender.

Research Questions

Considering the literature review and the theoretical model employed in this study, the following research questions are assumed and will be answered:

1. Are the employed measures in this study psychometrically sound for the intended population of this study? Mental Health Literacy Scale Young Adult format (MHLq Young Adults), Self-Stigma of Seeking Help (SSOSH), Stigma Scale for Receiving Psychological Help (SSRPH), Attitudes Toward Seeking Professional Psychological Help–Short Form (ATSPPH-SF), and Mental Help-Seeking Intention Scale (MHSIS)
2. Which casual model (direct, first level mediation, second level mediation and full path model) is the best fit explanation of the pattern of structural relationships hypothesized between mental health literacy and psychological help-seeking intention, as mediated by self-stigma, social stigma, and attitudes towards seeking psychological help on the intended population of this study?
3. Are there any gender differences in the pattern of structural relationships hypothesized between mental health literacy and psychological help-seeking intention, as mediated by self-stigma, social stigma, and attitudes towards seeking psychological help?

Research Hypotheses

H1: Mental health literacy has direct effect on the students' psychological help-seeking intention, such that (1) the higher the students' level of mental health literacy, the higher will be their reported psychological help-seeking intention; and (2) the lower their level of mental health literacy, the lower will be their psychological help-seeking intention.

H2: Mental health literacy has indirect effects on the students' psychological help-seeking intention by mediating effect of social stigma and self-stigma such that (1) the higher their level of mental health literacy, the lower will be their reported level of social stigma and self-stigma, subsequently resulting in their higher reported psychological help-seeking intention; and (2) the lower their level of mental health literacy, the higher will be their reported levels of social stigma and self-stigma, subsequently resulting in their lower reported psychological help-seeking intention.

H3: Mental health literacy has indirect effect on the students' psychological help-seeking intention, mediated by self-stigma, social stigma, and attitude towards seeking psychological help such that (1) the higher their mental health literacy, the lower will be their reported level of social stigma and self-stigma, and the higher will be their attitude towards seeking psychological help, subsequently resulting in their higher reported levels of psychological help-seeking intention; and the lower their mental health literacy, the higher will be their reported level of social stigma and self-stigma, and the lower will be their attitude towards seeking psychological help, subsequently resulting in their lower reported levels of psychological help-seeking intention.

H4: Mental health literacy has both direct and indirect effects on the students' psychological help-seeking intention by mediating effect of self-stigma, social stigma, and attitudes towards seeking psychological help in the structural path model.

H5: The hypothesized direct and indirect effects of levels of mental health literacy on university students' psychological help-seeking intention will vary as a function of gender.

Summary of the current investigation

In summary, the current investigation consists of three separate but interconnected studies aimed at fulfilling the main objectives of the study: to investigate the psychometric properties of the measures employed in the current study with the university students in Bangkok, Thailand (Study 1); to evaluate and compare the direct and/or indirect effects of mental health literacy on psychological help-seeking intention, where the indirect path was hypothesized to be mediated by self-stigma, social stigma, and attitudes towards seeking psychological help (Study 2); and finally, to study whether the hypothesized model would vary as a function of gender (Study 3).

CHAPTER III

Research Methodology

The goal of this research was to look at the effects of Mental Health Literacy on undergraduate students' intentions to seek counseling, and in doing so the mediating role of the stigma about seeking psychological help (in the forms of self-stigma and social stigma) and attitudes towards seeking psychological help was also considered and analyzed. This chapter has been divided into the following section: 1. Research design, 2. Participants of the study, 3. Research instrumentation, 4. Data collection procedure, and 5. Data analysis.

Research Design

The current research is descriptive and uses correlation-covariance techniques through path analysis with the use of Structural Equation Modeling (SEM). The present research investigated the hypothesized relationships between mental health literacy and psychological help-seeking intention, mediated by self-stigma, social stigma and attitudes towards seeking psychological help with a sample of undergraduate university students in Bangkok, Thailand. The research consisted of three separate but interrelated studies; Study 1. evaluating the psychometric properties of the employed measures on the research population, Study 2. testing the posited models, and Study 3. Investigating the presence of gender related differences in the posited model, with each study aimed at achieving specific objectives. The following section provides a brief summary of each of the studies.

Study 1

Study 1 evaluated the psychometric properties of the employed measures among undergraduate university students in Bangkok as a sample. This process is of utmost importance in establishing the reliability and validity of the measures employed in this study based on the population of the study. The psychometric properties in the present study were

established via performing reliability analysis (in the form of Cronbach's Alpha value) to determine the reliability of the measures and confirmatory factor analysis (CFA) to establish construct validity of the measures. Since we used Thai translated versions of the instruments in this study, the possible factor structure of the instruments was also investigated via Exploratory Factor Analysis (EFA).

Study 2

Study 2 was structured as such to test the direct and indirect effects of mental health literacy towards the students' psychological help-seeking intention with the indirect effects mediated, at two levels, by (1) social stigma and self-stigma and (2) attitudes towards seeking psychological help. Four nested models (direct model, indirect models at level 1& 2, and full path model) were examined by multi-model path analysis via Structural Equation Modeling (SEM). It is hypothesized that SEM provides the necessary means for a direct comparison of the nested models' goodness-of-fit indices, and to check which model provides the best explanation of the hypothesized direct and indirect effects in relation to the models' exogenous mediators and criterion variables.

Study 3

Study 3 tested the best fitting hypothesized model according to the students' Gender to look for any possible significant gender difference.

Participants of the Study

University students in Bangkok, Thailand were the participants of this study, specifically undergraduate students who could be categorized as young adults, meaning those aged between 18 to 25 years old. Since the study employs factor analysis, multi-model and multi-group path analyses, which are considered 'large-sample' techniques that apply parameter estimation methods (which requires at least 10 cases per study variable to provide

a maximum likelihood of estimation (Jackson, 2003)) priori sample size analysis was used to calculate the minimum required sample size given the number of observed (20) and latent (8) variables in the hypothesized models, with an expected medium effect size (w= 0.3), statistical power level of 0.9, and the alpha value of α=0.05. The recommended minimum sample size was calculated as 288. Considering the psychometric validation analyses of study 1 and also the fact that a multigroup analysis based on gender was to be done (which in total would triple the required number of participants), 1000 undergraduate students were asked to participate in the study to account for attrition and invalid responses. In collecting the actual sample, the services of a market research company were employed to facilitate the data collection procedure, as the researcher's own efforts in gaining cooperation from a number of universities to allow data collection from their students amounted to nothing. A monetary incentive of an unspecified amount was provided to the participants in the data collection procedure.

Research Instrumentation

A seven-part self-administered survey questionnaire designed in electronic form, created in Google Forms and located at "thai.davidphd.com" was created and deployed as the research instrument, which contained the standardized tests that measured variables included in this study. The instruments were translated into the Thai language via the translation back-translation method (Tyupa, 2011) which is a validation method widely used in international research settings. The resulting versions were inspected and reviewed by a number of Ph.D. candidates in psychology and also a psychiatrist. No major problems were detected in the Thai versions.

The survey questionnaire was prefaced with an informed consent form that expressed the intentions of the study, confidentiality clauses, and how it was structured and any details

the students may have needed to know about the research. All necessary precautions were taken so that participants would not be able to see the items of the research questionnaire without first giving explicit consent. The questionnaire was designed to be as brief as possible while maintaining good psychometric properties. Based on a small-scale pilot study on an online sample, the questionnaire was expected to be completed by the respondents in less than 20 minutes.

Part I of the questionnaire was a brief personal profile of the respondents, in which the students' demographic information was recorded. Other parts consisted of the following standardized scales, namely Mental Health Literacy Scale Young Adult format (MHLq Young Adults), Self-Stigma of Seeking Help (SSOSH), Stigma Scale for Receiving Psychological Help (SSRPH), Attitudes Toward Seeking Professional Psychological Help–Short Form (ATSPPH-SF), and Mental Help-Seeking Intention Scale (MHSIS)

Student Demographic Information

Part I of the questionnaire was designed to record the participants' demographic information. Student demographic information was obtained using multiple-choice items, including gender, age, educational level, name of educational institution, nationality, religious beliefs, state of residency, history of mental illness, and finally previous experiences of receiving professional help, if any.

The Mental Health Literacy questionnaire-young adult form

The Mental Health Literacy questionnaire-young adults form (Dias et al., 2018) was developed with the intention of providing an objective, comprehensive, and multifaceted view of the concept of mental health literacy as previous attempts on the subject were either mostly focused on a specific dimension of mental health literacy or were in regards to specific mental health complications (Evans-Lacko et al., 2010; Schulze et al., 2003; Wyn et

al., 2000). In doing so the authors adapted their original mental health literacy questionnaire aimed at the 12 to 14 years age range to the young adult population. The final questionnaire included 29 items covering 4 factors scored on a 5-point Likert-scale ranging from 1 denoting "Strongly Disagree" to 5 denoting "Strongly Agree", and was standardized on a sample of 356 college aged individuals (total measure alpha value of 0.84), between the ages of 18 to 25, with the majority (88.6 percent) being enrolled in an undergraduate program or attending a training program at a vocational school. The results confirmed a 4-factor structure, with those being Knowledge of mental health problems (items 2, 9, 20, 22, 12, 3, 28, 16, 24, 27, 25), erroneous beliefs / stereotypes (items 11, 14 and reverse scored items 21, 13, 6, 15, 10, 23), help seeking and first aid skills (items 18, 4, 5, 8, 17, 29), and finally self-help strategies (items 1, 7, 19, 26).

The Self-Stigma of Seeking Help scale

The Self-Stigma of Seeking Help scale (Vogel et al., 2006) was employed In this study to measure the self-stigma for seeking treatment. This scale is unidimensional, and consists of 10-items, out of which five will need to be reverse-scored (items 2, 4, 5, 7, 9). The items are measured on a five-point Likert-type scale ranging from 1 denoting "strongly disagree" to 5 denoting "strongly agree". After reverse scoring, higher scores reflect greater levels of self-stigma of seeking help. The measure has been shown to possess good internal consistency (α between .86 to .90). This measure has also shown good test-retest reliability (α = .72) and has been validated across six different cultures (Vogel et al., 2013).

Stigma Scale for Receiving Psychological Help

The Stigma Scale for Receiving Psychological Help (Komiya et al., 2000) was employed to measure the individual's perceived social stigma. There are five-items in this scale, scored on a four-point Likert-scale, with anchors ranging from 0 denoting "strongly

disagree" to 3 denoting "strongly agree". Higher scores indicate higher levels of perceived social stigma. This scale is unidimensional, and this one-dimensionality has been confirmed in the literature. It has been shown that this scale has an internal consistency of .73 in university samples (Komiya et al., 2000). The same measure in a sample of Turkish university students obtained a Cronbach's alpha value of 0.71 (Topkaya, 2014). Though It should be noted that the reliability of this measure has not always been above the .70 convention in the literature as in a study on the effect of stigma on attitudes towards seeking professional help among college students in ten countries across the world demonstrated a reliability alpha value ranging from .61 to .76 (Vogel et al., 2017).

Attitudes Toward Seeking Professional Psychological Help-Short Form

The Attitudes Toward Seeking Professional Psychological Help–Short Form (Fischer & Farina, 1995) was used in this study to measure participants' attitudes towards seeking psychological help. This scale is a shortened version of the original 29 item (Fischer & Turner, 1970) scale. This is a ten items scale, out of which five will need to be reverse-scored (2, 4, 8, 9, 10; indicating the trust in the profession and the professional dimension). Items 1,3,5,6,7 indicate the recognition of need dimension). It should be noted that in a number of studies this scale has been found to be made up of three factors (the third factor was referred to as preference to cope on one's own) (Picco et al., 2016). Items are scored on a Likert-scale ranging from 0 denoting "disagree" to 3 denoting "agree". Higher scores mean higher (more favorable) attitudes toward seeking psychological help with a score of higher than 20 being the cut-off point for favorable attitude. The result of correlation analysis between the revised, shortened form and the original 29 item form are .87, and this suggests that they both are measuring a similar construct. internal consistency analysis in the form of the Cronbach's alpha value has shown great reliability with $\alpha = .84$.

Mental Help-Seeking Intention Scale

The Mental Help-Seeking Intention Scale (Hammer & Spiker, 2018) is a brief measure consisting of three items rated on a seven-point Likert-scale. Higher scores indicate higher psychological help-seeking intention. It is unidimensional and has been proven to possess strong internal reliability with Cronbach's alpha value of .94, and has also exhibited strong predictive validity when compared to other similar measures, though its usage is still limited.

Data Analysis

All data in this study was analyzed using the IBM SPSS Statistics for Windows, Version 25 and the IBM SPSS Amos (Analysis of Moment Structure), Version 24 software programs.

Study 1

Research design of Study 1

Study 1 included the evaluation of the psychometric properties of this research's measurement instruments. This procedure is particularly crucial for evaluating the reliability and validity of the measures utilized in this research. In addition, since we used Thai translated versions of the instruments in this study, the possible factor structure of the instruments was investigated via Exploratory Factor Analysis (EFA).

Participants of the Study 1

Undergraduate students at universities across Bangkok were the participants for study 1. Out of the total data pool collected by the employed market research company (1000 participants), it was decided to randomly select about 30% of the participants for this study (n=310), as exploratory factor analysis was to be done on the sample and there needs to be at

least 10 cases per each item in a questionnaire for this analysis to be viable, and the longest questionnaire in this research consisted of 29 items, thus necessitating the need for at least 290 participants for this study. This sample (n=310) was taken out of the total data pool and was not used in the subsequent studies 2 and 3. The remaining sample (n=690) was used for confirmatory factor analysis in Study 1 and also as the sample for study 2 and 3.

Research Instrumentation for study 1

The following instruments were used as part of the study 1: Mental Health Literacy Scale Young Adult format (MHLq Young Adults), Self-Stigma of Seeking Help (SSOSH), Stigma Scale for Receiving Psychological Help (SSRPH), Attitudes Toward Seeking Professional Psychological Help–Short Form (ATSPPH-SF), Mental Help-Seeking Intention Scale (MHSIS), and Intentions to Seek Counseling Inventory (ISCI).

Data Collection Procedure for study 1

1. The questionnaires were translated into Thai via the translation, back-translation method and then turned into an online format using Google Forms (located at http://thai.davidphd.com), as to make it easier for the respondents to participate in the study, and to also account for safe and responsible measures in battling the COVID-19 pandemic.
2. The form was then handed over to one of the market research company associates, who ran a small-scale pilot study and reported back that no major problems were observed by the initial small pool of participants and that there was no need of any modification. The data collection began with the researcher being able to remotely monitor the procedure. The respondents were from Bangkok, and those that did not fit the criteria were filtered out by the associate. A direct monetary incentive of unspecified amount was provided upon completion. Participation in this research was

voluntary and it was understood that participants could withdraw from the study without any penalty at any point. The participants had to read and agree to the consent form and the information included within and were not able to skip this step in the questionnaire. The security and safety of participant's data was also of utmost importance and only the researcher and the company associate had access to the results. After the completion of data collection, and making sure that there were no missing values, the associate's access to the database was revoked immediately.

3. The data was then dumped by the researcher into CSV format from the Google Form service and was used for statistical analysis.

Data analysis for study 1

Study 1 consisted of the following statistical treatment and steps:

Step 1. Reliability analysis.

Reliability analysis, in the form of the Cronbach's alpha value, was conducted to evaluate the internal consistency of the research instruments.

Step2. Exploratory factor analysis (EFA)

Through exploratory factor analysis alternative factor structures were investigated in order to account for any possible cultural variation.

Step 3. Confirmatory factor analysis (CFA).

Confirmatory factor analysis was carried out to assess the adequacy of the items and to also establish the validity of the items in measuring the variables included in this study.

Study 2

Research design of Study 2

Study 2 evaluated the direct and indirect effects of mental health literacy on university students' psychological help-seeking intention mediated by social stigma, self-stigma, and attitudes towards seeking psychological help. In order to fulfill these objectives, four nested models were developed to help demonstrate the effects of the mental health literacy towards students' stigma perception and attitudes, and their effects on their psychological help-seeking intention. The goodness-of-fit of these posited nested path models were tested by multi-model path analysis via SEM. This technique allowed for a direct comparison of the proposed models' goodness-of-fit indices in order to assess which model provided the best explanation of the hypothesized direct and indirect effects considering models' exogenous, mediator and criterion variables.

Participants of the Study 2

Undergraduate students at universities across Bangkok were the participants for study 2. Out of the total data pool collected by the employed market research company (1000 participants), the remaining 690 were used as participants for this study, as we were employing SEM analysis at this stage and with SEM being a large sample approach, it was necessary to use the full remaining 690 participants. This same sample was also used in study 3 to look at gender differences.

Research Instrumentation for study 2

The following instruments were used as part of the study 2: Mental Health Literacy Scale Young Adult format (MHLq Young Adults), Self-Stigma of Seeking Help (SSOSH), Stigma Scale for Receiving Psychological Help (SSRPH), Attitudes Toward Seeking

Professional Psychological Help–Short Form (ATSPPH-SF), Mental Help-Seeking Intention Scale (MHSIS), and Intentions to Seek Counseling Inventory (ISCI).

Data Collection Procedure for study 2

The same online surveys as study 1 were used in this study. Out of the total 1,000 participants, the remaining 690 participants were selected and used for analysis in this study.

Data analysis for study 2

Study 2 employed SEM analysis to investigate the direct and indirect effects of mental health literacy on university students' psychological help-seeking intention mediated by social stigma, self-stigma, and attitudes towards seeking psychological help. In order to fulfill these objectives, four nested models were developed to help demonstrate the effects of the mental health literacy towards students' stigma perception and attitudes, and their effects on their psychological help-seeking intention.

Study 2 *included the following statistical treatment and procedural steps:*

Step 1: Test of normality of item parcels in study 2

The normality of items after parceling was investigated to check if nonnormality could affect the parameter estimations.

Step 2: Multivariate outliers analysis

Multivariate outliers analysis was applied to identify serious multivariate outliers in the samples.

Step 3: Analysis of mediation effects at level 1 and level 2

Analysis of mediation effects was applied to examine indirect (mediation) models of exogenous, mediator and criterion variables. The indirect effects of mental health literacy on

psychological help-seeking intention, mediated by social stigma, self-stigma (level 1), and attitudes toward seeking psychological help (level 2) were investigated.

Step 4: Testing the full model

This step investigated the full hypothesized model. The direct and indirect effects of mental health literacy on psychological help-seeking intention, mediated by social stigma, self-stigma, and attitudes toward seeking psychological help were investigated.

Study 3

Research design of Study 3

Study 3 assessed the best fitting hypothesized model according to the students' Gender. Here, the presence of any gender difference with regards to students' psychological help-seeking intention were investigated. This was done to determine whether gender introduces significant effects on the students' psychological help-seeking intention. This was measured and analyzed via multi-group path analysis in SEM.

Participants of the Study 3

Undergraduate students at universities across Bangkok were the participants for study 3. Out of the total data pool collected by the employed market research company (1000 participants), the remaining 690 were used as participants for this study, as we were employing multigroup SEM analysis at this stage and that being a large sample approach mandated using the full remaining 690 participants.

Research Instrumentation for study 3

Item number 3 of demographic questionnaire was used to separate two group of participants based on gender (Male and Female only and "Other" was not considered since the number of

participants was too low for the desired statistical analysis) for further investigation in this study.

Data Collection Procedure for study 3

The same online surveys as study 1 were used in this study. Out of the total 1,000 participants, the remaining 690 participants were selected and used for analysis in this study.

Data analysis for study 3

Study 3 assessed the presence of any differences in the best fitting hypothesized model based on the Gender of the undergraduate students at universities across Bangkok. In this study, the presence of any difference in the hypothesized path model according to the gender of participants were investigated through the use of multigroup SEM analysis.

Study 3 included a single step of statistical treatment:

Step 1: Multigroup SEM analysis of the best fitting model based on Gender

This was done to determine whether gender introduced significant effects on the hypothesized relationships between mental health literacy and psychological help-seeking intention, mediated by social stigma, self-stigma, and attitudes toward seeking psychological help among undergraduate students at universities across Bangkok.

CHAPTER IV

Results

This research was conducted to examine the effect of mental health literacy on psychological help-seeking intention, mediated by social stigma, self-stigma, and attitudes toward seeking psychological help, and also the existence of any gender differences, among undergraduate students at universities across Bangkok. In this chapter results and possible interpretations are presented in the form of three interconnected studies, namely Study 1, Study 2, and finally study 3, as follows:

1. Study 1: In this study the psychometric properties of the research instruments were investigated based on undergraduate students at universities across Bangkok.

2. Study 2: In this study the proposed nested direct, indirect and full path models were tested. The *direct model* included testing the direct effect of mental health literacy on psychological help-seeking intention among undergraduate students at universities across Bangkok. The *indirect model 1* with 1 level of mediation, included testing the indirect effect of mental health literacy on psychological help-seeking intention, mediated by social stigma and self-stigma among undergraduate students at universities across Bangkok. The *indirect model 2,* with 2 levels of mediation included testing the indirect effect of mental health literacy on psychological help-seeking intention, mediated by social stigma and self-stigma (level 1) and attitudes toward seeking psychological help (level 2) among undergraduate students at universities across Bangkok. The *full model* included testing the direct and indirect effects of mental health literacy on psychological help-seeking intention, mediated by social stigma and self-stigma and attitudes toward

seeking psychological help among undergraduate students at universities across Bangkok.

3. Study 3: In this study the presence of any gender differences with regards to the proposed model(s) among undergraduate students at universities across Bangkok were investigated.

Study 1: Investigating the Psychometric properties of the employed measure

Overview

Study 1 looked at the psychometric properties of the research instruments used in Studies 2 and 3. It also served as the guideline to help facilitate the process of creating the item parcels that were used in SEM analysis. In order to establish the validity of the research instruments, namely Mental Health Literacy Questionnaire-Young Adults form (MHLq-Young Adult form, referred to in this research simply as MHL), Self-Stigma Of Seeking Help (SSOSH), Stigma Scale for Receiving Psychological Help (SSRPH), Attitudes Toward Seeking Professional Psychological Help-Short Form (ATSPPH-SF), and Mental Help Seeking Intention Scale (MHSIS), basic descriptive analysis (e.g., calculating the means, variance), and the normality of data (e.g., skewness and kurtosis) were also examined. Exploratory factor analysis was also employed in order to ascertain the factor structure of the instruments, and also to serve as a guide and facilitate the creation of item parcels for confirmatory factor analysis and structural analysis.

Psychometric Properties

Research instruments, namely Mental Health Literacy Questionnaire-Young Adults form (MHLq-Young Adult form), Self-Stigma Of Seeking Help (SSOSH), Social Stigma for

Receiving Psychological Help Scale (SSRPH), Attitudes Toward Seeking Professional Psychological Help-Short Form (ATSPPH-SF), and Mental Help Seeking Intention Scale (MHSIS), were all Thai translations of standardized questionnaires. To this end the English version of the questionnaires were translated from English to Thai and then back-translated to English, which is a commonly used validation technique in international research settings (Tyupa, 2011). Pilot testing, and psychometric testing of the scales were performed to determine the instrumentation's validity and reliability in the form of an Exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA).

Table 1. *Abbreviations and Definitions of Standardized Scales*

Standardized scale	Abbreviations	Thai/ Translated	Definitions
Exogenous variable(s) Mental Health Literacy Questionnaire-Young Adults form	MHLq-Young Adult	Translated	29-items, five- point Likert scale scoring ranged from 1 to 5
Mediator variable(s) – Level 1 Self-Stigma Of Seeking Help	SSOSH	Translated	10-items, five- point Likert scale scoring ranged from 1 to 5
Stigma Scale for Receiving Psychological Help Scale	SSRPH	Translated	5-items, four- point Likert scale scoring ranged from 0 to 3
Mediator variable(s) – Level 2 Attitudes Toward Seeking Professional Psychological Help-Short Form	ATSPPH-SF	Translated	10-items, four- point Likert scale scoring ranged from 0 to 3
Endogenous variables Mental Help Seeking Intention Scale	MHSIS	Translated	3-items, seven- point Likert scale scoring ranged from 1 to 7

Pilot Testing

A pilot test was conducted Before starting study 1, using convenient sampling method. All participants were asked to complete the Thai version of the online survey. Participants were 30 undergraduate students from Assumption University in Bangkok, Thailand. The overall feedback showed that the readability and comprehensibility of all instruments were satisfactory. Approximate time needed to complete all instruments were reported as around 20 minutes or less. One concern that was discussed was with regards to the stigma questionnaires and the translated word used for "stigma". Upon further investigation it turned out that the translated word actually could convey the intended meaning even though there was no exact Thai equivalent for the term. After presenting the original English questionnaire to the concerned party, it turned out that they also found the wording to be "a little bit weird" and "not-so-natural-sounding" even in English. That helped establish the equivalency of the English and Thai questionnaires, as the translators had done a splendid job in preserving and carrying over the tonal elements of the English sentences, and no change was deemed necessary. No statistical analysis was done at this point. Results were deemed satisfactory and so the Study 1 could be conducted. It should be noted that the market research company tasked with the data collection also did a pilot testing of their own and found no major concerns to report to the researcher.

Data Collection Procedure and Participants

After the completion of pilot testing and making some very minor adjustments based on feedback, the researcher employed the services of a market research company in Bangkok. This decision did not come easy. All efforts in trying to ask for cooperation from universities in Bangkok, even different schools within Assumption University itself, were met with disregard, so much so that after four months, only a grand total of "50" participants could be

courted. It was then that the decision to use a market research company to help with data collection was contemplated and eventually implemented. The questionnaires were administered online using the convenience sampling technique over a 28-day period. In total a dataset containing responses from 1055 participants were received. After cleaning the data and eliminating cases based on missing values and outliers, a 1000 sample dataset was obtained.

For statistical analysis the 1000 sample dataset was used. The target age group was undergraduate students between the ages of 18 to 25, currently enrolled in an undergraduate program at a university in Bangkok (who could read and understand the Thai language). The respondents were male (*n*=527, 52.7%), female (*n*=390, 39%) and others (*n*=83, 8.3%), aged 18 years old (*n*=211, 21.1%), 19 years old (*n*=208, 20.8%), 20 years old (*n*=167, 16.7 %), 21 years old (*n*=149, 14.9%), 22 years old (*n*=103, 10.3 %), 23 years old (*n*=50, 5 %), 24 years old (*n*=40, 4%) and finally 25 years old (*n*=72, 7.2%) with a mean age of 20.40 and the median of 20.

The study majors based on the provided 5 options were Human Sciences (*n*=213, 21.3%), Business and Economics (*n*=184, 18.4%), Arts and Music (*n*=126, 12.6%), Health and Medicine (*n*=69, 6.9%), and Others (*n*=408, 40.8%).

The participants with regards to their religious beliefs identified as Religious (*n*=653, 65.3%), Not religious but believe in a higher power (*n*=124, 12.4%), and not religious and also a non-believer (*n*=223, 22.3%).

The participants also showed no history of mental illness (*n*=682, 68.2%), themselves being diagnosed with a mental illness (*n*=123, 12.3%), someone in their family being diagnosed with a mental illness (*n*=110, 11%), and both themselves and someone in the family being diagnosed with a mental illness (*n*=85, 8.5%). Among them, some sought help

from a mental health professional (*n*=254, 25.4%), while the rest (*n*=746, 74.6%) indicated otherwise. About half were aware of the existence of mental health facilities within their academic institutions (*n*=494, 49.4%), the rest (*n*=506, 50.6%) proclaimed that they did not know of such facilities. The complete demographics data of the respondents are shown in Table 2.

Table 2. *Demographics profile of Respondents*

		Total sample		Sample 1		CFA & SEM sample (Sample 2)	
Total Respondents		**1000**	**100%**	**310**	**100%**	**690**	**100%**
Gender	Male	527	52.7	170	54.8	357	51.7
	Female	390	39.0	113	36.5	277	40.1
	Other	83	8.3	27	8.7	56	8.1
Age	18	211	21.1	59	19.0	152	22.0
	19	208	20.8	57	18.4	151	21.9
	20	167	16.7	58	18.7	109	15.8
	21	149	14.9	53	17.1	96	13.9
	22	103	10.3	28	9.0	75	10.9
	23	50	5.0	19	6.1	31	4.5
	24	40	4.0	12	3.9	28	4.1
	25	72	7.2	24	7.7	48	7.0
Education Status	First year	242	24.2	65	21.0	177	25.7
	Second year	230	23.0	68	21.9	162	23.5
	Third year	252	25.2	78	25.2	174	25.2
	Fourth year	276	27.6	99	31.9	177	25.7
Religious Beliefs	Religious	653	65.3	205	66.1	448	64.9
	Not Religious, but a believer	124	12.4	29	9.4	95	13.8
	Not religious and a non-believer	223	22.3	76	24.5	147	21.3
University	Assumption	193	19.3	59	19	134	19.4
	Chulalongkorn	127	12.7	37	11.9	90	13.0
	Mahidol	106	10.6	33	10.6	73	10.6
	Thammasat	88	8.8	21	6.8	67	9.7

	Others	486	48.6	160	51.6	326	47.2
Study Major	Human Sciences	213	21.3	66	21.3	147	21.3
	Arts and Music	126	12.6	35	11.3	91	13.2
	Business and Economics	184	18.4	61	19.7	123	17.8
	Health and Medicine	69	6.9	19	6.1	50	7.2
	Others	408	40.8	129	41.6	279	40.4
Living Arrangement	Alone	239	23.9	55	17.7	184	26.7
	With partner	119	11.9	39	12.6	80	11.6
	With friends	177	17.7	59	19.0	118	17.1
	With family	465	46.5	157	50.6	308	44.6
History of Mental Illness	Myself	123	12.3	39	12.6	84	12.2
	Someone in the family	110	11.0	33	10.6	77	11.2
	Myself and someone in the family	85	8.5	23	7.4	62	9.0
	none	682	68.2	215	69.4	467	67.7
Seen a psychologist	Yes	254	25.4	79	25.5	175	25.4
	No	746	74.6	231	74.5	515	74.6
Aware of University Mental health facilities	Yes	494	49.4	142	45.8	352	51.0
	No	506	50.6	168	54.2	338	49.0

Abbreviations and Definitions

This research investigated the relationships between the variables in the proposed conceptual model. The variables are: one exogenous variable, Mental health literacy (MHL) which based on the operational definition originally encompassed 4 components, Knowledge of Mental Health Problems (Know1), Erroneous Beliefs/Stereotypes (Beliefs), First Aid Skills and Help Seeking Behavior (Know2), Self-Help Strategies (Know3), and 3 mediator variables at 2 levels, level 1 mediators being Social Stigma (SocialStig) and Self-Stigma (SelfStig), and level 2 mediator being attitudes toward seeking psychological help (Attitude) which encompassed 2 components, namely recognition of need for help (Need) and Trust in

the professional (Trust), and one endogenous variable psychological help-seeking intention (Intention). Abbreviations and definitions are shown in Table 3.

Table 3. *Abbreviations and Definitions of Constructed Variables*

Constructs	Abbreviations	Observed variables	Definitions
Exogenous variable			
Mental Health Literacy	MHL	Know1, Beliefs Know2, Know3	The general knowledge about mental health
Mediator variables-Lv1			
Social Stigma	SocialStig	SocialStig	Stigma one feels others hold about psychological help seeking
Self-Stigma	SelfStig	Self-Stig	The internalization of the Social Stigma
Mediator variables-Lv2			
Attitudes towards seeking psychological help	Attitude	Need, Trust	One's overall evaluation of seeking help, be it positive or negative
Endogenous variables			
Psychological help-seeking intention	Intention	Intention	The immediate predictor of actual behavior of seeking help

Sample(s) for Reliability analysis & EFA (Study1, Sample 1)

For the purpose of Study 1, a random sample of 310 respondents (chosen randomly via SPSS based on the instructions to select approximately 30% of the 1,000 total sample) was assessed for normal distribution using the skewness and kurtosis of all observed variables in the model. This sample was subjected to EFA analysis, the results of which would then be validated via CFA on sample 2.

The respondents were male (*n*=170, 54.8%), female (*n*=113, 36.5%) and others (*n*=27, 8.7%), aged 18 years old (*n*=59, 19.0%), 19 years old (*n*=57, 18.4%), 20 years old (*n*=58, 18.7 %), 21 years old (*n*=53, 17.1%), 22 years old (*n*=28, 9.0 %), 23 years old (*n*=19, 6.1 %), 24 years old (*n*=12, 3.9%) and finally 25 years old (*n*=24, 7.7%) with a mean age of 20.51 and the median of 20.

The study majors based on the provided 5 options were Human Sciences (*n*=66, 21.3%), Business and Economics (*n*=61, 19.7%), Arts and Music (*n*=35, 11.3%), Health and Medicine (*n*=19, 6.1%), and Others (*n*=129, 41.6%).

The participants with regards to religiosity identified as Religious (*n*=205, 66.1%), Not religious but believe in a higher power (*n*=29, 9.4%), and not religious and also a non-believer (*n*=76, 24.5%).

The participants also showed no history of mental illness (*n*=215, 69.4%), themselves being diagnosed with a mental illness (*n*=39, 12.6%), someone in their family being diagnosed with a mental illness (*n*=33, 10.6%), and both themselves and someone in the family being diagnosed with a mental illness (*n*=23, 7.4%). Among them, some sought help from a mental health professional (n=79, 25.5%), while the rest (*n*=231, 74.5%) indicated otherwise. About half were aware of the existence of mental health facilities within their academic institutions (*n*=142, 45.8%), the rest (*n*=168, 54.2%) proclaimed that they did not know of such facilities.

Missing and Outliers Data Analysis

Data accuracy and missing values were verified on the original sample. 1055 participants filled out the survey questionnaires, out of which a small number (20) were omitted due to missing data and another 35 cases were also omitted due to the presence of outliers.

Normality of the Data

Normality tests are used to determine whether a data set is modeled as having a normal distribution. Normality is the underlying assumption of many statistical analyses, meaning they require that the data must be normally distributed or nearly normally distributed. This can be ascertained graphically or statistically using normality testing methods.

The skewness and kurtosis values provide a basic diagnostic test for normality (Ho, 2013). Skewness takes into account the lack of symmetry in the probability distribution regarding the mean of a variable, while kurtosis measures the relative center distribution, which can be heavy-tailed or light-tailed in comparison to the normal distribution. As a general principle, if the sample's skewness and kurtosis value are exceeding ± 1.96, that will result in a rejection of the assumption of normality at the 0.05 alpha level. If the measured value is greater than the actual critical probability value, the data is not normally distributed.

According to the obtained skewness statistics for normal distribution, the skewness and kurtosis values for all observed variables for the random sample of 310 out of total 1000 respondents fell within ±1.96 (the values of skewness which fell between -1.28 to -0.152, and the values for kurtosis ranged between -0.687 to 1.519). The results indicated that the criteria for normality at the 0.05 alpha level were met by this measure (see Table 4).

Reliability Analysis

"Cronbach's alpha is an estimate of the average of all the correlation coefficients of the items within a test" (Ho, 2013, p.288). As summarized in Table 4, the total Cronbach's Alpha for all of the instruments ranged from 0.67 to 0.94. If alpha is 0.70 or greater, this indicates that all items are reliable, and the test as a whole is internally consistent (Ho, 2013).

To be more specific, internal consistency for the subscales of mental health literacy questionnaire young adult form (MHLq-Young adult) were as follows: Knowledge of Mental Health Problems was at .922, Erroneous Beliefs/Stereotypes was at .831, First Aid Skills and Help Seeking Behavior was at .870, and Self-Help Strategies was at .835, the same measure for the Self-Stigma Of Seeking Help (SSOSH) was at .676, and the Stigma Scale for Receiving Psychological Help (SSRPH) was at .828, and the Need subscale of the Attitudes towards seeking professional psychological help-short form (ATSPPH-SF) was at .839 while the trust subscale of the same instruments was at .772, and finally the Mental Help Seeking Intention Scale (MHSIS) was at .915, and therefore all instruments were considered as being high in internal consistency, indicating high reliability.

The reliability alpha coefficient of the Self-stigma of Seeking Help scale was close enough to the cut-off point of .7 and considering that the concept of stigma had no one to one direct translation and equivalent in the Thai context, and also the fact the further investigation showed that each subscale of this measure presented more than adequate reliability (Table 15), and after item parceling it presented an alpha coefficient of .75, and later during confirmatory factor analysis the Composite Reliability statistics also proved sufficient for this scale, it was decided that this instrument presented adequate reliability measures.

Table 4. *Reliability and descriptive Statistics: Means and Standard Deviations of Indicator Variables*

Variables	No of item	Mean	S.D.	Skewness	Kurtosis	Min.	Max.	Cronbach's α reliability
Mental Health Literacy (MHL)	29	111.63	17.14	0.152	-0.687	64	145	0.942
Social Stigma (SocialStig)	5	8.79	3.71	-0.28	-0.387	1	15	0.828
Self-Stigma (SelfStig)	10	26.97	5.78	-1.281	0.830	10	38	0.676
Attitudes towards seeking professional psychological help (Attitude)	10	18.86	5.21	-0.107	0.461	1	30	0.842
Intentions to seek help (Intention)	3	16.15	3.45	-0.810	1.519	3	21	0.915

n=310

Correlations among all Construct Variables

Correlation coefficients indicate the strength and direction of a linear relationship among related components, the possible values are between -1 and +1. The correlation coefficient's absolute value indicates the strength of the relationship. As can be seen in Table 5, the calculated values were between 0 and +1/-1, indicating that the variables are related (Hair et al., 2014). Positive coefficients indicate that when one variable's value goes up the other variable's value tends to rise as well. In contrast, negative coefficients indicate that when one variable's value raises the value of the other variable tends to diminish.

The correlation coefficients indicated moderate positive relationship between the two variables at 0.01 and 0.05 significance level, except the significant negative relationship between self-stigma and mental health literacy (r=-0.177, p<0.01), and Self-Stigma and Intentions (r=-0.363, p<0.01), and social stigma and attitude (r=-0.228, p<0.01), whereas the

relationships between social stigma and mental health literacy, social stigma and intentions, and self-stigma and attitudes proved to be statistically non-significant (Table 5).

Table 5. *Correlation Matrix of the Constructs*

Variables	Correlation Coefficients				
	MHL	**SocialStig**	**SelfStig**	**Attitude**	**Intention**
Mental Health Literacy (MHL)	1	-0.73	-0.177**	0.617**	0.561**
Social Stigma (SocialStig)		1	0.346**	-0.228**	-0.82
Self-Stigma (SelfStig)			1	-0.011	-0.363**
Attitudes towards help seeking (Attitude)				1	0.533**
Intentions to seek help (Intention)					1

***. Correlation is significant at the 0.01 level (2-tailed).*

Exploratory Factor Analysis (EFA)

The previously discussed measurements were also subjected to exploratory factor analysis in order to ascertain their factor structure. According to Plucker (2003) exploratory factor analysis is mainly used in scenarios where the researchers are interested in either reducing the data set that would be used in subsequent analyses or to determine the number and character of underlying (or latent) factors in the data. (Plucker, 2003).

All research instruments, including (Mental Health Literacy Questionnaire-Young Adults form (MHLq-Young Adult), Self-Stigma of Seeking Psychology Help (SSOSH), Social Stigma for Receiving Psychological Help Scale (SSRPH), Attitudes Toward Seeking Professional Psychological Help-Short Form (ATSPPH-SF), Mental Help Seeking Intention Scale (MHSIS) were subjected to exploratory factor analysis in order to explore the factor structure of each instrument.

Kaiser-Meyer-Olkin (KMO) sampling adequacy and Bartlett's test of sphericity were used to determine the suitability of the data for factor analysis. Performing a Kaiser-Meyer-Olkin (KMO) test for sampling adequacy, would provide additional evidence for a correlation matrix's factorability (Worthington & Whittaker, 2006). A KMO value of at least 0.60 and Eigen value >= 1 was used as factor extraction stoppage criterion to define good factorability (Ho, 2013). Additionally, Bartlett's Test of Sphericity was used to determine the correlation matrix's adequacy in the case that the correlation matrix shows significant correlations. The size of the factor loadings also was considered for the Exploratory Factor Analysis (EFA), and the factor loading values of each variable and the representing factor being greater than ±0.3 was considered as a condition to satisfy the optimal level of practical significance (Ho, 2013).

Results of the sampling adequacy and the subsequent EFA are presented in Table 6. As can be seen, the KMO value ranged from 0.75 to 0.95 ($p<0.05$) and the extracted factor structures accounted for 58.88% to 85.53% of the variance, indicating that correlation structure is adequate for factor analysis and that it could yield factor solutions that would present the best fit for the data.

It is important to note that factor loadings indicate the magnitude and direction of a factor's influence on a measured variable. They reveal which items have a high loading on which factor and what those items have in common. The extent of a factor's loading can be interpreted in the sense that if it exceeds ±0.50 it is significant, and ±0.3 is the minimum standard of consideration.

Table 6 shows the factor solution that the original number of factors for Stigma Scale for Receiving Psychological Help scale (SSRPH) (unidimensional construct) and the Mental Help Seeking Intention Scale (MHSIS) (unidimensional construct) and the Attitudes Toward

Seeking Professional Psychological Help-Short Form (ATSPPH-SF) (2 factor construct) emerged as the best factor structure for the data, however EFA presented different factor structures for the Mental Health Literacy Questionnaire-Young Adults form (MHLq-Young Adult), and the Self-Stigma Of Seeking Help (SSOH) scale.

Table 6. *Exploratory Factor Analysis of all Construct Variables*

Variable	**No. items**	**%Var.exp.**	**Original No. of component**	**KMO**	**Constructs**	**Std. Scale**	**No. of components (after EFA)**	**Constructs (after EFA)**
Mental Health Literacy (MHL)	29	58.88	4	0.95*	Know1, Know2, Know3, Beliefs	MHL-q Young Adult	2	Know, Beliefs
Self-Stigma (SelfStig)	10	74.02	1	0.88*	SelfStig	SSOH	2	SelfStig_Support, SelfStig_Threat
Social Stigma (SocialStig)	5	59.40	1	0.75*	SocialStig	SSRPH	1	SocialStig
Attitudes (Attitude)	10	60.95	2	0.83*	Attitude	ATSPPH-SF	2	Need, Trust
Intentions (Intention)	3	85.53	1	0.75*	Intention	MHSIS	1	Intention

*$p<0.05$

In the case of Mental Health Literacy Questionnaire-Young Adults form (MHLq-Young Adult), the initial extraction resulted in 4 factors, with factors 3 and 4 together accounting for less than 8% of variance in MHL; examining the scree plot (Cattell's scree test) and also the initial and rotated (Varimax rotation) factor solutions suggested a strong 2 factor structure, upon a second EFA run, constraining the number of extracted factors to 2, the emergent 2 factor solution accounted for 58.83% of variance in MHL. In this MHL

structure, all knowledge factors (Knowledge of Mental Health Problems, First Aid Skills and Help Seeking Behavior, and Self-Help Strategies) converged onto a single factor (from here on out referred to as Knowledge, abbreviated as Know), with the other factor being Erroneous Beliefs/Stereotypes (Table 7). Therefore, the original 4 factor model turned into a 2-factor solution based on the present dataset.

Table 7. *The Comparison of The Items Representing Components of Mental Health Literacy Questionnaire-Young Adults form (MHLq-Young Adult)*

Components represent Mental Health Literacy	**Abbreviations**	**Original item numbers in MHL-q**	**Item numbers in the measurement scale used in this study**
Knowledge of Mental Health Problems	Know1	2,3,9,12,16,20, 22,24,25,27,28	N/A
Erroneous Beliefs/Stereotypes	Beliefs	6,10,11,13, 14,15,21,23	6,10,11,13,14,15,21,23
First Aid Skills and Help Seeking Behavior	Know2	4,5,8,17,18,29	N/A
Self-Help Strategies	Know3	1,7,19,26	N/A
Knowledge	Know	N/A	1,2,3,4,5,7,8,9, 12,16,17,18,19,20, 22,24,25,26,27,28,29

EFA analysis of the Self-Stigma of Seeking Help (SSOH) scale presented an intercorrelated 2-factor solution, instead of the original unidimensional structure. This result was not unexpected and is already present in the related literature, especially so in non-American contexts (Kaya et al., 2015) and also some level of factorial invariance has been noted by the scale authors themselves (Vogel et al., 2013). In this case 2 factors emerged along the line of the reversed scored items (See Table 8), creating factors that correspond with those having a detrimental effect on the Ego, which is called feelings of inadequacy in

the literature (in this research for the sake of simplicity it is called Threat to Ego or Threat for short) and those that are no threat to / are in support of Ego, which is called threats to confidence in the literature (in this research, for the sake of simplicity it is called Support to Ego or Support for short) (Table 8). This structure accounted for 74.02% of the variance in Self-Stigma.

Table 8. *The Comparison of The Items Representing Components of*

Components represent Self-Stigma	**Abbreviations**	**Original item numbers in SSOH**	**Item numbers in the measurement scale used in this study**
Self-Stigma	Self-Stig	1,2,3,4,5,6,7, 8,9,10	N/A
Self-Stigma Threat to Ego	SelfStig_Threat	N/A	1,3,6,8,10
Self-Stigma Support Ego	SelfStig_Support	N/A	2,4,5,7,9

EFA analysis of Attitudes Toward Seeking Professional Psychological Help-Short Form (ATSPPH-SF) ultimately resulted in the same 2 factor structure that is originally proposed, however upon the first EFA analysis, with extraction based on Eigenvalues greater than 1, a 3-factor structure emerged with factor number 3 having an eigenvalue of 1.003, and items presenting a large number of cross loadings. Upon further investigation of the scree plot, it became evident that a 2-factor structure was the best description of the data, and thus a second EFA was run, forcing the extraction of 2 factors. This structure accounted for 60.95% of the variance in Attitudes. This 2-factor structure was in line and accounted for in the related literature (Torres et al., 2021).

During this step no item from any of the research instruments were removed, and all items were retained. This retention was further validated through the confirmatory factor analysis results.

Item Parcels

Item parceling is commonly used when structural relationships between variables are concerned, assuming an established population item-level measurement model. Parceling entails combining or averaging the item scores for two or more items and substituting these parcel scores for the item scores in a SEM study. The item parceling technique introduces a new model that decreases hindrance parameters and sampling variation, enhances reliability and improves model fit (Bandalos, 2002).

Item parceling is utilized to represent the original number of items for each latent construct, given that three to five indicators are the optimal number of indicators to portray each latent construct in the model (Hair et al., 2014), thus by taking into account the (previously mentioned) results of the EFA as a guideline and also a applying a random approach in order to achieve best results where applicable, item parceling techniques were employed for all instruments to average items as observed variables to mitigate estimation problems in factor assignment. They were as follows.

Mental Health Literacy

Taking into the account the results of EFA for mental health literacy, and the resulting 2-factor structure, the item parceling process started. Items associated with each factor were investigated for item parceling while having in mind that no more than 5 item parcels would be desirable (Hair et al., 2014), 3 item parcels were created for the Knowledge factor of the mental health literacy, and 2 item parcels for the Beliefs factor (Table 9). The parceling of items was performed to improve the model's fit to the data. While creating the item parcels,

results of EFA, and the original factor structure of the instrument were considered, in the sense that the three item parcels of Knowledge were created using items representing the original 3 factor structure of this subscale.

Table 9. *Proposed Item Parcels for Mental Health Literacy*

Component	**Knowledge**			**Beliefs**	
Parcel No.	P1	P2	P3	P1	P2
Item No.	2,3,9 12,16	4,5	1,7	10	6
	20,22	8,17	19	15	13
	24,25	18,29	26	21	23
	27,28			11	14

Sufficiently reliable measures should have a reliability index of at least 0.7 (Ho, 2013). Reliability of scale with item parcels for mental health literacy was 0.753 which is considered as adequately acceptable. Hence, the two factors were able to sufficiently define the latent variable of mental health literacy (MHL).

Self-Stigma

Creating the item parcels for the self-stigma was guided by the results of the EFA, and especially so the item factor loadings. Each factor had 5 associated items, so it was decided to create two item parcels for each factor (Table 10). Special care was taken to avoid the emergence of Heywood cases (Heywood & Filon, 1931). The parceling of items was performed to improve the model's fit to the data.

Table 10. *Proposed Item Parcels for Self-Stigma*

Component	**Threat (to Ego)**		**Support (Ego)**	
Parcel No.	P1	P2	P1	P2
	1	3	2	4
Item No.	6	8	5	7
		10	9	

Reliability of scale with item parcels for mental health literacy was 0.756 which is considered as adequately acceptable. Hence, the two factors can sufficiently define the latent variable of self-stigma (SelfStig).

Social Stigma

the item parcels for the social stigma were created by considering the results of the EFA, and especially so the item factor loadings. Since the scale had 5 items, so it was decided to create two item parcels (Table 11). Special care was taken to avoid the emergence of Heywood cases (Heywood & Filon, 1931). The parceling of items was performed to improve the model's fit to the data.

Table 11. *Proposed Item Parcels for Social Stigma*

Component	**SocialStig**	
Parcel No.	P1	P2
	1	2
Item No.	3	5
	4	

Reliability of scale with item parcels for social stigma was 0.889 which is considered as adequately acceptable. Hence, the unidimensional structure can sufficiently define the latent variable of social stigma (SocialStig).

Attitude toward seeking psychological help

Considering the results of the EFA, two item parcels were created for the Needs factor of the attitudes and the rest of items were used as is. The same applied to the Trust factor of the attitudes.

Table 12. *Proposed Item Parcels for Attitudes*

Component	**Needs**	
Parcel No.	P1	P2
Item No.	1	3
	5	6

Table 13. *Proposed Item Parcels for Attitudes*

Component	**Trust**	
Parcel No.	P1	P2
Item No.	2	8
	4	9

Reliability of scale with item parcels for attitudes was 0.825 which is considered as adequately acceptable. Hence, the 2-factor structure could sufficiently define the latent variable of Attitudes (Attitudes).

Psychological help-seeking Intentions

No item parcels were created for the intention variable, as it consisted of 3 items, and as such the individual items were used as indicators in further analysis.

Normality and Reliability of the Item Parcels of all Latent Variables

Normality assessments are intended to assess if a data set contained within an object parcel is modeled normally. It is asserted that item parcels lead to less breaches of normality assumptions (Marsh et al., 2013). Two numerical measurements of shape – skewness and excess kurtosis – can be used to determine normality statistically. Asymmetry (skewness) and kurtosis values between -1and +1 are deemed suitable for establishing the normal univariate distribution (Hair et al., 2014). Other cut off points based on the specific statistical software package used have also been suggested, such as, data is considered normal if the skewness and kurtosis values fall between 2 and -2 (George & Mallery, 2010).

The normality of the item parcels was determined. Skewness indices varied between -0.86 and 0.14, while kurtosis indices varied between -1.02 and 0.80. All of these indices attributed to the acceptability of the deviations from normality, meaning the dataset in item parcels were normally distributed symmetrically with well-behaved tails.

The normality data of all the item parcels associated with all the latent variables of the study was calculated and is presented in Table 14.

Table 14. *Descriptive Statistic of Item Parcels of All Latent Variables*

Parcels	Mean	S.D.	Skewness	Std. error of skewness	Kurtosis	Std. error of kurtosis	Min.	Max.
MHL_Know_p1	3.94	.667	-.071	0.138	-1.037	.276	1	5

MHL_Know_p2	3.95	.689	-0.165	0.138	-0.428	.276	1	5
MHL_Know_p3	4.22	.675	-0.428	0.138	-0.99	.276	1	5
MHL_Belief_p1	3.22	1.09	-0.49	0.138	-0.99	.276	1	5
MHL_Belief_p2	3.28	1.03	-0.254	0.138	-0.376	.276	1	5
SelfStig_Support_p1	2.85	0.97	0.70	0.138	0.77	.276	1	5
SelfStig_Support_p2	2.76	0.96	0.53	0.138	0.26	.276	1	5
SelfStig_1_6	2.94	1.21	-0.197	0.138	-0.96	.276	1	5
SelfStig_3_8_10	2.8	1.12	-0.06	0.138	-0.8	.276	1	5
SocialStig_134	1.56	0.78	-0.28	0.138	-0.48	.276	0	3
SocialStig_25	1.55	0.77	-0.189	0.138	-0.38	.276	0	3
Attitude_1_5	1.98	0.58	-0.32	0.138	0.287	.276	0	3
Attitude_3_6	1.99	0.66	-0.28	0.138	-0.764	.276	0	3
Attitude_2_4	1.85	0.61	-0.27	0.138	0.059	.276	0	3
Attitude_8_9	1.95	0.68	-0.40	0.138	-0.35	.276	0	3

Reliability analysis was also done on all item parcels of all latent variables in order to make sure the process of item parceling was not detrimental to the internal consistency of the research measures. To this end Cronbach's alpha was calculated for all latent variables and their associated item parcels (Table 15), indicating that all variables with their associated item parcels presented adequate reliability.

Table 15. *Reliability of Scale with Item Parcels of All Latent Constructs*

Latent constructs	**No of parcels**	**Reliability of scale with item parcels**	**%Variance explained Rotation Varimax**	**Factors**	**α**	**No of item**

Mental Health Literacy (MHL)	5	0.75	58.88	All items	0.94	29
				Factor 1	0.96	23
				Factor 2	0.88	6
Self-Stigma (SelfStig)	4	0.75	74.02	All items	0.67	10
				Factor 1	0.90	5
				Factor 2	0.91	5
Social Stigma (SocialStig)	2	0.88	59.4	All items	0.83	5
Attitudes (Attitude)	4	0.90	79.27	All items	0.84	10
				Factor 1	0.83	5
				Factor 2	0.77	5
Intention (Intention)	0	0.91	85.53	All items	0.91	3

Confirmatory Factor Analysis (CFA) and Measures of Validity

Confirmatory factor analysis (CFA) is a multivariate statistical technique used to determine the degree to which determined variables accurately reflect the number of constructs. It is in contrast to exploratory factor analysis (EFA), as CFA enables the researcher to specifically determine the model fit to the observed data. Additionally, CFA enables researchers to correlate errors and determine if a particular model is analogous across multiple groups of data. (Plucker, 2003).

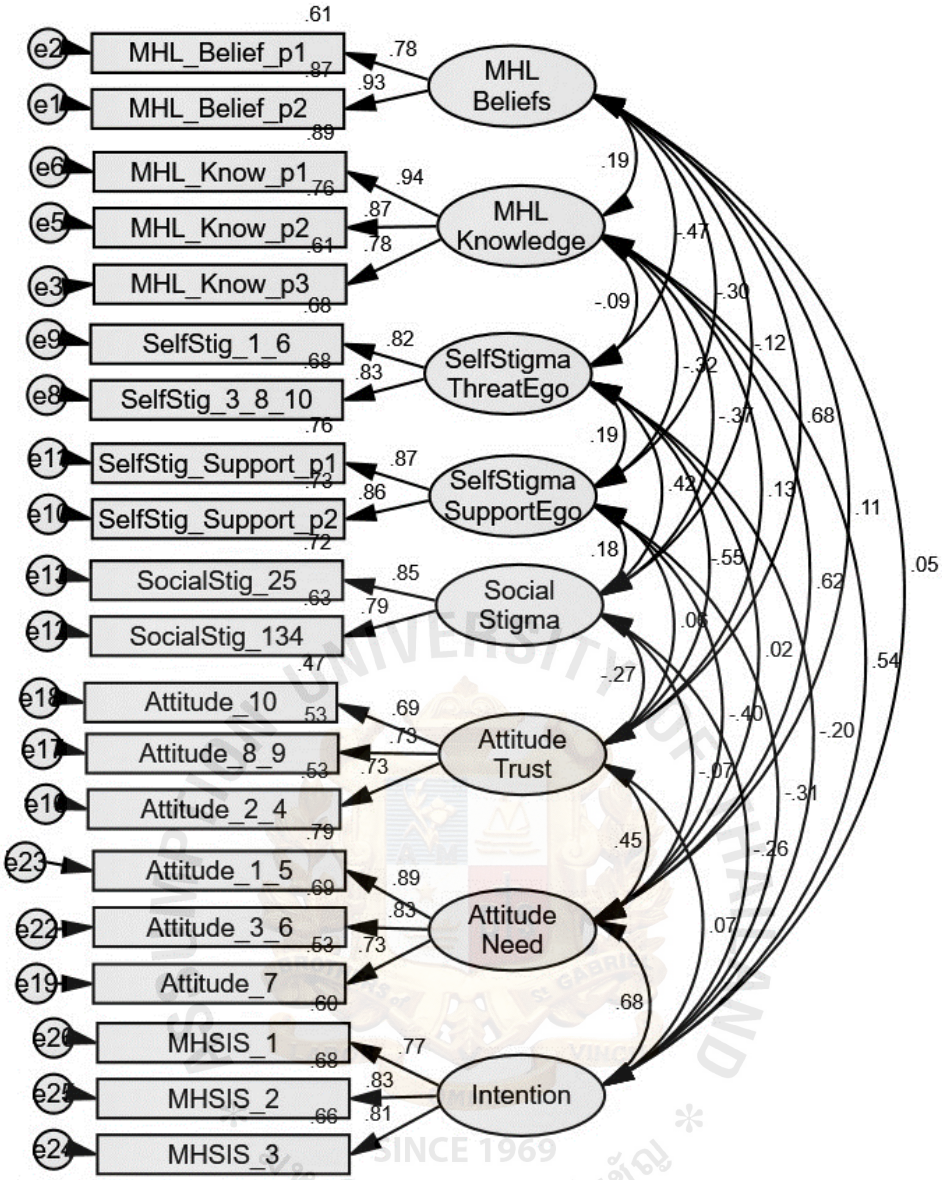
This research employed confirmatory factor analysis (CFA) to test the factor structure of the Mental Health Literacy Questionnaire-Young Adults form (MHLq-Young Adult form), Self-Stigma Of Seeking Help (SSOSH), Stigma Scale for Receiving Psychological Help Scale (SSRPH), Attitudes Toward Seeking Professional Psychological Help-Short Form (ATSPPH-SF), and the Mental Help Seeking Intention Scale (MHSIS). It was done to assess the sufficiency of the factor structure established during exploratory factor analysis (EFA), and to specifically suggest a priori model, and also to assess the model's fit to the observed

data. The proposed model consisting of 8 latent constructs was examined to establish its fit to the data. This is illustrated by Figure 6 which presents CFA for all latent constructs and their associated item parcels, namely of mental health literacy by 5 parcels (3 parcels for the knowledge factor and 2 parcels for the beliefs factor); self-stigma by 4 parcels (2 parcels for the support ego factor and 2 parcels for the threat to ego factor), social stigma (2 parcels), attitudes (2 parcels and an item for the needs factor and 2 parcels and an item for the trust factor) and the outcome variable intentions used without any item parceling. The latent constructs withing the model were permitted to correlate, in an attempt to assess the fit of the proposed 8 factor measurement model reflecting all the latent constructs.

CFA Analysis and Measures of Validity

CFA analysis was conducted on Sample 2 (n=690), the results of which is presented in the following figures (Figure 10) and tables (Table 16 & 17). Analyzing the fit indices and observing the same recommendations by Hair et al. (2014) and (Ho, 2013), the proposed model presented an acceptable fit.

Figure 9. *Pooled CFA: Eight-Factor Measurement Model Representing the Latent Constructs Of MHL, SelfStig, SocialStig, Attitude and Intention (Sample 2, n=690)*



The $\chi 2$ goodness-of-fit test was used to test the null hypothesis that the sample covariance matrix for the model was derived from a population with the proposed model structure. The CFA analysis and the resulting goodness-of-fit indices for this model are shown in Table 15 below with the correlation matrix as part of the table 17.

Table 16. *Confirmatory Factor Analysis of Latent Factors (Sample 2, n=690)*

No.	Indicants (Item parcels)	Paths	Latent Factors	Unstd. Estimate	S.E.	C.R.	P	Std. Estimate
F1	MHL_Know_p1	<---	Knowledge	1.120	0.041	27.178	***	0.941
F2	MHL_Know_p2	<---		1.096	0.043	25.334	***	0.871
F3	MHL_Know_p3	<---		1				0.779
F4	MHL_Belief_p1	<---	Beliefs	0.862	0.039	22.296	***	0.778
F5	MHL_Belief_p2	<---		1				0.937
F6	SelfStig_3_8_10	<---	SelfStigThreat	1				0.826
F7	SelfStig_1_6	<---		0.999	0.053	18.763	***	0.822
F8	SelfStig_Support_p1	<---	SelfStigSupport	0.914	0.042	21.777	***	0.870
F9	SelfStig_Support_p2	<---		1				0.861
F10	SocialStig_134	<---	SocialStig	1				0.788
F11	SocialStig_25	<---		1.031	0.066	15.700	***	0.851
F17	Attitude_7	<---	Attitude Need	1				0.730
F18	Attitude_3_6	<---		1.914	0.91	21.034	***	0.828
F19	Attitude_1_5	<---		0.904	0.041	22.301	***	0.890
F17	Attitude_2_4	<---	Attitude Trust	1				0.731
F18	Attitude_8_9	<---		0.879	0.052	17.004	***	0.730
F19	Attitude_10	<---		0.795	0.049	16.096	***	0.686
F20	MHSIS_1	<---	Intention	0.938	0.045	20.656	***	0.771
F21	MHSIS_2	<---		1.018	0.045	22.864	***	0.835
F22	MHSIS_3	<---		1				0.815

Model fit indices: Chi-Square= 553.872, df=137, p<0.001; χ2/df = 4.043; GFI=.925; CFI=.947; TLI=.926; PNFI=.671; SRMR= 0.053; RMSEA=.066 (90%CI = 0.061, 0.72); Pclose = 0.000

Investigating the measurement model, all indicators showed a statistically significant load with their associated constructs, with values ranging from 0.686 to 0.941 and the chi-square goodness-of-fit value for the proposed model was statistically significant, $\chi 2$ (*df* =137)

= 553.872, $p<0.01$, indicating that the posited model's covariance matrix did not fit well with the sample covariance matrix. According to Ho (2013) the chi-square is highly dependent on sample size; the larger the sample, the more likely this value is significant. Hence, this research took other fit indices into consideration. The incremental fit indices, Goodness of Fit Index (GFI= 0.925), Comparative Fit Index (CFI= 0.947), Tucker-Lewis index (TLI= 0.926), Parsimony Normed Fit Index (PNFI= 0.671), Standardized Root Mean Square Residual (SRMR= 0.053) and Root mean square error of approximation (RMSEA= 0.066 (90% CI = 0.061 - 0.072); Pclose = 0.000), demonstrated that the proposed model provided an acceptable fit according to the fit criteria by Hair et al. (2014).

Convergent Validity and Discriminant Validity measures (Table 17) were also employed to assess the Construct Validity. To determine convergent validity, the Composite Reliability (CR) and Average Variance Extracted (AVE) values were calculated for each variable by adding the square root of the standardized estimate of item parcels by the number of parcels in each variable. According to Hair et al. (2014), all variables have an average variance derived approximately greater than 0.5, indicating convergent validity. To put it another way, the item parcels associated with each construct variable were considered as related.

In the same vein, discriminant validity was also investigated using the correlation among latent factors. It is assumed that the average variance extracted estimates should be greater than the largest squared correlation estimate among all correlations for that construct. This is referred to as Maximum Shared Variance (MSV). In the case that the average variance extracted (AVE) is greater than maximum shared variance (MSV), it can safely be assumed that the discriminant validity of the variables was identified. As shown in Table 17, comparing the AVE and MSV values, it is evident that the AVE for all variables was greater than MSV, suggesting all variables present sufficient discriminant validity.

Table 17. *Correlation Matrix and measures of Validity for all latent variables in the proposed model (Sample 2, n=690)*

Measures of Validity				Correlation Matrix						
	CR	AVE	MSV	A_N	M_B	M_K	Self_T	Self_S	Soc_S	A_T
A_N	0.858	0.670	0.468							
M_B	0.849	0.739	0.466	0.108						
M_K	0.900	0.750	0.391	0.625	0.190					
Self_T	0.809	0.679	0.307	-0.019	-0.469	-0.089				
Self_S	0.857	0.749	0.162	-0.403	-0.299	-0.318	0.187			
Soc_S	0.805	0.673	0.179	-0.074	-0.124	-0.368	0.423	0.177		
A_T	0.759	0.513	0.466	0.448	0.683	0.130	-0.554	-0.056	-0.268	
Int	0.846	0.647	0.468	0.684	0.054	0.536	-0.204	-0.314	-0.256	0.074

CR=Composite Reliability; AVE=Average Variance Extracted; MSV=Maximum Shared Variance; A_N=Attitude_Needs; M_B=MHL_Beliefs; M_K=MHL_Knowledge; Self_T=SelfStigma_Threat; Self_S=SelfStigma_Support; Soc_S=SocialStigma; A_T=Attitude_Trust; Int=Intention

Study II: Model Testing via SEM

Overview

The aim of Study 2 was to examine the direct and indirect effects of mental health literacy on undergraduate university students' psychological help-seeking intention, as mediated by self-stigma, social stigma and attitude towards seeking psychological help. Four nested models (direct model, indirect models at level 1 & 2, and full path model) were examined by multi-model path analysis via Structural Equation Modeling (SEM). It is hypothesized that SEM provides the necessary means for a direct comparison of the nested models' goodness-of-fit indices, and to check which model provides the best explanation of the hypothesized direct and indirect effects.

Procedure

To test the proposed hypotheses, structural equation modeling analysis (SEM) was performed using IBM SPSS Amos. Structural equation modeling (SEM) is a multivariate

technique for determining the parameters of simultaneous equations which is a broad term that encompasses a variety of techniques, including regression analysis, path analysis, factor analysis, simultaneous econometric equations, and latent growth curve models. SEM may be applied to evaluate both measurement and structural models as the data analysis method. The aim of this analysis was to explore and focus on the structural model, which is distinct from those in the measurement model. measurement model connects observed variables to latent constructs; as such, it explains the observed variables' measurement properties. The structural model estimates the hypothesized relationships between the variables (Jöreskog, 2008).

Similar criteria to study 1 was used to measure model fit in this study, model chi-square ($\chi 2$), Goodness-of-fit statistic (GFI), Standardized Root Mean Square Residual (SRMR), and Root mean square error of approximation (RMSEA) were selected to represent the absolute fit indices. Meanwhile Comparative fit index (CFI), Tucker-Lewis Fit Index (TLI), parsimony fit indices (PNFI) were elected to represent the incremental fit indexes (Hair et al., 2014).

Sample for Study 2

The summary of demographic details of the samples used in SEM are shown previously in Table 2. After pilot testing and minor adjustments based on feedback from some respondents, the researcher employed the services of a market research company to help with data collection. The questionnaires were administered online using the convenience sampling technique over a 28-days period.

For the purpose of Study 2, a random sample of 690 respondents (chosen randomly via SPSS based on the instructions to select approximately 70% of the 1,000 total sample) was assessed for normal distribution using the skewness and kurtosis of all observed variables in the model.

The respondents were male (*n*=357, 51.7%), female (*n*=277, 40.1%) and others (*n*=56, 8.1%), aged 18 years old (*n*=152, 22.0%), 19 years old (*n*=151, 21.9%), 20 years old (*n*=109, 15.8%), 21 years old (*n*=96, 13.9%), 22 years old (*n*=75, 10.9%), 23 years old (*n*=31, 4.5%), 24 years old (*n*=28, 4.1%) and finally 25 years old (*n*=48, 7.0%) with a mean age of 20.34 and the median of 20.

The study majors based on the provided 5 options were Human Sciences (*n*=147, 21.3%), Business and Economics (*n*=123, 17.8%), Arts and Music (*n*=91, 13.2%), Health and Medicine (*n*=50, 7.2%), and Others (*n*=279, 40.4%).

The participants with regards to their religious beliefs identified as Religious (*n*=448, 64.9%), Not religious but believe in a higher power (*n*=95, 13.8%), and not religious and also a non-believer (*n*=147, 21.3%).

The participants also showed no history of mental illness (*n*=467, 67.7%), themselves being diagnosed with a mental illness (*n*=84, 12.2%), someone in their family being diagnosed with a mental illness (*n*=77, 11.2%), and both themselves and someone in the family being diagnosed with a mental illness (*n*=62, 9.0%). Among them, some sought help from a mental health professional (*n*=175, 25.4%), while the rest (*n*=515, 74.6%) indicated otherwise. About half were aware of the existence of mental health facilities within their academic institutions (*n*=350, 51.0%), the rest (*n*=338, 49.0%) proclaimed that they did not know of such facilities.

Results of CFA analysis of sample 2 has already been presented (Figure 10, Tables 16 and 17). In the following section results from the test of normality for each item parcel used in this study, multivariate outliers analysis, mediation analysis (at level 1 and level 2) and the full model analysis is presented, in order to help with model investigation according to the stated hypotheses of study 2.

Test of normality of item parcels in study 2

Univariate and multivariate skewness and kurtosis values for all indicator variables are listed with their respective critical ratios (Table 18). Though for few variables significant skewness was present, skewness usually tends to impact test of means and hence is not relevant for SEM which is based on variances and covariances, whereas the presence of kurtosis severely affects tests of variances and covariances and hence of concern in SEM analysis. The threshold value for univariate kurtosis for unstandardized data is suggested as <= 7, and for multivariate kurtosis as <=5 (Byrne, 2010).

Table 18. *Univariate And Multivariate Normality of Indicator Variables in Study 2 (Sample 2)*

Item No	Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
1	MHSIS_1	1	7	-0.604	-4.659	0.376	1.451
2	MHSIS_2	1	7	-0.579	-4.462	0.512	1.973

3	MHSIS_3	1	7	-0.476	-3.676	0.230	0.887
4	Attitude_1_5	0	3	-0.419	-3.230	0.452	1.741
7	Attitude_3_6	0	3	-0.246	-1.899	-0.884	-3.408
8	Attitude_7	0	3	-0.243	-1.876	-0.855	-3.299
9	Attitude_10	0	3	-0.189	-1.458	-0.504	-1.945
10	Attitude_8_9	0	3	-0.095	-0.731	-0.578	-2.230
11	Attitude_2_4	0	3	-0.170	-1.308	-0.791	-3.052
12	SocialStig_25	0	3	-0.411	-3.172	-0.542	-2.090
13	SocialStig_134	0	3	-0.321	-2.475	-0.890	-3.434
14	SelfStig_Support_p1	1	5	0.688	5.309	0.723	2.788
15	SelfStig_Support_p2	1	5	0.496	3.826	0.124	0.478
16	SelfStig_1_6	1	5	-0.263	-2.029	-0.324	-1.248
17	SelfStig_3_8_10	1	5	-0.168	-1.293	-0.409	-1.579
18	MHL_Know_p1	1	5	-0.078	-0.605	-0.910	-3.508
19	MHL_Know_p2	1	5	-0.060	-0.464	-0.951	-3.667
20	MHL_Know_p3	1	5	-0.323	-2.491	-1.101	-4.246
21	MHL_Belief_p1	1	5	-0.010	-0.078	-0.861	-3.319
22	MHL_Belief_p2	1	5	-0.315	-2.433	-0.200	-0.773
	Multivariate					134.651	42.882

Using the criteria CR of kurtosis values, as demonstrated in Table 18, none of the indicator variables were >7 (Kurtosis values ranged from -1.101 to 0.723) and hence were non-kurtic. Moreover, the CR value of multivariate kurtosis (42.882) was above the suggested value of <5 and hence suggestive of nonnormality of the sample. Multivariate non-normality, more specifically multivariate kurtosis affects standard errors which can be dealt with, for example, with the method recommended by Kim and Millsap (2014). In order to deal with multivariate non-normality in SEM data, bootstrapping procedure must be used to

estimate standard errors and compare the parameters estimated. Hence this procedure was employed in this study.

Multivariate outliers analysis

As datasets get bigger, defining common structures within them becomes increasingly challenging. As a response to these difficulties, statistical techniques attempt to fit a number of different models to the data in order to gain an understanding of its relationships, yet generally another issue occurs in the form of multivariate outliers. Outliers are cases in which a case's score is significantly different from the rest of the cases in the data collection. Outlier identification in multivariate data is a critical task for statistical analysis of multivariate data. Their existence enables inferences regarding the data's quality and the presence of anomalous phenomenon (Filzmoser et al., 2014). To calculate the extent of multivariate outliers, Mahanalobis d-square statistics was used to estimate the distance of each case from the centroid of all other cases (Table 19).

Table 19. *Evaluation of Multivariate Outliers*

No.	Observation number	Mahalanobis d-squared	p1	p2
1	92	83.529	0	0
2	347	82.136	0	0
3	570	72.967	0	0
4	30	72.452	0	0

5	195	68.029	0	0
6	315	67.494	0	0
7	314	65.263	0	0
8	3	61.552	0	0
9	346	59.839	0	0
10	270	59.732	0	0
11	529	58.595	0	0
12	55	57.582	0	0
13	132	57.052	0	0
14	32	56.338	0	0
15	437	54.406	0	0
16	292	54.352	0	0
17	449	54.271	0	0
18	266	53.255	0	0
19	75	53.23	0	0
20	112	52.86	0	0
21	630	52.704	0	0
22	293	52.605	0	0
23	294	52.549	0	0
24	187	52.495	0	0
25	50	52.308	0	0
26	604	51.945	0	0
27	579	51.79	0	0
28	185	51.332	0	0
29	526	51.292	0	0
30	495	51.141	0	0
31	77	50.709	0	0
32	602	50.683	0	0
33	606	50.683	0	0
34	376	50.569	0	0
35	450	50.124	0.001	0
36	364	49.471	0.001	0

37	486	49.437	0.001	0
38	665	49.275	0.001	0
39	71	49.083	0.001	0
40	325	48.809	0.001	0
41	16	48.66	0.001	0
42	453	48.66	0.001	0
43	23	48.531	0.001	0
44	179	48.453	0.001	0
45	169	48.198	0.001	0
46	21	47.962	0.001	0
47	26	47.604	0.001	0
48	632	46.64	0.002	0
49	72	46.571	0.002	0
50	63	46.116	0.002	0
51	431	45.264	0.002	0
52	329	45.204	0.003	0
53	267	45.027	0.003	0
54	378	44.975	0.003	0
55	278	44.741	0.003	0
56	205	44.534	0.003	0
57	227	44.466	0.003	0
58	121	44.442	0.003	0
59	402	44.387	0.003	0
60	414	44.275	0.003	0
61	311	44.187	0.003	0
62	444	43.82	0.004	0
63	476	43.579	0.004	0
64	135	43.419	0.004	0
65	310	42.946	0.005	0
66	300	42.388	0.006	0
67	313	42.32	0.006	0
68	688	42.214	0.006	0

69	1	42.096	0.006	0
70	61	41.842	0.007	0
71	129	41.66	0.007	0
72	12	41.612	0.007	0
73	305	41.583	0.007	0
74	355	41.457	0.007	0
75	44	41.336	0.008	0
76	178	41.158	0.008	0
77	5	40.744	0.009	0
78	379	40.649	0.009	0
79	31	40.247	0.01	0
80	633	40.244	0.01	0
81	40	39.927	0.011	0
82	357	39.28	0.013	0
83	647	39.213	0.013	0
84	680	39.131	0.014	0
85	198	38.942	0.014	0
86	103	38.599	0.016	0
87	174	38.058	0.018	0
88	567	37.494	0.021	0
89	218	37.104	0.023	0
90	20	37.024	0.024	0
91	106	36.905	0.024	0
92	262	36.602	0.026	0
93	580	36.49	0.027	0
94	167	36.359	0.028	0
95	620	36.284	0.028	0
96	144	35.949	0.031	0
97	13	35.456	0.035	0
98	186	35.421	0.035	0
99	114	35.419	0.035	0

100	403	35.326	0.036	0

As illustrated from Table 19, *p* value (p1) shows the significance of the distance from the centroid. Kline (2015) recommends a conservative value of $p<0.001$. the first 34 cases showed significant deviation ($p<0.001$) from centroid, however, the examination of d square values suggested that deviations were not substantial as the change from the preceding case was incremental, and not radical. Hence, this research concluded that there was minimum evidence for serious multivariate outliers.

Model Analysis

The proposed model for current research was divided into 4 models, aiming to investigate the direct effect, mediation effect (Level 1 and 2) and the full path model. Model 1 was the direct model which represented the direct structural linkage between mental health literacy (in the form of its 2 underlying factors, namely, knowledge and beliefs) and the criterion variable of psychological help-seeking intention. Model 2 was the indirect (mediation level 1) model which hypothesized relationships between mental health literacy and the criterion variable of psychological help-seeking intention, mediated by self-stigma (in the form of its 2 underlying factors, namely, support of ego and threat to ego), and social stigma. Model 3 was the indirect (mediation level 2) model which hypothesized relationships between mental health literacy and the criterion variable of psychological help-seeking intention, mediated (at level 1) by self-stigma (in the form of its 2 underlying factors, namely, support of ego and threat to ego), and social stigma, and (at level 2) by attitudes towards seeking psychological help (in the form of its 2 underlying factors, namely, need and trust).

And finally model 4 was the full path model with all relationships present and accounted for, considered in one big simultaneous analysis.

The four nested models were analyzed using multi-model path analysis through Structural Equation Modeling (direct model, indirect model level 1 and 2, and the full path model). It is hypothesized that SEM offers the necessary means for comparing the goodness-of-fit indices of the nested models directly and determining which model better describes the direct and indirect hypothesized effects in relation to the models' mediators and criterion variables.

Objective and Hypothesis

The objective of study 2 was to assess and compare the direct and indirect effects of mental health literacy on undergraduate students' psychological help-seeking intention mediated by self-stigma and social stigma (level 1) and attitudes toward seeking psychological help (level 2), and in doing so the following hypotheses were tested in study 2:

Hypothesis 1: Mental health literacy has direct effect on the students' psychological help-seeking intention such that (1) the higher the students' level of mental health literacy, the higher will be their reported psychological help-seeking intention; and vice versa.

Hypothesis 2: Mental health literacy has an indirect effect on the students' psychological help-seeking intention, mediated by social stigma and self-stigma such that (1) the higher their level of mental health literacy, the lower will be their reported levels of social stigma and self-stigma, subsequently resulting in their higher reported psychological help-seeking intention; and (2) the lower their level of mental health literacy, the higher will be their reported levels of social stigma and self-stigma, subsequently resulting in their lower reported psychological help-seeking intention.

Hypothesis 3: Mental health literacy has indirect effect on the students' psychological help-seeking intention, mediated by self-stigma, social stigma, and attitudes towards seeking psychological help such that (1) the higher their mental health literacy, the lower will be their reported level of social stigma and self-stigma , and the higher will be their attitudes towards seeking psychological help, subsequently resulting in their higher reported levels of psychological help-seeking intention; and the lower their mental health literacy, the higher will be their reported level of social stigma and self-stigma, and the lower will be their attitude towards seeking psychological help, subsequently resulting in their lower reported levels of psychological help-seeking intention.

Hypothesis 4: Mental health literacy has both direct and indirect effects on the students' psychological help-seeking intention by mediating effect of self-stigma, social stigma, and attitudes towards seeking psychological help in the structural path model.

To test these four hypotheses, four nested path models were analyzed. The fit of these four nested path models was postulated to represent the direct and indirect structural relationships between the mental health literacy (knowledge, beliefs) and psychological help-seeking intention, mediated by self-stigma, social stigma, and attitudes towards seeking psychological help. Table 20 presents the goodness-of-fit indices for these four models and Table 21 shows the comparison fit indices. The interpretation of the fit indices and their implication on research hypotheses is discussed following the tables 20 and 21.

Table 20. *four nested models - fit indices*

Model	**$\chi 2$**	***df***	***p***	**$\chi 2/df$**	**GFI**	**CFI**	**TLI**	**RMSEA**	**90% CI**	**AIC**

Direct Model	2739.91	169	.000	16.212	0.667	0.580	0.534	0.157	0.153-0.161	3829.91
Indirect Model Level 1	1551.74	157	.000	9.883	0.771	0.720	0.670	0.132	0.128-0.137	2665.74
Indirect Model Level 2	852.784	148	.000	5.762	0.892	0.910	0.884	0.083	0.078-0.089	976.874
Full Path Model	548.440	139	.000	3.946	0.926	0.948	0.929	0.065	0.060-0.071	690.440

χ2 goodness-of-fit value, Goodness of Fit Index (GFI), Tucker-Lewis index (TLI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and Akaike Information Criterion (AIC)

Table 21. *Nested Model Comparisons*

Model	**Δχ2**	**ΔDF**	**P**
Direct Model vs. Indirect Model Level 1	1188.17	12	.000
Direct Model vs. Indirect Model Level 2	1887.126	21	.000
Indirect Model Level 1 vs. Indirect Model Level 2	698.956	9	.000
Full Path Model vs. Direct Model	2191.47	30	.000
Full Path Model vs. Indirect Model Level 1	1003.3	18	.000
Full Path Model vs. Indirect Model Level 2	304.344	9	.000

Although the overall chi-square goodness-of-fit values for all four nested models were significant *(p* <.001), the incremental fit indices (TLI, CFI) of indirect model level 2 and full path model were close to or above the cut-off point of 0.90 (range: 0.892 - 0.929). These fit indices indicated that these two models provided an acceptable fit relative to their null or independence models (i.e., the posited models represented between 89.3% - 92.9%). The RMSEA values of 0.083 and 0.065 were for indirect model level 2 and the full path model, respectively. These values were also within the range (0.05 to 0.1) that, as suggested by Hair et al. (2014), indicates that the model fitted the population covariance matrix in an acceptable

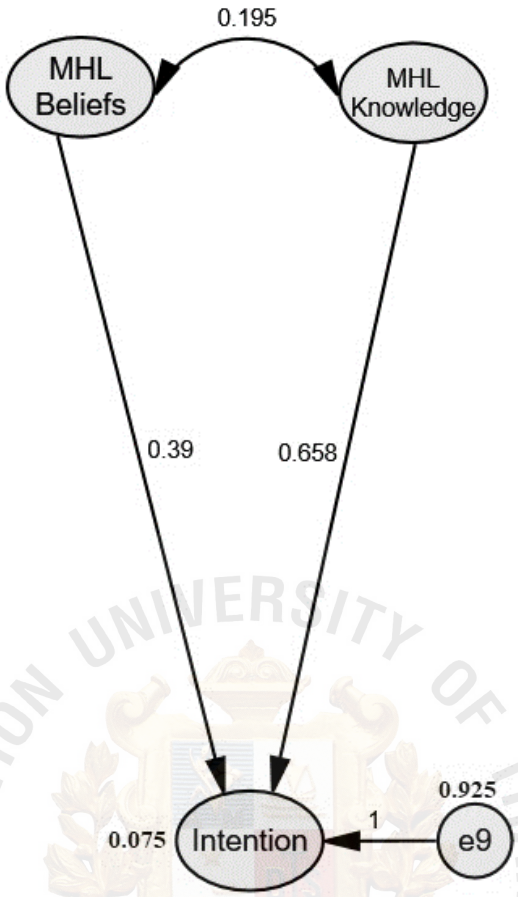
(acceptable / moderate fit) manner, yet the indirect model Level 2 was well within the mediocre range (RMSEA > 0.08). The RMSEA values of 0.132 and 0.157 were for the indirect model level 1 and direct model respectively, which indicated considerable errors in approximation when compared to the population covariance matrix, signifying a poor / unacceptable fit. With regards to AIC values (where a lower value is desirable), it was no surprise then that indirect model level 2 with an AIC value of 976.874, and the full path model with an AIC value of 690.440, presented lower values compared to the direct model and the indirect model level 1 with AIC values of 3829.911 and 2665.741 respectively.

These fit indices, and the comparison of nested models (Table 21) which showed that all models were statistically significantly different from each other, indicated that the full path model was more parsimonious and better fitting than other models and as such was employed to investigate group (based on gender) differences in Study 3. Each model and their implication for research hypotheses are discussed in more depth in the following section.

Direct Model / Hypothesis 1 rejected

The hypothesized direct model, which assumed direct relationships between the mental health literacy (knowledge and beliefs) and the criterion variable of psychological help-seeking intention, and its calculated fit indices indicated that this model presented a very poor fit based on the current dataset, $\chi 2$ goodness-of-fit value (3739.91, *df*=208, *p*<.01), Goodness of Fit Index (GFI=.667), Tucker-Lewis index (TLI=.534), comparative fit index (CFI=.580), root mean square error of approximation (RMSEA=.157). Thus hypothesis 1 was rejected and the null hypothesis was retained. The following figure presents the significant path coefficients for the direct model.

Figure 10. *Direct model with significant coefficients*



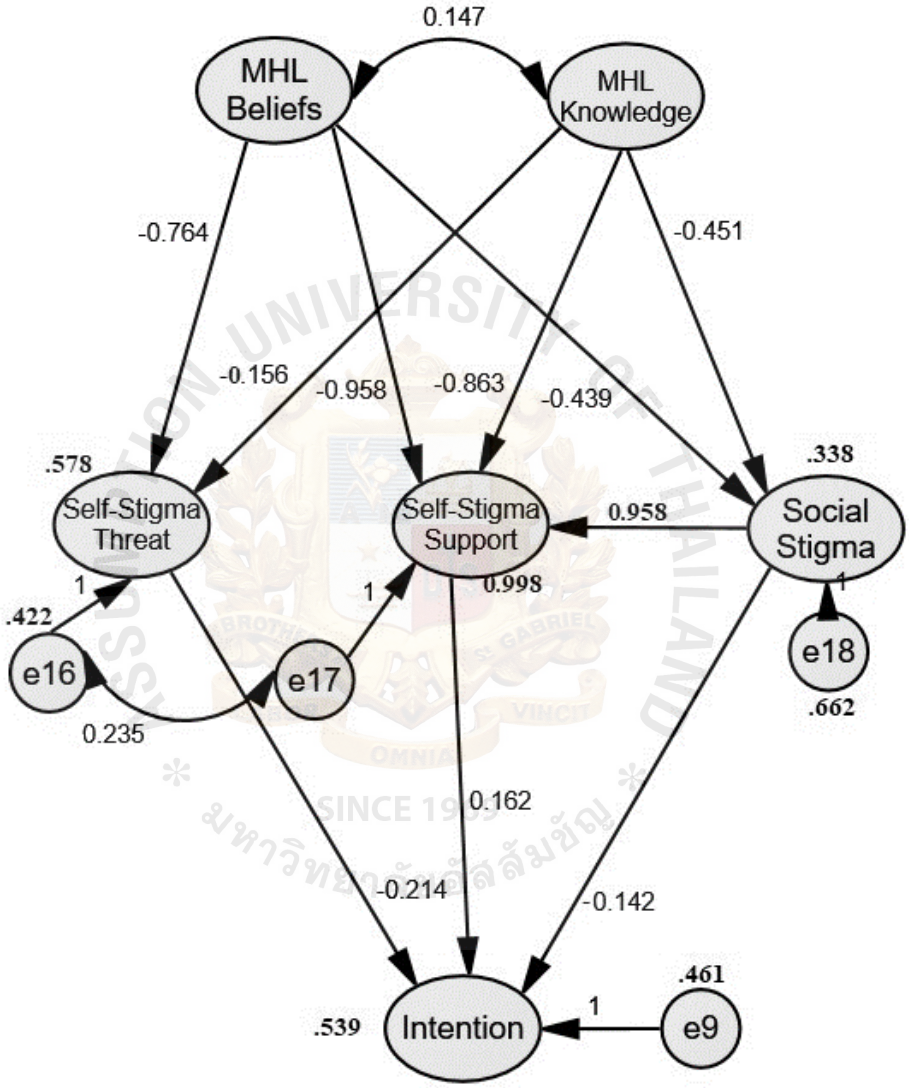
Mental health literacy-knowledge and mental health literacy-beliefs were both positively (β= .658, & 0.39, respectively) related to the criterion variable of intention. Thus, the higher the students' reported levels of mental health literacy, the higher would be their psychological help-seeking intention

Indirect model level 1 mediation / Hypothesis 2 rejected

The hypothesized indirect model level 1, which assumed the relationships between the mental health literacy (knowledge and beliefs) and the criterion variable of psychological help-seeking intention mediated by self-stigma (threat, support) and social stigma, and its calculated fit indices indicated that this model presented a very poor fit based on the current dataset, $\chi 2$ goodness-of-fit value (2551.74, *df*=196, *p*<.01), Goodness of Fit Index (GFI=.771), Tucker-Lewis index (TLI=.670), comparative fit index (CFI=.720), root mean

square error of approximation (RMSEA=.132). Thus hypothesis 2 was rejected and the null hypothesis was retained. The following figure presents the significant path coefficients for the indirect model level 1.

Figure 11. *Indirect model level 1 mediation with significant coefficients*



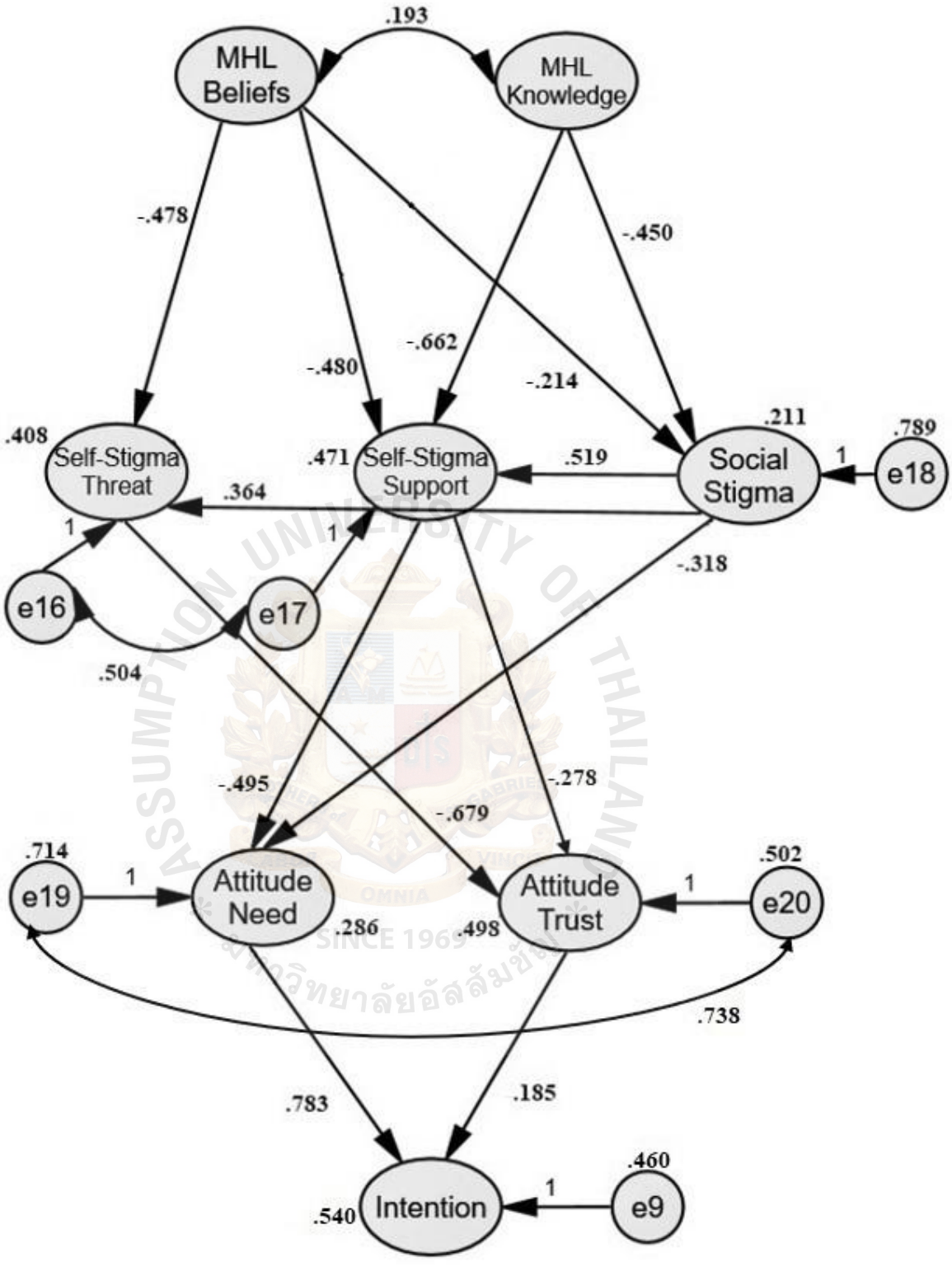
Mental health literacy-knowledge and mental health literacy-beliefs were both negatively related to the mediator variables of self-stigma threat (β= -.156, & -.746, respectively), self-stigma support (β= -.863, & -.958, respectively), and social stigma (β= -.451, & -.439, respectively). Thus, the higher the students' reported levels of mental health literacy, the lower will be their reported levels of self-stigma and social stigma.

The mediator variables of social stigma and self-stigma threat were negatively (β= -.142, & -.214, respectively) related to the criterion variable of psychological help-seeking intention, while the self-stigma support factor of the latent construct of self-stigma was positively (β= .162) related to the criterion variable of psychological help-seeking intention, meaning the lower the students' reported levels of social stigma and self-stigma (threat), the higher will be their psychological help-seeking intention, and inversely the higher their reported levels of self-stigma (support), the higher will be their psychological help-seeking intention.

Indirect model level 2 mediation/ Hypothesis 3 rejected

The hypothesized indirect model level 2, which assumed the relationships between the mental health literacy (knowledge and beliefs) and the criterion variable of psychological help-seeking intention mediated by self-stigma (threat, support) and social stigma (level 1), and attitudes towards seeking psychological help (level 2), and its calculated fit indices indicated that this model presented a "poor / mediocre" fit based on the current dataset, $\chi 2$ goodness-of-fit value (852.784, *df*=148, $p<.01$), Goodness of Fit Index (GFI=.892), Tucker-Lewis index (TLI=.884), comparative fit index (CFI=.910), root mean square error of approximation (RMSEA=.083). Thus hypothesis 3 was rejected and the null hypothesis was retained. The following figure presents the significant path coefficients for the indirect model level 2.

Figure 12. *Indirect model level 2 mediation with significant coefficients*



Mental health literacy-beliefs was negatively related to the level 1 mediator variables of social stigma, self-stigma support, and self-stigma threat (β= -.214, -.480 & -.478 respectively), and similarly mental health literacy-knowledge was negatively related to the

mediator variables of social stigma, self-stigma support, (β= -.450, -.662 respectively)., while its relationship to self-stigma threat proved insignificant. This meant that the higher the students' reported levels of mental health literacy, the lower will be their reported levels of self-stigma and social stigma.

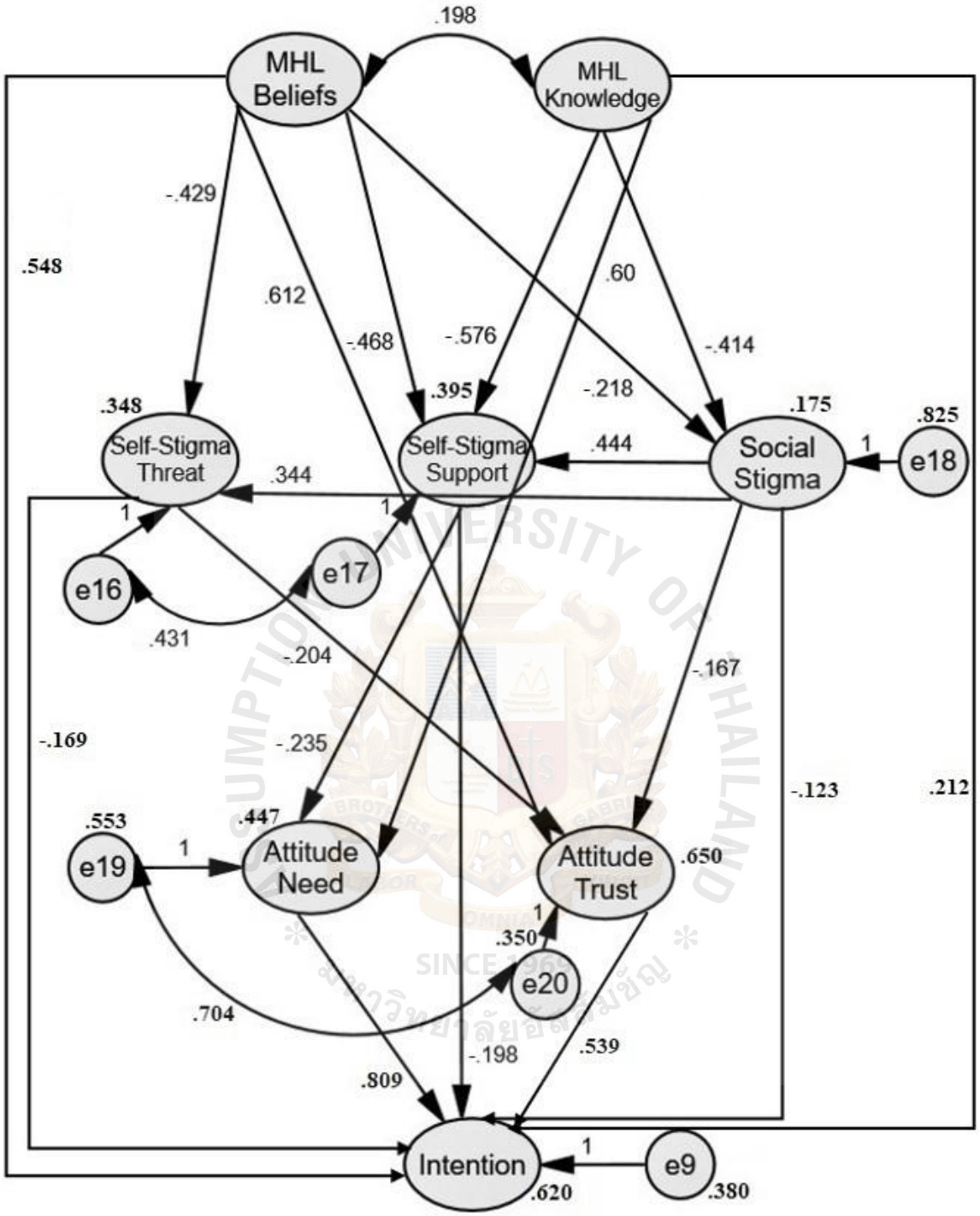
The level 1 mediator variable of social stigma was negatively related to the level 2 mediator variable of attitude-need (β= -.318). and its relationship with attitude-trust proved insignificant. The other level 1 mediator variables of self-stigma support and self-stigma threat were negatively related to level 2 mediator variables of attitude-trust (β= -.278 & -.679, respectively) while only self-stigma support exhibited a significant negative relationship with attitude-need (β= -.495). It should be noted that the link between self-stigma threat and attitude-need was not statistically significant. This meant that higher the students' reported levels of social stigma, the lower will be their reported levels of attitude-need. likewise, the higher the students' reported levels of self-stigma threat, the lower would be their reported levels of attitude-trust, and the higher the students' reported levels of self-stigma support, the lower would be their levels of attitude trust and attitude need.

The level 2 mediator variable of attitude-need was positively (β= .783) related to the criterion variable of psychological help-seeking intention, and in the same vein, attitude-trust showed a positive relationship (β= .185).

Full path model / Hypothesis 4 retained

The hypothesized full path model, which assumed all the direct and indirect relationships between the mental health literacy (knowledge and beliefs) and the criterion variable of psychological help-seeking intention mediated by self-stigma (threat and support) and social stigma (level 1), and attitudes towards seeking psychological help (level 2), and its calculated fit indices indicated that this model presented an acceptable to good fit based on the current dataset, $\chi 2$ goodness-of-fit value (548.440, df=139, p<.01), Goodness of Fit Index (GFI=.926), Tucker-Lewis index (TLI=.929), comparative fit index (CFI=.948), root mean square error of approximation (RMSEA=.065). Thus hypothesis 4 was retained and the null hypothesis was rejected. The following figure presents the significant path coefficients for the full path model.

Figure 13. *Full path model with significant coefficients*



Mental health literacy-beliefs was negatively related to the level 1 mediator variables of social stigma, self-stigma support, and self-stigma threat (β= -.218, -.468 & -.429 respectively), similarly, mental health literacy-knowledge was negatively related to the mediator variables of social stigma, self-stigma support (β= -.414 & -.576 respectively), while its relationship to self-stigma threat proved to be statistically non-significant. Mental

health literacy-beliefs also showed a direct positive relationship with attitude-trust and the outcome variable of intention (β= .612, .548 respectively), similarly mental health literacy-knowledge exhibited a direct positive relationship with attitude-need and the outcome variable of intention (β= .60, .212 respectively).

The level 1 mediator variable of social stigma was negatively related to the level 2 mediator variable of attitude-trust and was also negatively related to the outcome variable of intention (β= -.167, -.123 respectively). Its relationship to attitude-need proved to be statistically non-significant. Social stigma also showed a significant positive relationship to self-stigma support and self-stigma threat (β= .444, .344 respectively). The other level 1 mediator variables of self-stigma support showed a negative relationship to level 2 mediator variable of attitude-need and the outcome variable of intention (β= -.235, -.198 respectively) while its relationship to attitude-trust proved statistically non-significant. Self-stigma threat showed a negative relationship to the level 2 mediator variable of attitude-trust (β= -.204) and the outcome variable of intention (β= -.169).

Among the second level mediator variables, attitude-need and attitude-trust both showed a positive statistically significant strong relationship with the outcome variable of intention (β= .809 & .539 respectively).

Analysis of Indirect / Mediation effects

In order to assess the indirect and total effects of mental health literacy (beliefs, knowledge) on students' psychological help-seeking intention, SEM analysis was conducted with the use of bootstrapping (via bootstrapping with 500 iterations and a 90% bias-corrected confidence interval). The significant indirect and total effects are presented in the following tables with an asterisk.

Table 22. *Standardized indirect effects of mental health literacy on intention*

Variables	MHL_Beliefs	MHL_Knowledge
Intention	.596*	.758*

*p<.01

Table 23. *Standardized total effects of mental health literacy on intention*

Variables	MHL_Beliefs	MHL_Knowledge
Intention	.048	.546*

*p<.01

It is evident that mental health literacy (in the form of both its components, knowledge and beliefs) had a significant indirect effect on student's psychological help-seeking intention. When it came to total effects only the knowledge component of mental health literacy exhibited statistically significant effect on students' psychological help-seeking intention.

STUDY 3

Overview

Study 2 clearly showed that model four (full path model) presented the best fit compared to other proposed models (direct & indirect model level one and indirect model level two mediation), based on the better fit measures and lower values of RMSEA and AIC. It is unclear how the patterns of structural relationships hypothesized in the model may vary as a function of the university students' gender. Study 3 was designed and conducted to answer this very question.

Procedure

To test the proposed hypothesis (Hypothesis 5), multigroup (based on gender, male and female) structural equation modeling analysis (SEM) was performed using IMB SPSS Amos. The aim of this analysis was to explore and focus on the structural paths and to investigate if any differences are present with regards to the students' gender.

Similar criteria to study 2 was used to measure model fit in this study, model chi-square ($\chi 2$), Goodness-of-fit statistic (GFI), and Root mean square error of approximation (RMSEA) were selected to represent the absolute fit indices. Meanwhile Comparative fit index (CFI), Tucker-Lewis Fit Index (TLI) were elected to represent the incremental fit indexes (Hair et al., 2014).

Sample for Study 3

The summary of demographic details of the samples used in SEM analysis are previously presented in Table 2. After pilot testing and minor adjustments based on feedback from some respondents, the researcher employed the services of a market research company to help with data collection. The questionnaires were administered online using the convenience sampling technique.

For the purpose of Study 3, the same random sample of 690 respondents and their corresponding dataset (chosen randomly via SPSS based on the instructions to select approximately 70% of the 1,000 total sample) which was already used in study 2, was yet again assessed for the presence of gender differences. Only Male (n=357) and Female (n=277) genders were considered for analysis, as "other" gender group did not contain enough samples.

Objectives and Hypothesis

In this study the presence of gender differences with regards to the hypothesized full path model will be investigated. It is an attempt to test hypothesis 5.

Hypothesis 5: The hypothesized direct and indirect effects of levels of mental health literacy on university students' psychological help-seeking intention will vary as a function of gender.

Confirmatory Factor Analysis (CFA) based on Gender

Confirmatory factor analysis (CFA) was employed to test the factor structure of the Mental Health Literacy Questionnaire-Young Adults form (MHLq-Young Adult form), Self-Stigma Of Seeking Help (SSOSH), Social Stigma for Receiving Psychological Help Scale (SSRPH), Attitudes Toward Seeking Professional Psychological Help-Short Form (ATSPPH-SF), and the Mental Help Seeking Intention Scale (MHSIS) based on each gender group. It

was done to assess the sufficiency of the factor structure established during exploratory factor analysis (EFA), and to specifically suggest an a priori model, and to assess the model's fit to the observed data. CFA for all latent constructs and their associated item parcels, namely of mental health literacy by 5 parcels (3 parcels for knowledge and 2 parcels for beliefs); self-stigma by 4 parcels (2 parcels for support and 2 parcels for threat), social stigma (2 parcels), attitudes (2 parcels and an item for needs and 2 parcels and an item for trust) and the outcome variable intentions used without any parceling was conducted based on gender groups (table 24).

Table 24. *Male and Female groups CFA - fit indices*

Model	**χ2**	**DF**	**P**	**χ2/ DF**	**GFI**	**CFI**	**TLI**	**RMSEA**	**90% CI**	**AIC**
Male	468.494	137	.000	3.420	0.877	0.931	0.905	0.082	0.074-0.091	614.494
Female	279.670	137	.000	2.041	0.914	0.949	0.929	0.061	0.051-0.072	425.670

χ2 goodness-of-fit value, Goodness of Fit Index (GFI), Tucker-Lewis index (TLI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and Akaike Information Criterion (AIC)

The different gender groups presented statistically significant differences with regards to the CFA analysis which was not unexpected as literature has shown that males and females show stark differences in their approach to psychological help seeking (Loganathan & Foo, 2019). Multigroup CFA was conducted to look for sources of specific differences within the proposed model (table 25).

Table 25. *Comparison of Competing Models Across Genders*

Model no.	Constraints imposed	Δχ2	ΔDF	P
M1	Unconstrained			
M2	Measurement weights	6.871	12	0.866
M3	Structural covariances	165.535	48	.000
M4	Measurement residuals	226.960	71	.000

As can be seen in table 25, males and females do not exhibit a statistically significant difference with regards to the measurement weights, but do so with regards to structural covariances and measurement residuals they are different. As a point of further clarification Table 26 presents the standardized regression weights and explained variance statistics for both male and female groups. Tables 27 and 28 present the correlations among the latent constructs for both male and female groups.

Table 26. *Standardized regression weights and explained variances for the latent constructs for both male and female groups*

No.	Indicants (Item parcels)	Paths	Latent Factors	Standardized Regression Weights		Explained Variance	
				M	F	M	F
F1	MHL_Know_p1	<---	Knowledge	0.914	0.929	0.891	0.863
F2	MHL_Know_p2	<---		0.874	0.842	0.800	0.708
F3	MHL_Know_p3	<---		0.786	0.763	0.642	0.680
F4	MHL_Belief_p1	<---	Beliefs	0.769	0.816	0.602	0.666
F5	MHL_Belief_p2	<---		0.908	0.900	0.903	0.810
F6	SelfStig_3_8_10	<---	SelfStigThreat	0.808	0.849	0.653	0.721
F7	SelfStig_1_6	<---		0.862	0.783	0.743	0.613
F8	SelfStig_Support_p1	<---	SelfStigSupport	0.885	0.838	0.789	0.702
F9	SelfStig_Support_p2	<---		0.867	0.868	0.751	0.754
F10	SocialStig_134	<---	SocialStig	0.798	0.785	0.637	0.672
F11	SocialStig_25	<---		0.881	0.830	0.776	0.689
F12	Attitude_1_5	<---	Attitude Need	0.907	0.879	0.823	0.775
F14	Attitude_3_6	<---		0.845	0.829	0.715	0.686
F16	Attitude_7	<---		0.782	0.685	0.612	0.669
F17	Attitude_2_4	<---	Attitude Trust	0.756	0.711	0.572	0.669
F18	Attitude_8_9	<---		0.789	0.696	0.633	0.757
F19	Attitude_10	<---		0.748	0.687	0.593	0.671
F20	MHSIS_1	<---	Intention	0.885	0.775	0.784	0.779
F21	MHSIS_2	<---		0.893	0.863	0.797	0.881
F22	MHSIS_3	<---		0.848	0.849	0.719	0.676

M = Male; F = Female

Table 27. *Correlations among latent constructs for male group (n=357)*

	A_N	M_B	M_K	Self_T	Self_S	Soc_S	A_T	Int
A_N								
M_B	0.170							
M_K	0.594	0.288						
Self_T	-0.029	-0.377	-0.164					
Self_S	-0.282	-0.320	-0.166	0.296				
Soc_S	-0.124	-0.104	-0.443	0.460	0.338			
A_T	0.509	0.649	0.160	-0.491	-0.125	-0.153		
Int	0.686	-0.125	0.525	-0.243	-0.153	-0.342	0.064	

A_N=Attitude_Needs; M_B=MHL_Beliefs; M_K=MHL_Knowledge; Self_T=SelfStigma_Threat; Self_S=SelfStigma_Support; Soc_S=SocialStigma; A_T=Attitude_Trust; Int=Intention

Table 28. *Correlations among latent constructs for female group (n=277)*

	A_N	M_B	M_K	Self_T	Self_S	Soc_S	A_T	Int
A_N								
M_B	0.044							
M_K	0.613	0.005						
Self_T	-0.020	-0.624	-0.044					
Self_S	-0.610	-0.307	-0.536	0.002				
Soc_S	-0.011	-0.476	-0.278	0.420	0.074			
A_T	0.322	0.704	0.024	-0.709	-0.018	-0.466		
Int	0.720	0.068	0.597	-0.189	-0.616	-0.131	0.063	

A_N=Attitude_Needs; M_B=MHL_Beliefs; M_K=MHL_Knowledge; Self_T=SelfStigma_Threat; Self_S=SelfStigma_Support; Soc_S=SocialStigma; A_T=Attitude_Trust; Int=Intention

The standardized regression weights for males and females were all significant (Table 26). For male subjects, the standardized regression weights ranged from 0.748 to 0.914, and for female subjects they ranged from 0.685 to 0.929. These values indicated that, for both males and females, the measurement factors are significantly represented by their respective unobserved constructs. In the same vein for the male subjects, the percentage of variance explained ranged from 60.2% to 90.3% and for the female subjects, the percentage of variance explained ranged from 61.3% to 88.1%.

Model Analysis

After conducting CFA, multi-group analysis was employed to apply the model simultaneously to the male and female samples. The question was whether the patterns of structural relationships hypothesized in the full path model followed the same dynamics for the two groups of males and female participants.

Full Path Model – Gender Differences / Hypothesis 5 retained

The results of study 2 showed that the full path model exhibited the best fit according to the current dataset and for this very reason this model was chosen for further (gender based) analysis. To this end, multi-group path analysis was conducted to investigate whether the patterns of structural relationships presented in the full path model followed the same dynamics for the two groups of male and female participants. The results are presented in the following tables.

Table 29. *Full path model analysis based on gender - fit indices*

Model	χ2	DF	P	χ2/ DF	GFI	CFI	TLI	RMSEA	90% CI	AIC
Male	453.403	139	.000	3.26	0.881	0.935	0.911	0.080	0.072-0.088	595.403
Female	298.011	139	.000	2.14	0.909	0.943	0.922	0.064	0.054-0.074	440.011

χ2 goodness-of-fit value, Goodness of Fit Index (GFI), Tucker-Lewis index (TLI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and Akaike Information Criterion (AIC)

Table 30. *Full path model analysis - Comparison of Competing Models Across Genders*

Model no.	Constraints imposed	Δχ2	ΔDF	P
M1	Unconstrained			
M2	Measurement weights	13.350	12	0.344
M3	Structural weights	105.504	37	.000
M4	Structural covariances	119.989	40	.000
M5	Structural residuals	171.693	48	.000
M6	Measurement residuals	235.297	70	.000

Based on Table 29, although the chi-square values for both path models were statistically significant, fit indices GFI, TLI and CFI for both models (Males and females) were close to or above 0.90 (range: 0.881–0.943). These values indicated the improvement in fit of both models relative to the null model, thus both males and females exhibit acceptable / moderate fit according to the proposed full path model, based on the current dataset.

Investigating the results of the multigroup SEM (table 30) showed that the proposed full path model exhibited statistically significant differences with regards to the structural weights, structural covariances, and structural residuals based on gender (Male and Female), which means that males and females exhibit statistically significant different patterns of structural relationships. Therefor Hypothesis 5, which assumed that the hypothesized direct and indirect effects of levels of mental health literacy on university students' psychological help-seeking intention varied as a function of gender, was retained and the null hypothesis was rejected. The following figures (figure 15 and 16) present the statistically significant paths within the model, with regards to each gender group.

Further investigation among the study variables, via an independent samples T-Test indicated that, only two of the study variables presented statistically significant differences between the genders, in that males (M=19.63) and females (M=18.60) showed statistically significant differences in their erroneous beliefs/stereotype scores; $t(632) = 2.251$, $p < 0.05$, but not with regards to their knowledge scores. In the same vein statistically significant difference between the genders was present in only one aspect of self-stigma (self-stigma support (threat to confidence), males (M=12.86), females (M=11.85)); $t(632) = 3.144$, $p < 0.01$.

Figure 14. *Full path model with significant coefficients - Males*

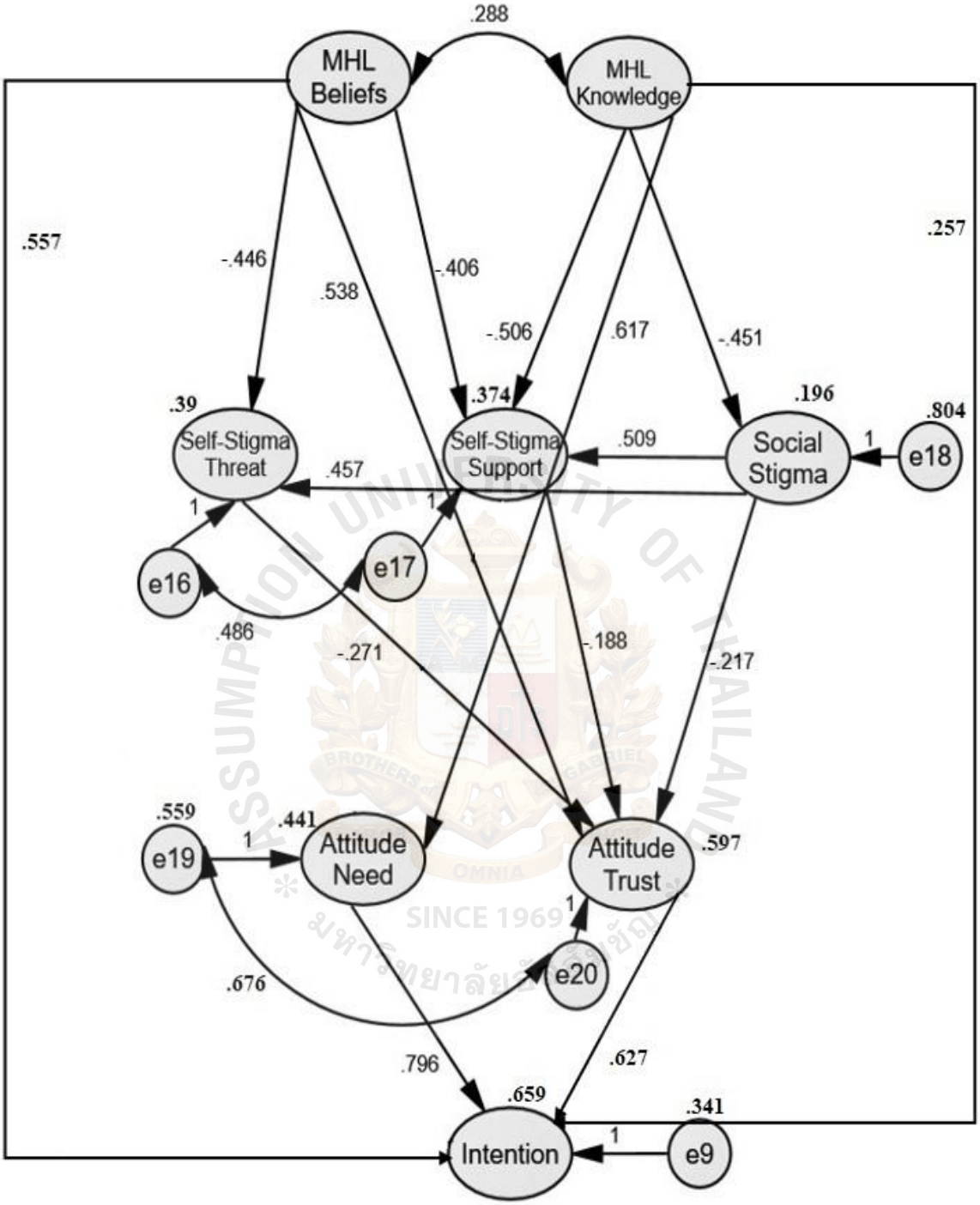


Figure 15. *Full path model with significant coefficients - Females*

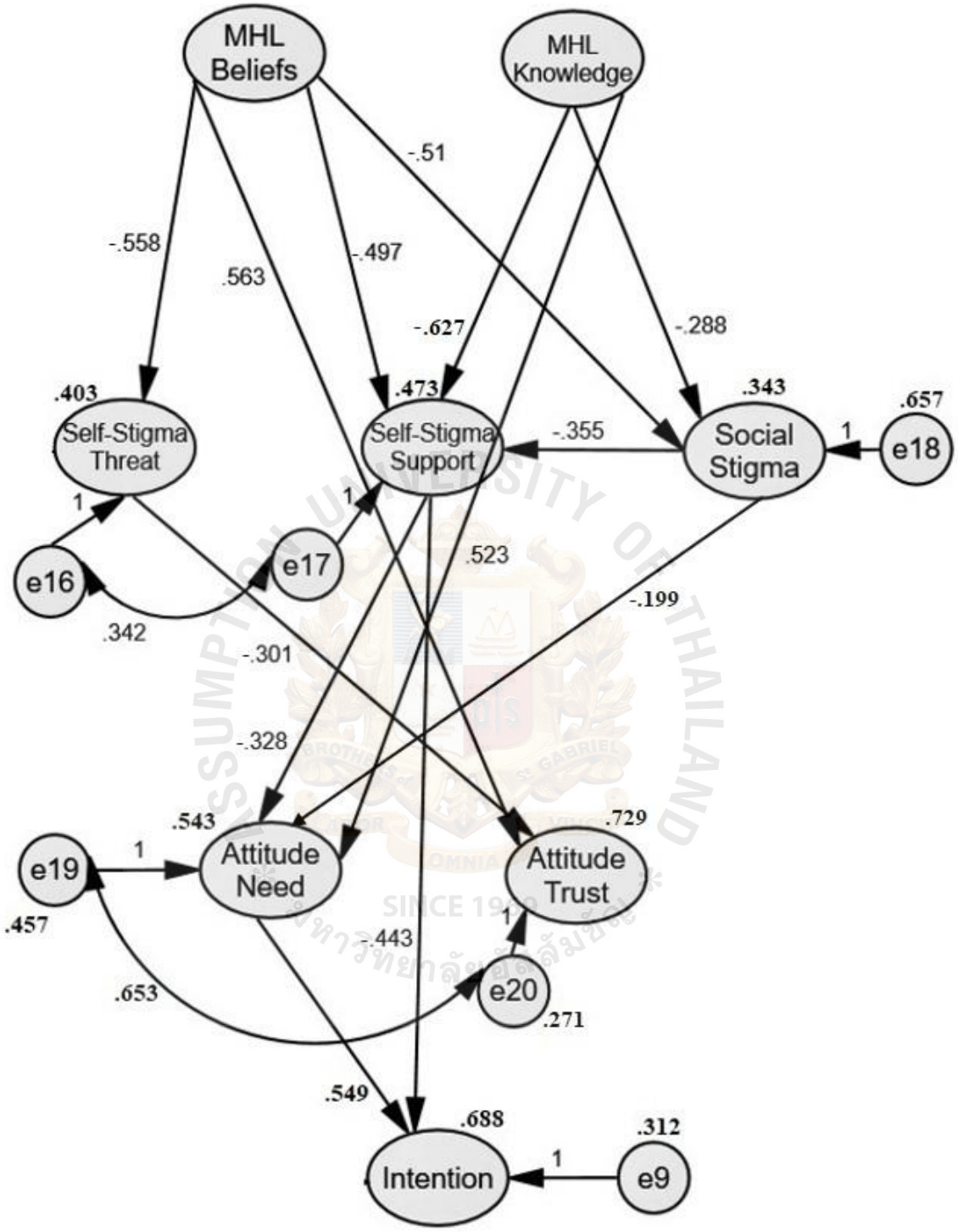


Table 31. *Full path model analysis - Comparison of regression weights of **Significant** path differences between genders*

Path	Male (β)	Female (β)
MHL Beliefs -----> Social Stigma	-0.034	-0.51*
Social Stigma -----> Self-Stigma threat	0.457*	0.131
Self-Stigma Support -----> Attitude Trust	-0.188*	-0.206
Social Stigma -----> Attitude Trust	-0.217*	-0.13
Social Stigma -----> Attitude Need	-0.073	-0.199*
MHL Beliefs -----> Intention	0.557*	0.423
MHL Knowledge -----> Intention	0.257*	.001
Self-Stigma Support -----> Intention	-0.12	-0.433*
Attitude Trust -----> Intention	0.627*	0.158
Self-Stigma Support -----> Attitude Need	-0.169	-0.328*

**p<0.01*

Table 32. *Full path model analysis - Comparison of regression weights of **Non-Significant** paths across **both** genders*

Path	Male (β)	Female (β)
MHL Knowledge-----> Self-Stigma threat	-0.091	-0.005
Self-Stigma threat -----> Attitude Need	-0.055	-0.112
MHL Beliefs -----> Attitude Need	0.003	0.029
MHL Knowledge -----> Attitude Trust	0.085	0.112

Looking at the figures 14 and 15, and tables 31 and 32, it is evident that males and females show significant differences in the hypothesized structural paths. For example, structural paths from Social Stigma to Self-Stigma threat (**β**= 0.457), Self-Stigma support to attitude Trust (**β**= -0.188), Social Stigma to Attitude Trust (**β**= -0.217), Attitude Trust to Intention (**β**= 0.627), MHL Knowledge to Intention (**β**= 0.257) and MHL Beliefs to Intention (**β**= 0.557) were statistically significant in males, while they were nonsignificant in females.

It meant that the increase in one variable caused an increase (or decrease depending on the direction of the relationship signified by + or -) in the other variable in the hypothesized structural path. On the other hand, structural paths from Social Stigma to Attitude Need (**β**= -0.199), MHL Beliefs to Social Stigma (**β**= -0.51), Self-Stigma support to Attitude Need (**β**= -0.328) and Self-Stigma support to Intention (**β**= -0.433) were significant in females but not in males.

The hypothesized direct structural paths between mental health literacy and intention turned out to be significant in males only, with the path from the MHL beliefs component of mental health literacy to intention (**β**= 0.557) and the path from the MHL knowledge component to Intention (**β** = 0.257). One direct path from the level 1 mediators to intention was present in females only, from Self-Stigma support to Intention (**β**= -0.443), while no such paths were present in males. Direct path from level 2 mediators to intention was also different across gender groups, with that path from attitude need to intention being significant across both males and females (**β**= 0.796 for males and **β**= 0.549 for females), while the path from Attitude Trust to Intention being significant only in males (**β**= 0.627).

A number of the hypothesized direct structural paths proved to be nonsignificant across both gender groups, namely paths from MHL Knowledge to Self-Stigma threat, Self-Stigma threat to Attitude Need, MHL Beliefs to Attitude Need, and MHL Knowledge to Attitude Trust.

Attitude in the form of its two components were impacted by direct paths from mental health literacy and also from level 1 mediators of social stigma and self-stigma. Attitude need was influenced very differently across gender groups, such that in males only via paths from MHL knowledge (**β**= 0.617) while in females in addition to MHL Knowledge (**β**= 0.523), it was also influenced by Self-Stigma support (**β**= -0.328) and Social Stigma (**β**= -0.199). On

the other hand, attitude trust in females was influenced by paths from MHL beliefs (**β**= 0.563) and Self-Stigma threat (**β**= -0.301), while in males it was impacted by paths from MHL beliefs (**β**= 0.538), Self-Stigma threat (**β**= -0.271), Self-Stigma support (**β**= -0.188), and social stigma (**β**= -0.217).

Summary

This chapter covered the results from three interconnected studies designed to achieve the following objectives. In study 1, the aim was to evaluate the psychometrics properties of the measures, and to this end reliability analysis (internal consistency) and CFA (construct validity) was conducted. Meanwhile item parceling was employed to improve the data fit of the nested models. In study 2, four nested models were designed to be compared against each other and the model with the best fit to be chosen for further analysis. The result of the multi-model comparison among four nested models (direct, indirect model level 1, indirect model level 2 & full path model) showed that the indirect model level two and full path model presented comparably better fit, out of which the full path model presented the best fit, which was chosen and used for multi-group analysis (based on gender) as part of the study 3. In study 3, the best fit model was used as the basis to compare males and females. The findings showed significant differences in structural paths in males and females based on the full path model.

CHAPTER V

Discussion

Seeking help through appropriate channels when one is faced with a mental health complication is of utmost importance, considering that most people needing mental health care do not receive the help they need (Thornicroft, 2007); For example, in continental Europe each year about 38.2 percent of the population suffers from a mental disorder, out of which less than one third of those needing professional psychological help receive any type of mental health care (Wittchen et al., 2011).

Undergraduate university students, considering their psychological developmental stage, can be especially vulnerable when it comes to mental health complications (Arnett, 2004). According to the World Health Organization World Mental Health Surveys, one in every five (20.3%) college students around the world suffers from a form of mental disorder, with most disorders having an onset before enrolling in college, and only 16.4% of those students received any form of mental health care in the prior 12-month period (Auerbach et al., 2016).

With regards to seeking and receiving mental health care, it has been suggested that the low rates of access to mental health care seem to be based more on attitudinal barriers than structural ones (Outram et al., 2004). It has been shown that the sense of perceived stigmatization and the resulting embarrassment, lack of knowledge in identifying mental disorder symptoms, and a false sense of self-efficacy and the preference to rely on oneself in dealing with such complications are the most important roadblocks in individuals seeking and receiving the psychological help they so desperately need (Gulliver et al., 2010). For this reason, the present research focused on mental health literacy, stigma, in the form of social stigma and self-stigma, and attitude, in finding an explanation for the reluctance observed in

university students in seeking any form of psychological help. To this end an attitude focused permutation of the Theory of Reasoned Action / Theory of Planned Behavior was hypothesized and subsequently employed, with the variables being chosen accordingly, namely mental health literacy, in the form of the Mental Health Literacy questionnaire-young adults form (Dias et al., 2018), social stigma, in the form of the Stigma Scale for Receiving Psychological Help (Komiya et al., 2000), self-stigma, in the form of the Self-Stigma of Seeking Help scale (Vogel et al., 2006), attitude towards seeking psychological help, in the form of Attitudes Toward Seeking Professional Psychological Help-Short Form (Fischer & Farina, 1995), and the psychological help-seeking intention, in the form of the Mental Help-Seeking Intention Scale (Hammer & Spiker, 2018).

The current research was descriptive in nature and made use of path analysis and Structural Equation Modeling to apply correlation-covariance techniques (SEM). This research examined a proposed conceptual model that described the relationship between mental health literacy and the psychological help-seeking intention, by employing an attitude-focused variation of the theory of reasoned action / theory of planned behavior, in order to determine how social stigma and self-stigma (at level 1) and attitude towards seeking psychological help (at level 2) would mediate the link between mental health literacy and psychological help-seeking intentions (this concludes study 2). In addition, the presence of any gender specific differences in the model were investigated (as part of the study 3), with the target population being the undergraduate university students in Bangkok, Thailand.

This chapter contains the following sections: (1) summary and discussion of findings; (2) limitations of the study; (3) implications; (4) avenues for future research; and (5) conclusions.

Summary and Discussion of Findings

Study I

Overview and Discussion of Findings

The primary goal of Study 1 was to investigate the psychometric properties of the measures employed in the current study based on the target population. Five instruments were employed in this study, namely: The Mental Health Literacy questionnaire-young adults form (MHLq-young adult), The Stigma Scale for Receiving Psychological Help (social stigma), The Self-Stigma of Seeking Help scale (self-stigma), Attitudes Toward Seeking Professional Psychological Help-Short Form (attitudes), and The Mental Help-Seeking Intention Scale. Study 1 was conducted in order to establish the reliability and validity of the measures before moving on and using said measure as part of the model testing process in study 2. The results indicated that all measures were valid, highly reliable, and internally consistent. As the next step, exploratory factor analysis was conducted on a group of observed variables while allowing for the possibility of alternative underlying factor structures, and then confirmatory factor analysis (CFA) was employed to explore whether a relationship exists between the observed variables and their underlying latent constructs. The results suggested slight modifications to the proposed constructs of mental health literacy and self-stigma.

The following section discusses the demographics make up, analysis of measurements' reliability, followed by the discussion of EFA and CFA results.

Discussion of the Participants' Demographic make up

Investigating the demographics information of the participants of this study led to a number of important findings, for example, a large majority (around 77.7%) reported as being either religious or spiritual (believing not necessarily in a god, but in a higher power); and

46.5% reported as living with their family (parents) and 23.9% reported as living alone; These numbers warrant some level of awareness on the part of the counselors to have these facts in mind when trying to provide assistance to a student, as the role of faith, family and the societal collectivistic tendencies at play (as discussed briefly in chapter 1) could have important ramifications for the nature of the assistance provided.

Of the participants, 68.2% reported as never having had an experience with mental health issues (whether themselves directly, or witnessing a family member indirectly), and a staggering 74.6% reported as having never sought mental health help (be it in the form of a psychologist, school counselor, social worker, etc.). These numbers makes the unfavorable attitude toward seeking psychological help more palpable and more understandable at the same time, when a majority reports no history of mental health issues at all then it makes sense they would see no use or need in seeking a mental health professional, and therefore view the topic as being an "others" problem, something that carries stigma and only affects "others" who are different from "us", and usually not in a good way.

Around more than half (50.6% to be exact) reported as having no idea about the presence of any mental health facility on-campus at their respective institutions. These statistics should serve as a wake-up call for the institutions involved as they are apparently not doing enough in raising awareness about the existence of mental health facilities on-campus, regardless of students' attitudes toward the subject matter.

Discussion of Measure Reliability

The total Cronbach's Alpha for all of the instruments ranged from 0.67 to 0.94. To be more specific, internal consistency for the subscales of mental health literacy questionnaire young adult form (MHLq-Young adult) were as follows: Knowledge of Mental Health Problems was at .922, Erroneous Beliefs/Stereotypes was at .831, First Aid Skills and Help

Seeking Behavior was at .870, and Self-Help Strategies was at .835, the same measure for the Self-Stigma Of Seeking Help (SSOSH) was at .676, and the Stigma Scale for Receiving Psychological Help (SSRPH) was at .828, and the Need subscale of the Attitudes towards seeking professional psychological help-short form (ATSPPH-SF) was at .839 while the trust subscale of the same instruments was at .772, and finally the Mental Help Seeking Intention Scale (MHSIS) was at .915, and therefore all instruments were considered as being high in internal consistency, indicating high reliability.

Discussion of EFA and CFA

Exploratory factor analysis (EFA) was employed to clarify the inherent relationships between the variables and their corresponding indicator items being evaluated. EFA analysis results served as guidelines to reconstruct the factor structures of two aforementioned instruments, namely, The Mental Health Literacy questionnaire-young adults form and The Self-Stigma of Seeking Help scale. Meanwhile the original scale structure of The Stigma Scale for Receiving Psychological Help, Attitudes Toward Seeking Professional Psychological Help-Short Form, and The Mental Help-Seeking Intention Scale were confirmed.

The EFA results were well supported by the result of CFA, that there was a need for all the Knowledge items of the mental health literacy (previously categorized as 3 separate knowledge domains) to converge together and form a single factor simply denoting mental health knowledge.

The single factor structure of the self-stigma was broken down into 2 distinct but related factors.

1) Mental Health Literacy questionnaire-young adults form (MHL)

Based on EFA analysis, the initial extraction resulted in 4 factors, with factors 3 and 4 together accounting for less than 8% of variance in MHL, and examining the scree plot and also the initial and rotated (Varimax rotation) factor solutions suggested a strong 2 factor structure, upon a second EFA run, constraining the number of extracted factors to 2, the emergent 2 factor solution accounted for 58.83% of variance in MHL. In this MHL structure, all knowledge factors (Knowledge of Mental Health Problems, First Aid Skills and Help Seeking Behavior, and Self-Help Strategies) converged onto a single factor, with the other factor being Erroneous Beliefs/Stereotypes, therefore, the original 4 factor model turned into a 2-factor solution based on the present dataset. This fact could be the result of little differentiation on the part of the participants between different areas of mental health "general" knowledge, in that the participants considered all as encompassing a single "concept" and that being the general knowledge about mental health. This distinction becomes more evident when contrasted with the belief items and the fact that the respondents perceived them as completely different subject matter about the same concept.

2) The Self-Stigma of Seeking Help scale (self-stigma)

EFA analysis of the Self-Stigma of Seeking Help scale (SSOSH) presented a 2-factor solution, instead of the original unidimensional structure. This result was not unexpected and is already present in the related literature, especially so in non-American contexts (Kaya et al., 2015) and also some level of factorial invariance across different contexts was noted by the scale authors themselves (Vogel et al., 2013). This phenomena has already been established in the literature even when considering different measure on different psychological constructs, for example the attitude towards seeking psychological help scale used in this very same study is of the same kind, in which it was originally designed as a unidimensional construct but its actual use in the literature has provided ample evidence for

its 2 (and sometimes 3) factor structure. In the case of self-stigma, 2 factors emerged along the line of the reversed scored items, creating factors that correspond with those having a detrimental effect on the Ego (threat) and those that are no threat to / are in support of Ego (support) (Table 8). This structure accounted for 74.02% of the variance in Self-Stigma.

In addition to exploratory factor analysis (EFA), confirmatory factor analysis (CFA) defined and explained the adequacy of the mentioned scales' factor structures. Construct validity testing revealed that the scales used with the sample of undergraduate university students in Bangkok were valid and thus present valid psychometric properties. Additionally, CFA also confirmed the 2 factor structures of mental health literacy and self-stigma, and as a result, further studies were conducted using the 2 factor structures of mental health literacy and self-stigma. Over all, study 1 accomplished the goals it set out to do.

STUDY II

Overview and Discussion of Findings

The primary goal of Study 2 was to examine the direct and indirect effects of mental health literacy on undergraduate university students' psychological help-seeking intention, as mediated by self-stigma, social stigma and attitude towards seeking psychological help. To this end, four nested models (direct model, indirect models at level 1 & 2, and full path model) were hypothesized and examined by multi-model path analysis via Structural Equation Modeling (SEM). The discussion of findings is presented based on each research hypothesis in the following section.

Hypothesis 1: Mental health literacy has direct effect on the students' psychological help-seeking intention

According to the findings from Study 2, the hypothesized model 1 (direct model), which posited that the 2 factors of mental health literacy have immediate direct effect on the undergraduate university students' psychological help-seeking intentions, did not present adequate model fit measures and therefore could not provide a fitting explanation for the assumed relationships based on the target population. Looking at raw numbers, specifically the squared multiple correlation (variance explained) measure, it was evident that the assumed direct relationships could only explain about 7.5% of variance in intention, meaning 92.5% of the variance in intention could not be explained by the assumed relationships and was due to factors outside the hypothesized model, and thus the proposed model's predictive power was very low. This observation was in line with the literature that a myriad of factors influence one's psychological help-seeking intention, and therefore only "literacy" could not provide an adequate explanation, especially without considering one's attitude, as attitude is considered to be among the immediate determinants of intention (Gulliver et al., 2010).

Based on the presented evidence, this research concluded that hypothesis 1 was rejected and null hypothesis was retained.

Hypothesis 2: Mental health literacy has an indirect effect on the students' psychological help-seeking intention, mediated by Social Stigma and Self-Stigma

According to the findings from Study 2, the hypothesized model 2 (indirect model level 1 mediation), which posited that the 2 factors of mental health literacy have indirect effect on the undergraduate university students' psychological help-seeking intentions mediated by the 2 factors of self-stigma and social stigma, and also that at the same time social stigma fed into the 2 factors of self-stigma, did not present adequate model fit

measures and therefore could not provide a fitting explanation for the assumed relationships based on the target population. This observation was in line with the literature that a diverse set of factors influence one's psychological help-seeking decisions, and therefore only "literacy" and stigma alone could not provide an adequate explanation, especially without considering one's attitude, as attitude is considered to be among the immediate determinants of intention (Gulliver et al., 2010).

Based on the presented evidence, this research concluded that hypothesis 2 was rejected and null hypothesis was retained.

Hypothesis 3: Mental health literacy has indirect effect on the students' psychological help-seeking intention, mediated by self-stigma, social stigma, and attitudes towards seeking psychological help

According to the findings from Study 2, the hypothesized model 3 (indirect model level 1 and 2 mediation), which posited that the 2 factors of mental health literacy have indirect effect on the undergraduate university students' psychological help-seeking intentions, mediated by the 2 factors of self-stigma and social stigma, and also that social stigma at the same time fed into the 2 factors of self-stigma (level 1), and the 2 factors of attitudes towards seeking psychological help (level 2), even though very close to the suggested cutoff points of model fit criteria, did not present adequate model fit measures (specifically with regards to GFI and RMSEA statistics, which proved the model presented an inadequate to mediocre fit) and therefore could not provide the best fitting explanation for the assumed relationships based on the target population.

This signals that the assumed relationships, which signify a fully mediated relationship, even though very close to a fitting model, could not provide the best explanation based on the study population, meaning full mediation might not have been the best possible

model and therefore the presence of partial mediation which necessitates the existence of direct relationships in tandem with mediation could be the best fitting model. That model was investigated via the next hypothesis / model. This observation was in line with the literature that a number of factors, with a diverse set of relationships among them, influence one's psychological help-seeking decisions (Gulliver et al., 2010).

Based on the presented evidence, this research concluded that hypothesis 3 was rejected and null hypothesis was retained.

Hypothesis 4: Mental health literacy has both direct and indirect effects on the students' psychological help-seeking intention by mediating effect of self-stigma, social stigma, and attitudes towards seeking psychological help in the structural path model.

According to the findings from Study 2, the hypothesized model 4 (full path model), which posited that the 2 factors of mental health literacy had both direct and indirect effect on the undergraduate university students' psychological help-seeking intentions mediated by the 2 factors of self-stigma and social stigma, and social stigma at the same time fed into the 2 factors of self-stigma (level 1) and the 2 factors of attitudes towards seeking psychological help (level 2), presented good / acceptable model fit measures and therefore could provide the best fitting explanation for the assumed relationships based on the target population.

The assumed relationships within this model were in line with literature, and the discussion is as follows:

The relationship between the MHL knowledge aspect of the mental health literacy concept was negatively related to social stigma and self-stigma support, which considering a higher score on the knowledge aspect represent a higher awareness of mental disorders was in line with literature that suggests the higher levels of awareness and knowledge on mental

health issues should lead to lower levels of perceived social stigma and self-stigma. It should also be noted that in contexts where the mental health and its related issues are considered taboo, the higher awareness could cause results in the opposite direction (Lopez et al., 2018). This meant that student who had a higher level of general knowledge about mental health, it's complications and what it entails, were more likely to present and feel less stigma, be it from others or about themselves, when it came to seeking help for mental health problems. At the same time it's been shown that in certain contexts, of which Asian collectivistic societies are a prime example, where discussing unpleasant topics could be seen as burdening other family members and disrupting the family harmony, knowing more about mental health and it's complications directly means that the individual also knows more about what it entails to be branded as struggling with said complications and therefore could result in higher than expected levels of social stigma and self-stigma which can manifest in the form of middling scores (instead of the expected low scores) on stigma of seeking psychological help scales. This phenomenon was present and accounted for in the present study, in that students. regardless of demographic criteria presented middling social stigma and self-stigma scores, still the relationships observed in the model were in the expected direction, and it was only the scores that presented the phenomena.

This aspect also showed a direct and positive influence on attitude-need (the recognition of need for help aspect of the attitude towards seeking psychological help) and also consequently on the individual's psychological help-seeking intention (Bonabi et al., 2016). This meant that participants with higher levels of general knowledge of mental health and its associated complications were more open to the idea of seeking psychological help when presented with such a situation, and consequently they showed more intent in seeking psychological help if they should need such help in the future. Interestingly the research participants still presented an overall negative (at worst) to neutral (at best) attitude towards

seeking psychological help which meant that they either did not see the outcome (of seeking help for psychological issues) as favorable or the favorable outcome to them seemed far-fetched and not likely. The first interpretation (no favorable outcome) could be argued in the context of the participants stigma scores and them being aware of their social context, in that seeking help, no matter how useful, could bring them and their loved ones unneeded attention and scrutiny. When it came to the participants' intention scores, on average, they expressed high intent on seeking psychological help in case the situation arose, and that was in line with their high mental health literacy knowledge scores, which in this study also presented a direct positive relationship with the intent.

Similarly, MHL beliefs (the erroneous beliefs and stereotypes aspect of the mental health literacy) was negatively related to social stigma, self-stigma support, and self-stigma threat (feelings of inadequacy), therefore the results were in line with the literature, in that the higher levels of literacy and therefore less erroneous beliefs and stereotypes an individual holds about mental health issues, the lower will be their levels of perceived social stigma and self-stigma. This aspect also had a direct and positive influence on attitude-trust (the trust in the profession and the professional aspect of the attitude towards seeking psychological help). It also showed a direct positive relationship with the outcome variable in this study, the individual's psychological help-seeking intention. As mentioned the observed direct positive influence on the outcome variable was in line with the literature (Smith & Shochet, 2011), in that showing low levels of negative beliefs and stereotypes on mental health issues is tied with higher levels of psychological help-seeking intention. Data from this study indicated that students held very little erroneous beliefs and stereotypes about mental health issues which was reflected in their high scores on the mental health literacy scale. The less false beliefs one holds about mental health issues the less susceptible they'll be to social stigma (in the sense that what others believe to be true about mental health issues will not matter as much to

them) and self-stigma (in the sense that the less importance they put on what others believe to be true about mental health issues means that they are less likely to internalize those beliefs about themselves). results of this study also showed that the (lack of) erroneous beliefs and stereotypes about mental illness would directly influence one's attitude about the experience of seeking psychological help, in that the individual would be more open-minded and less skeptical of the whole experience and will see some level of benefit in engaging in such an experience if they ever need one. Similarly, individuals with lower reported levels of erroneous beliefs and stereotypes about mental illness reported higher intent in seeking psychological help if they ever need one, in that having accurate information and general knowledge, and not irrationally held false beliefs is actually helpful in motivating the individual to seek mental health help.

The relationship between social stigma and attitudes towards seeking psychological help observed in this study was also in line with the literature, in that the perceived social stigma, through partial mediation (via self-stigma), and also directly, can negatively influence one's attitude toward seeking psychological help and also their psychological help-seeking intention (Vogel et al., 2007), more specifically, in this study it was found out that social stigma directly influenced only one aspect of one's attitudes (the trust in the profession and the professional aspect) while it exhibited no significant relationship (whether positive or negative) with the other aspect of one's attitude towards seeking psychological help (the recognition of need for help). This finding is important in the sense that it provides evidence for the fact that putting weight and importance in what others believe to be true about psychological help seeking is detrimental to what one holds true about themselves (about psychological help seeking) and the trust one has about the experience of mental health help seeking and the value they see in such an endeavor. Similarly, the effect on one's intent is also important in that valuing what others believe to be true about mental health help seeking

can actually hinder one's help seeking behavior, as indicated in this research by the best predictor of actual performed behavior, the intent behind the action.

As supported by the literature, social stigma also directly influenced self-stigma, in that one's perception of what others hold true about mental health issues can directly influence their perception of themselves and cause a process of internalization of those perceived values (Vogel et al., 2007). In this study, in line with the literature, social stigma directly and positively influenced the threat (feelings of inadequacy) and support (threat to confidence) aspect of self-stigma (Ross et al., 2020). This finding, when considering the research population is of utmost importance, in that the students are internalizing what they perceive others hold true about mental health help seeking, and the more weight they put in that person's opinion the more likely they are that they will internalize those beliefs about themselves. This fact makes the responsibilities of those close to students that they respect and trust even more clear, in the sense that parents, close family friends, university staff specially instructors are among the most important and influential people that students directly deal with. The bigger societal context also plays an important role in that the normalization of experiencing and seeking help for mental health issues could relieve the individual of such a burden. These results become even more important when the demographics make up of this study indicated that a majority of students lived with their family and reported no history of mental illness within the family.

Self-stigma, in the form of its two factors, self-stigma threat (feelings of inadequacy) and self-stigma support (threat to confidence), exhibited expected relationships with the different aspects of attitude towards seeking psychological help (Nam et al., 2013), in that the self-stigma support (threat to confidence) aspect of self-stigma was directly and negatively influencing the attitude-need (recognition of need for help aspect of attitudes towards seeking

psychological help), and also one's psychological help-seeking intention (Schnyder et al., 2017); and the self-stigma threat (feelings of inadequacy) aspect of self-stigma was directly and negatively influencing the attitude-trust (trust in profession and the professional aspect of the attitude towards seeking psychological help), and also was directly and negatively influencing one's psychological help-seeking intention (Cheng et al., 2018). These results indicated that one's perceived level of self-stigma in seeking psychological help was directly influencing their attitude towards seeking such help, in a way that, in line with the literature, higher reported self-stigma would lead to more negative attitude towards seeking psychological help, specifically the higher reported levels of threat to confidence part of the self-stigma was directly tied to lower expressed levels of openness to the experience of psychological help seeking part of one's attitude, and in a similar fashion, the higher reported levels of feelings of inadequacy part of the self-stigma was also directly tied to lower expressed levels of trust and the value in seeking psychological help part of one's attitude towards psychological help-seeking. In other words one's internalization of what others hold true about psychological help-seeking was turning one's overall evaluation of the likeliness and desirability of the outcome of seeking help for psychological issues for the worse. Self-stigma also exhibited a negative influence on one's psychological help-seeking intention from both its comprising factors, meaning that students who reported higher levels of threat to confidence and feelings of inadequacy also reported lower intent in seeking psychological help in the future if they ever should need such help.

When it came to the relationship between the attitude towards seeking psychological help and one's psychological help-seeking intention, it turned out that the relationship was significant and positive (Bitman-Heinrichs, 2017), with the attitude-need (recognition of need for help aspect) and the attitude-trust (trust in the profession and the professional aspect) both directly and positively influencing one's psychological help-seeking intention, and both

relationships exhibited were strong. Still, the attitude scores indicated a general negative to neutral attitude toward seeking psychological help, and were in line with other countries such as Fiji, Cambodia, China, Germany, and Ireland (Chen et al., 2020). These results indicated that even though the general attitude of the study population was negative to neutral, the observed structural paths were still in the expected direction, meaning that any improvement in the attitude will likely lead to higher levels of expressed intent in seeking psychological help by the students. The relationship between the two aspects of attitude towards seeking psychological help and intent was very strong indicating that the smallest change in attitude would cause meaningful change in one's intent to seek psychological help, and that attitude was an important predictor in the intent and ultimately the actual performed behavior of seeking psychological help.

The full model managed to account for 62% of the variance in one's psychological help-seeking intention, while accounting for 65% of the variance in attitude-trust (the trust in the profession and the professional aspect), and 44.7% of the variance in attitude-need (the recognition of need for help aspect) factors of the attitude towards seeking psychological help. These result indicated that the proposed (full path) model was more than adequate in predicting the students' intent to seek psychological help (at 62%), and their level of trust and value they see in the psychological help-seeking process part of their attitude (at 65%), while it was not as successful in predicting the openness to experience part of the students' attitude (at 44.7%), which signaled a need for other variables to be included within the model in order to achieve a better explanatory and predictive power when it came to this specific part of the students' attitude toward seeking psychological help. Same statistics painted a less than favorable picture for the social stigma (at 17.5%), while results for the self-stigma threat (feelings of inadequacy) and self-stigma support (threat to confidence) aspects of self-stigma (at 34.8% and 39.5% respectively) were middling. This suggests that the model was adequate

in providing an explanation for, and predicting the assumed relationships influencing one's psychological help-seeking intention (Armitage & Conner, 2001; Godin & Kok, 1996; McEachan et al., 2011; Sheeran, 2002), while at the same time it was less than adequate to predict social stigma and to a lesser extent self-stigma. These results showed that the proposed relationships (from the two factors of mental health literacy, and from social stigma to the two factors of self-stigma) were not enough in providing an adequate explanation for social stigma and the aspects of self-stigma, which would necessitate the inclusion of variables other than just the mental health literacy in order for the model to achieve a satisfactory predictive power.

Based on the presented evidence, this research concluded that hypothesis 4 was retained and null hypothesis was rejected.

STUDY III

Overview and Discussion of Findings

While study 2 clearly showed that model four (full path model) presented the best fit compared to other proposed models (direct & indirect model level one and indirect model level two mediation) based on the lower RMSEA and AIC values and the higher squared multiple correlation statistics, it still remained unclear how the patterns of structural relationships hypothesized in the model could vary as a function of the university students' gender. Study 3 was designed and conducted to answer this very question.

<u>Hypothesis 5</u>: The hypothesized direct and indirect effects of mental health literacy on university students' intentions to seek counseling vary as a function of gender.

According to the findings from Study 3, the measurement model showed no statistically significant difference between the gender groups which meant they were no

significant differences between the gender groups based on their scores, while the pattern of structural paths exhibited statistically significant variation with regards to the participants' gender, with females presenting no direct path between the aspects of mental health literacy and the outcome variable of intention, while at the same time only females presented a direct path from the self-stigma (self-stigma support) to the to the outcome variable of intention. The important distinction here was in the direct paths between the mental health literacy and the students' intent to seek psychological help, in a way that only the male population exhibited such a relationship, indicating that the students' mental health literacy could directly (and indirectly) influence their intent in seeking psychological help. Interestingly when it came to the stigma, only the female population exhibited a direct path to one's intent to seek psychological help (from one aspect of self-stigma).

In this sense the hypothesized model ended up as a more partial mediation model for males (the existence of both direct and indirect relationships between mental health literacy and intention to seek psychological help) and full mediation (no direct path from mental health literacy to students' intent to seek psychological help) for females. In the same vein, the correlation between the two aspects of the mental health literacy proved statistically non-significant in females, suggesting that maybe in females, the (erroneous) beliefs one holds about mental health and mental health help-seeking were not significantly related to their knowledge on the subject, which meant female students were more likely to hold irrational beliefs about mental health and mental health help-seeking regardless of their level of knowledge on the subject which in turn would make them more susceptible to social stigma and self-stigma (as female students are shown to present higher levels of threat to confidence aspect of self-stigma in this study). This fact was further investigated via an independent samples T-Test which showed that males and females presented statistically significant differences in their erroneous beliefs/stereotype scores, but not with regards to their

knowledge scores, where females presented higher levels of erroneous beliefs and stereotypes about mental health and mental health help-seeking.

Even when looking at the resulting figures for both male and female groups through a layman's lens, especially so when dealing with one's attitude toward seeking psychological help, a clear pattern of decision making emerged, with males leaning more on the trust (the trust and value in seeing psychological help) aspect, and females leaning more on the need (openness to experience) aspects (the convergence of hypothesized relationships being more lopsided). These observations became even more interesting when considering the fact that both males and females present high levels of mental health literacy, moderate levels of social stigma and self-stigma, negative attitude towards seeking professional psychological help and high intentions to seek help (see Table 4) with the only statistically significant differences between the genders being present in the erroneous beliefs and stereotypes aspect of mental health literacy and only one aspect of self-stigma (self-stigma support (threat to confidence). These patterns of decision making, concerning the students' attitude towards seeking psychological help is an important finding, in that males put more weight in the trust and value in seeking psychological help and when dealing with male students this aspect needs to receive more focus. With female students the openness to the experience of psychological help-seeking requires more attention and focus.

These differences observed were in line with the literature stating that males and females differed in help-seeking behaviors (Loganathan & Foo, 2019), and that the presence of these gender differences have been shown to be consistent across diverse demographic groups and even national borders (Garland & Zigler, 1994; Husaini et al., 1994; Modrcin & Wyers, 1990; Rickwood & Braithwaite, 1994), with females showing more openness to the idea of seeking professional psychological help (Fischer & Turner, 1970), higher reporting of

problem severity and social support (Tuliao et al., 2016), and generally lower levels of stigma and its influence of the individual's help-seeking attitude (Nam et al., 2010) which in this study the stigma scores showed no statistically significant difference between the gender groups. These facts, in this research, were evident by the considerably better fit indices that the hypothesized model 4 exhibited when applied to female participants and the statistically significant differences that were present in structural paths, and also the higher explained variance statistics of all variables, when controlled for gender (Yoon & Jepsen, 2008).

These results indicate that the proposed model was far more true for and applicable to female students compared to their male counterparts. Just looking at the explained variance statistics across genders indicated that the model had much better explanatory and predictive power when it came to female students accounting for 68.8% of variance in female students' intent to seek psychological help compared to 65.9% in male students. These differences become more stark when looking at other parts / variables of the model, with the biggest differences being present in attitude trust aspect of attitude toward seeking psychological help (59.7% in male students compared to 72.9% in female students), attitude need aspect of attitude toward seeking psychological help (44.1% in male students compared to 54.3% in female students), social stigma (19.6% in male students compared to 34.3% in female students), and the self-stigma support aspect of self-stigma (37.4% in male students compared to 47.3% in female students.

Based on the presented evidence, this research concluded that hypothesis 5 was retained and null hypothesis was rejected.

Implications for the theory / model

Coming back to the theoretical model at hand, theory of reasoned action and it's updated form theory of planned behavior, of which an attitudinal permutation was employed in this study due to limitations in time, money and man power, it became evident that the proposed and observed relationships were in line with those assumed by the model(s). An attitudinal permutation of the theory / model in this study meant that we only looked at the pertaining part of the model, in this case only the part of paths within the model that included attitude.

The results indicated that all the relationships were in line with the related literature on the theory, in that attitude was the (very important) immediate predictor to intention and the attitude itself was influenced by other factors simultaneously. One could also look at the proposed model in this study and assume that the social stigma and self-stigma could be considered as parts of the "subjective norms" that is assumed in the original theory / model. Even when considering such a reading, there was still a single direct path from one aspect of self-stigma to the students' psychological help-seeking intention, which would be in line with the literature on the theory / model that subjective norms (social desirability of the behavior) was directly influencing the one's intention to seek psychological help in the expected direction. This was the rationale for testing the proposed 4 nested models (with model number 4 being the full path model which would take all direct and indirect relationships into account simultaneously).

The results from this study directly confirmed the "attitudinal" relationships assumed within the original theory / model. It is understood that the original theory / model can be very rigid, still findings from studies such as this one will only serve to better the model and help shape it in a culturally diverse manner, by providing data from diverse populations

across the globe. The intended reading of this study, as mentioned before, was putting the attitude as the central / immediate predictor to intention to seeking psychological help and considering any other included factor (social stigma and self-stigma) as factors influencing the attitude. This was done to streamline the design and contain the research to a feasible level for a one-man project. The limitations of such an approach to research design in this study are discussed as follows.

This study also provided concrete evidence that mental health literacy, in its objective and psychometrically sound form, can be implemented within the theory of reasoned action / planned behavior framework (even in a specific variation of the framework) and prove useful, providing meaningful and interesting results.

Limitations of The Study

The current research had some limitations that should be acknowledged when investigating and generalizing its findings:

- This research focused only on undergraduate university students as its target population. In interpreting the results this limitation should be considered as other subsets of the general population could exhibit significant differences.

- This study's sample was drawn from a single geographic area (Bangkok) and included a relatively limited number of variables in order to make the research feasible. Extra care should be taken when interpreting the results and their applicability to other student populations or the greater Thai population, and also to other cultures.

- Only an attitudinal permutation of the theory of reasoned action / theory of planned behavior model was employed in this study which limited how much

of the original model was covered, still it was done with relevant supporting literature in mind that indicate that even in the presence of mental healh help-seeking structures, one's attitude still plays an integral role in their mental health help-seeking behavior, yet the role of other assumed factors in the original theory / model, such as subjective norms and perceived behavioral control should not be ignored.

- Data collection was done externally, with the help of a market research company which left the researcher completely blind to the data collection process, and even though that could be considered as a positive point, but when taking into account that total trust had to be put in a third party for hire, this could be cause for concern and it would be preferable that data collection be conducted in a more transparent, hands-on manner if possible.

- Questionnaires were all self-report types. Thus, even though the participants were reminded about the anonymity and confidentiality, they may still have given socially desirable responses.

- The questionnaire was also quite lengthy, and the tendency of the students not to carefully read the items may potentially affect their responses; notwithstanding these factors, the participants may have been uncomfortable sharing such personal information truthfully.

So, the findings of the current study should be interpreted with some caution because of some intervening or limiting factors beyond the scope of this study. Nonetheless, despite the identified limitations, it is anticipated that this study would provide valuable knowledge

and data for a number of individuals and groups who are involved or interested in investigating the proposed inter-relationships

Implications

Implications for students

The publication of the results of this study could serve as a jumping off point for students to get a better sense of their deeply held beliefs and stereotypes towards mental health issues and their susceptibility to stigma, as they may not be aware of such factors. The results showed that the students, despite scoring high on mental health literacy, still exhibited moderate levels of social stigma and self-stigma, and also a generally negative attitude toward seeking psychological help. In the same vein, around half the respondents were not aware of the presence of any on-campus mental health facilities and efforts should be made to rectify that.

Implications for parents

The most important implication for parents resulting from the findings of this study was the levels of self-stigma the students were exhibiting. Considering the fact that the family is the most important social circle and that parents exert great influence on their children, and the fact that most students reported living with their families and also that self-stigma is the internalization of what the individual perceives others believe to be true about mental health issues and seeking help for those issues, it behooves parents to also have a closer look at the results and maybe contemplate an introspection into what they really hold true about mental health issues and seeking help for said issues that could infleunce their children in such a way (Ross et al., 2020).

Implications for counselors

The results of this research has shown that even though undergraduate students may exhibit higher levels of mental health literacy and psychological help-seeking intention, they are still presenting moderate levels of perceived social stigma and self-stigma and also present a generally negative attitude towards seeking professional psychological help, especially the part about the trust in the profession and the professional, thus the students that make the effort to seek counseling should be looked at as healthy skeptics, and the process and the benefits of counseling maybe better explained by the counselors. The cultural / social aspects also play an important role in the job of a counselor, for example, based on the results of this study, most students reported living with their families and also as being religious / believing in a higher power, therefore these aspects also demand some level of attention and implementation in the helping process from the counselors (Zolezzi et al., 2018).

Implications for university administration/staff

The major point for university administration from the findings of this study would be the fact that around half the students were not aware of the existence of any on-campus mental health facilities, which becomes more interesting as almost all universities are required to have some form of mental health facilities on campus (Martin, 2010). The university staff could help in organizing campaigns to raise awareness about stigma, its incarnations and its effects, and also make the concepts of social stigma and self-stigma clear for the students, as these campaigns, when implemented in a culturally sensitive and aware manner, are shown to be very effective (Christopher et al., 2006).

Implication for policy makers

Policy makers at every level could organize regional and national campaigns to raise awareness about mental health issues, and at the same time, in an attempt to instill the notion that being afflicted with such issues and therefore seeking help for them is as normal and

ordinary as any other physical illness, clearly elaborate the concepts of social stigma and self-stigma. Even though the scope of this research only covered the attitudinal aspect, if more structural considerations were made by policy makers, that itself would help in reducing the stigma associated with mental health and seeking help for mental health issues and also can greatly help normalize the availability and seeking of such care.

Avenues for Future Research

Considering the level of explained variance for social stigma and self-stigma, it is necessary for factors other than mental health literacy to be included and investigated. This research employed a purely attitudinal model of psychological help-seeking intention, it is important to consider other factors posited as the immediate determinants of intention in the original Theory of reasoned action / planned behavior, namely the subjective norms and the perception of control, as literature have shown these to also be very culturally relative (Maekawa & Kanai, 2015; Mo & Mak, 2009). It is also important to note that based on the findings of this study, mental health literacy fits almost perfectly within the aforementioned framework and it warrants further investigation. Conducting the same type of research but with a more nationally representative sample could also yield interesting and important results as it would not be limited to only a subset of the (student) population.

Conclusion

This research aimed to explore an attitudinal perspective on the undergraduate students' psychological help-seeking intentions with theory of reasoned action / theory of planned behavior serving as a guideline, and in doing so a sample of undergraduate students from universities across Bangkok were selected and they were surveyed on their level of mental health literacy, social stigma, self-stigma, attitudes towards seeking psychological help, and their psychological help-seeking intention. The results of the data analysis showed

that the employed research instruments were reliable and valid based on the intended population and that students were high in their level of mental health literacy and also interestingly moderate to high in their social stigma and self-stigma, and also presented a generally negative attitude towards seeking psychological help, while showing favorable intentions to seek help for mental health issues. The proposed (full path) model proved adequate in predicting undergraduate students' intentions to seek help for mental health issues based on the aforementioned variables. The presence of gender differences were also investigated and the results showed a marked difference in the structural paths with regards to students' gender, with female students presenting a comparatively better fit and improved explained variance statistics for the proposed model.

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Appendices

Appendix A-1

Informed Consent Form

Hello and thank you for taking the time and making the effort to complete this survey. Please rest assured that no personally identifiable information will be collected as part of this survey and that the information you provide will be handled with utmost care and total confidentiality.

This form is to serve as a survey instrument in a study used as part of a Doctoral (PhD) dissertation that intends to investigate the link between mental health literacy (the general knowledge about mental health and associated complications) and the intention of the individual to seek professional psychological help in case they ever need one.

Please be advised that by virtue of completing this form you are participating voluntarily and of your own accord in this study and that you are giving explicit consent for this data to be used as part of the doctoral dissertation and any journal article(s) that may be derived from said dissertation.

This survey is structured in seven parts, please make sure to complete each part and then click "Next" to move to the next part and at the end click on the "Submit" button to finalize your submission. No data is submitted until you press the "Submit" button, so you may withdraw at any stage (part) if you so wish.

Please also be advised that there is always the possibility of tampering from an outside source when using the internet for collecting information. While the confidentiality of your responses will be protected once the data are downloaded from the internet, there is always a possibility of hacking or other security breaches that could threaten the confidentiality of your responses. Please know that you are free to decide not to answer any question.

Completing this form should not take more than 20 to 30 minutes of your valuable time.

It is not anticipated that there will be any emotional difficulties in participating in the study, but in the unlikely event that it does occur, you may contact the researcher.

If you do not wish to participate in this study please close this window. Thank you.

Best Regards,

David.

Contact for more information: info@davidphd.com

Appendix A-2

Informed Consent Form (Thai)

ความสัมพันธ์ระหว่างความรอบรู้ด้านสุขภาพจิตและเจตนาในการขอความช่วยเหลือ

หนังสือแสดงความยินยอมแบบได้รับข้อมูล

สวัสดีครับ ขอบคุณที่สละเวลาและตั้งใจช่วยทำแบบสอบถามนี้ ขอให้มั่นใจได้ว่าข้อมูลจากคำถามที่เกี่ยวกับการระบุตัวตนต่าง ๆ จะไม่ถูกใช้เป็นส่วนหนึ่งของแบบสอบถามนี้และเราจะรักษาข้อมูลที่คุณให้เป็นความลับด้วยความระมัดระวังอย่างที่สุด

แบบฟอร์มนี้เป็นเครื่องมือของแบบสอบถามเพื่อการศึกษาวิจัยอันเป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอก การศึกษานี้ตั้งใจสำรวจความเกี่ยวข้องกันระหว่างความรอบรู้ด้านสุขภาพจิต (ความรู้ทั่วไปเกี่ยวกับสุขภาพจิตและสภาวะแทรกซ้อนต่าง ๆ) กับความต้องการในการขอความช่วยเหลือจากผู้เชี่ยวชาญด้านสุขภาพจิตในกรณีที่จำเป็น

การตอบแบบสอบถามนี้แปลว่าคุณได้มีส่วนร่วมในการศึกษาครั้งนี้ด้วยความสมัครใจด้วยความต้องการของคุณเอง และแปลว่าคุณให้ความยินยอมเพื่อให้ข้อมูลนี้ถูกใช้เป็นส่วนหนึ่งของวิทยานิพนธ์ระดับปริญญาเอกและบทความทางวิชาการต่าง ๆ ที่เกี่ยวเนื่องกับวิทยานิพันธ์ดังกล่าว

แบบสำรวจนี้แบ่งออกเป็น 7 ส่วน กรุณาตอบให้ครบทีละส่วนและคลิก “ถัดไป” เพื่อจะเข้าสู่ส่วนต่อไปและสุดท้ายกรุณาคลิกปุ่ม “ส่งข้อมูล” เพื่อสิ้นสุดกระบวนการส่งข้อมูล จะไม่มีการจัดเก็บข้อมูลใด ๆ จนกว่าคุณจะกดปุ่ม “ส่งข้อมูล” ดังนั้นแล้วคุณสามารถเลิกทำในขั้นตอน (หรือส่วน) ใดก็ได้หากคุณต้องการ

เนื่องจากมีความเป็นไปได้ว่าบุคคลภายนอกอาจล่วงละเมิดข้อมูลนี้ได้เนื่องจากมีการใช้อินเตอร์เนทในการเก็บข้อมูล แม้ว่าคำตอบของคุณจะถูกรักษาเป็นความลับหลังจากที่ถูกดาวน์โหลดออกมาจากอินเตอร์เนท แต่ยังคงมีความเป็นไปได้เสมอที่ข้อมูลจะถูกแฮ็กหรือเกิดช่องโหว่ด้านความปลอดภัยอื่น ๆ ที่อาจคุกคามการรักษาความลับของคำตอบของคุณ โปรดรู้ว่าคุณสามารถเลือกจะไม่ตอบคำถามไหนก็ได้

การตอบแบบสอบถามนี้น่าจะใช้เวลาไม่เกิน 20 นาทีของเวลาอันมีค่าของคุณ

เราคาดการณ์ว่าการเข้าร่วมเป็นส่วนหนึ่งของการศึกษาวิจัยนี้จะไม่ก่อให้เกิดผลเสียหรือความยากลำบากทางอารมณ์ แต่ถ้าสิ่งที่ทางเราคิดว่าไม่น่าจะเกิดนี้ได้เกิดขึ้น คุณสามารถติดต่อผู้วิจัยเพื่อขอความช่วยเหลือได้

ถ้าคุณไม่อยากเป็นส่วนหนึ่งของการศึกษาวิจัยกรุณาปิดหน้าต่างบานนี้ ขอบคุณครับ

ด้วยความห่วงใย

เดวิด

สอบถามข้อมูลเพิ่มเติมได้ที่ info@davidphd.com

Appendix B-1

Personal Information

1. Please list your age: _____

2. Please select your Gender:
a) Male
b) Female
c) Non-binary

3. Please select your academic status from the options below:
a) First year
b) Second year
c) Third year
d) Fourth year

4. Please specify the name of your university

5. Please specify your major: _____

6. Religious beliefs:
a) Religious
b) Non-religious but believe in a higher power
c) Not religious and also a non-believer

7. State of Residency:
a) With Family
b) with Friends
c) With Partner
d) Alone

8. History of Mental Illness
a) Myself
b) Someone in the family
c) Myself and someone in the family
d) None

9. Have you ever seen a mental health professional (e.g., school counselor, counselor, social worker, psychologist, psychiatrist) to get help for a personal or an emotional problem?
a) Yes
b) No

10. Are you aware of any on-campus mental health resources that offer help for personal and emotional problems?
a) Yes
b) No

Appendix B-2

Personal Information (Thai)

1. อายุ : .....

2. เพศ :

a) ชาย
b) หญิง
c) เพศอื่น

3. สถานะทางการศึกษา :
a) ปี 1
b) ปี 2
c) ปี 3
d) ปี 4

4. ชื่อมหาวิทยาลัย :
a) มหาวิทยาลัยอัสสัมชัญ(เอแบค)
b) มหาวิทยาลัยจุฬาลงกรณ์
c) มหาวิทยาลัยมหิดล
d) มหาวิทยาลัยธรรมศาสตร์
e) อื่น

5. วิชาเอก :
a) คณะสังคมศาสตร์ และมนุษยศาสตร์ (Human Sciences)
b) คณะอักษรศาสตร์และศิลปศาสตร์ (Arts and Music)
c) คณะบริหารธุรกิจและเศรษฐศาสตร์ (Business and Economics)
d) คณะแพทย์และวิทยาศาสตร์สุขภาพ (Health and Medicine)
e) อื่น

6. ความเชื่อทางศาสนา :
a) เชื่อในศาสนา
b) ไม่เชื่อในศาสนาแต่เชื่อในอำนาจที่เหนือกว่า
c) ไม่เชื่อในศาสนาและไม่เชื่อในอำนาจที่เหนือกว่า

7. สภาพความเป็นอยู่ :
a) อยู่คนเดียว
b) อยู่กับแฟน
c) อยู่กับเพื่อน
d) อยู่กับครอบครัว

8. ประวัติการเจ็บป่วยทางจิตใจ :

a) ฉันมีประวัติการเจ็บป่วยทางจิตใจ

b) คนในครอบครัวมีประวัติการเจ็บป่วยทางจิตใจ

c) ฉันและคนในครอบครัวมีประวัติการเจ็บป่วยทางจิตใจ

d) ทั้งฉันและครอบครัวไม่มีประวัติการเจ็บป่วยทางจิตใจ

9. คุณเคยพบผู้เชี่ยวชาญด้านสุขภาพจิต (เช่น อาจารย์ที่ปรึกษา ที่ปรึกษา นักสังคมสงเคราะห์ นักจิตวิทยา หรือจิตแพทย์) เพื่อเข้ารับความช่วยเหลือในการแก้ไขปัญหาส่วนตัวหรือปัญหาทางอารมณ์หรือไม่

a) เคย

b) ไม่เคย

10. คุณรู้หรือไม่ว่าในรั้วมหาวิทยาลัยมีบริการช่วยเหลือด้านสุขภาพจิตที่พร้อมให้คำปรึกษาเรื่องแก้ปัญหาส่วนตัวและการจัดการอารมณ์อยู่

a) รู้

b) ไม่รู้

- ในแบบสอบถามนี้ คำว่า “นักจิตวิทยา” อาจหมายถึงผู้เชี่ยวชาญด้านสุขภาพจิตประเภทใดก็ได้ เช่น นักจิตวิทยา จิตแพทย์ นักสังคมสงเคราะห์ทางการแพทย์ ที่ปรึกษา อาจารย์ที่ปรึกษา และอื่นๆ และคำใกล้เคียงคำเหล่านี้ก็สามารถใช้ได้เช่นกัน

Appendix C-1

MHLq-Young Adult form

The statements below are related to one's mental health literacy. Please read the Statements carefully and decide how much you agree with each of these statements. Please indicate your desired level of agreement based on the following guideline:

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5=

Strongly Agree

1. Physical exercise contributes to good mental health.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

2. A person with depression feels very miserable.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

3. People with schizophrenia usually have delusions (e.g., they may believe they are constantly being followed and observed).

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

4. If I had a mental disorder, I would seek my relatives' help.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

5. If someone close to me had a mental disorder, I would encourage her/him to look for a psychologist.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

6. Mental disorders don't affect people's behaviors.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

7. Sleeping well contributes to good mental health.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

8. If I had a mental disorder, I would seek a psychologist's help.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

9. A person with anxiety disorder may panic in situations that she/he fears.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

10. People with mental disorders belong to low-income families.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

11. If someone close to me had a mental disorder, I would listen to her/him without judging or criticizing.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

12. Alcohol use may cause mental disorders.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

13. Mental disorders don't affect people's feelings.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

14. The sooner mental disorders are identified and treated, the better.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

15. Only adults have mental disorders.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

16. Changes in brain function may lead to the onset of mental disorders.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

17. If someone close to me had a mental disorder, I would encourage her/him to see a psychiatrist.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

18. If I had a mental disorder, I would seek friends' help.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

19. A balanced diet contributes to good mental health.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

20. One of the symptoms of depression is the loss of interest or pleasure in most things.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

21. If someone close to me had a mental disorder, I could not be of any assistance.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

22. The symptom's length is one of the important criteria for the diagnosis of a mental disorder.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

23. Depression is not a true mental disorder.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

24. Drug addiction may cause mental disorders.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

25. Mental disorders affect people's thoughts.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

26. Doing something enjoyable contributes to a good mental health.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

27. A person with schizophrenia may see and hear things that nobody else sees and hears.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

28. Highly stressful situations may cause mental disorders.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

29. If I had a mental disorder, I would seek a psychiatrist's help.

1 = Strongly Disagree 2 = Disagree 3= neither agree nor disagree 4= Agree 5= Strongly Agree

Appendix C-2

MHLq-Young Adult form (Thai)

MHLq- แบบฟอร์มสำหรับคนวัยหนุ่มสาว

ข้อความด้านล่างนี้เกี่ยวข้องกับความรอบรู้ด้านสุขภาพจิต กรุณาอ่านอย่างละเอียดและเลือกว่าคุณเห็นด้วยกับข้อความแต่ละอันมากน้อยแค่ไหน ระบุระดับความเห็นด้วยที่ต้องการโดยใช้เกณฑ์ดังต่อไปนี้

1 = ไม่เห็นด้วยอย่างมาก 2 = ไม่เห็นด้วย 3 = ไม่ทั้งสองอย่าง 4 = เห็นด้วย 5 = เห็นด้วยอย่างมาก

1. การออกกำลังกายช่วยให้สุขภาพจิตดี
2. คนที่มีภาวะซึมเศร้าจะรู้สึกทุกข์ระทม
3. คนที่เป็นโรคหลายบุคลิกมีอาการหลงผิด (เช่น เขาอาจเชื่อว่าถูกสะกดรอยตามและถูกแอบมองตลอดเวลา)
4. ถ้าฉันเป็นโรคทางจิตเวชฉันจะขอให้ญาติช่วย
5. ถ้าคนใกล้ชิดของฉันเป็นโรคทางจิตเวชฉันจะสนับสนุนให้เขาไปเข้าพบนักจิตวิทยา
6. โรคทางจิตเวชไม่ได้มีผลต่อพฤติกรรมของคน
7. การนอนหลับพักผ่อนให้เพียงพอช่วยให้สุขภาพจิตดี
8. ถ้าฉันเป็นโรคทางจิตเวชฉันจะขอความช่วยเหลือจากนักจิตวิทยา
9. คนที่เป็นโรควิตกกังวลอาจตื่นตระหนกเมื่ออยู่ในสถานการณ์หวาดกลัว
10. คนที่มีโรคทางจิตเวชมาจากครอบครัวที่มีรายได้ต่ำ
11. ถ้าคนใกล้ชิดของฉันเป็นโรคทางจิตเวชฉันจะรับฟังโดยไม่ตัดสินหรือวิจารณ์
12. การดื่มแอลกอฮอล์อาจก่อให้เกิดโรคทางจิตเวช
13. โรคทางจิตเวชไม่ได้มีผลกระทบต่อความรู้สึกของคน
14. ยิ่งโรคทางจิตเวชได้รับการวินิจฉัยและรักษาเร็วเท่าไรก็ยิ่งดีเท่านั้น
15. มีแต่ผู้ใหญ่เท่านั้นที่จะเป็นโรคทางจิตเวช
16. การใช้งานของสมองที่เปลี่ยนไปอาจนำไปสู่อาการเบื้องต้นของโรคทางจิตเวช
17. ถ้าคนใกล้ชิดของฉันเป็นโรคทางจิตเวชฉันจะสนับสนุนให้เขาไปพบจิตแพทย์
18. ถ้าฉันมีความผิดปกติทางจิตฉันจะขอความช่วยเหลือจากเพื่อน
19. การกินตามหลักโภชนาการช่วยให้สุขภาพจิตดี
20. อาการหนึ่งของโรคซึมเศร้าคืออาการหมดความสนใจและไม่รู้สึกมีความสุขกับสิ่งต่างๆรอบตัว
21. ถ้าคนใกล้ชิดของฉันมีโรคทางจิตเวชฉันจะไม่สามารถช่วยอะไรได้เลย
22. ระยะเวลาของอาการทางจิตเป็นข้อบ่งชี้สำคัญข้อหนึ่งในการวินิจฉัยโรคทางจิตเวช
23. โรคซึมเศร้าไม่ใช่โรคทางจิตเวชที่แท้จริง
24. การติดยาเสพติดอาจทำให้เกิดโรคทางจิตเวช
25. โรคทางจิตเวชส่งผลต่อความคิดของคน
26. การทำอะไรสนุก ๆ ช่วยให้มีสุขภาพจิตที่ดี
27. คนที่เป็นโรคหลายบุคลิกอาจเห็นหรือได้ยินสิ่งที่คนอื่นไม่เห็นและไม่ได้ยิน
28. สถานการณ์ที่ตึงเครียดอย่างมากอาจทำให้เกิดโรคทางจิตเวช
29. ถ้าฉันเป็นโรคทางจิตเวชฉันจะขอความช่วยเหลือจากจิตแพทย์

Appendix D-1

Stigma Scale for Receiving Psychological Help

Please answer the following from (0) Strongly Disagree to (3) Strongly Agree

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Seeing a psychologist for emotional or interpersonal problems carries social stigma.	0	1	2	3
2. It is a sign of personal weakness or inadequacy to see a psychologist for emotional or interpersonal problems.	0	1	2	3
3. People will see a person in a less favorable way if they come to know that he/she has seen a psychologist.	0	1	2	3
4. It is advisable for a person to hide from people that he/she has seen a psychologist.	0	1	2	3
5. People tend to like less those who are receiving professional psychological help.	0	1	2	3

Appendix D-2

Stigma Scale for Receiving Psychological Help (Thai)

มาตรวัดตราบาปในการรับความช่วยเหลือทางจิตใจ

กรุณาตอบว่าคุณเห็นด้วยกับข้อความต่อไปนี้มากน้อยแค่ไหนจาก (0) ไม่เห็นด้วยอย่างยิ่ง ไปจน (3) เห็นด้วยอย่างยิ่ง

0 = ไม่เห็นด้วยอย่างยิ่ง 1= ไม่เห็นด้วย 2 = เห็นด้วย 3= เห็นด้วยอย่างยิ่ง

1. การเข้าพบนักจิตวิทยาเพื่อปรึกษาเรื่องปัญหาทางอารมณ์หรือเรื่องความสัมพันธ์ มาพร้อมกับตราบาปทางสังคม
2. การเข้าพบนักจิตวิทยาเพื่อปรึกษาปัญหาทางอารมณ์หรือเรื่องความสัมพันธ์แสดงถึงความอ่อนแอหรือความด้อยค่าส่วนตัว
3. ภาพลักษณ์ในสายตาคนอื่นจะดูแย่ลงถ้าเขารู้ว่าเราเข้าพบนักจิตวิทยา
4. คนเราควรจะปิดเรื่องที่เข้าพบนักจิตวิทยาเป็นความลับ
5. คนมักจะไม่ค่อยชอบคนที่เข้ารับการช่วยเหลือทางด้านจิตใจ

Appendix E-1

Self-Stigma of Seeking Help scale

People at times find that they face problems for which they consider seeking help. This can bring up reactions about what seeking help would mean. Please use the 5-point scale to rate the degree to which each item describes how you might react in this situation.

1 = Strongly Disagree 2 = Disagree 3 = Agree & Disagree Equally 4 = Agree 5 = Strongly Agree

Circle the number that corresponds to how you might react to each statement

1. I would feel inadequate if I went to a therapist for psychological help.	1 2 3 4 5
2. My self-confidence would NOT be threatened if I sought professional help.	1 2 3 4 5
3. Seeking psychological help would make me feel less intelligent.	1 2 3 4 5
4. My self-esteem would increase if I talked to a therapist.	1 2 3 4 5
5. My view of myself would not change just because I made the choice to see a therapist.	1 2 3 4 5
6. It would make me feel inferior to ask a therapist for help.	1 2 3 4 5
7. I would feel okay about myself if I made the choice to seek professional help.	1 2 3 4 5
8. If I went to a therapist, I would be less satisfied with myself.	1 2 3 4 5
9. My self-confidence would remain the same if I sought professional help for a problem I could not solve.	1 2 3 4 5
10. I would feel worse about myself if I could not solve my own problems.	1 2 3 4 5

Appendix E-2

Self-Stigma of Seeking Help scale (Thai)

มาตรวัดการตีตราบาปให้ตัวเองเมื่อร้องขอความช่วยเหลือ

บางครั้งคนเราก็พบว่ากำลังเผชิญหน้าอยู่กับปัญหาที่ทำให้คิดว่าจะร้องขอความช่วยเหลือ ตอนนี้เองที่เราจะทราบได้ว่าการร้องขอความช่วยเหลือเหล่านั้นแปลว่าอะไร กรุณาให้คะแนน 1-5 ในแต่ละข้อที่จะบรรยายถึงปฏิกริยาของคุณในสถานการณ์เหล่านี้

1 = ไม่เห็นด้วยอย่างยิ่ง 2 = ไม่เห็นด้วย 3 = ทั้งเห็นด้วยและไม่เห็นด้วย 4 = เห็นด้วย 5 = เห็นด้วยอย่างยิ่ง

เลือกคำตอบที่สอดคล้องกับปฏิกริยาของคุณในสถานการณ์ดังต่อไปนี้

1. ฉันจะรู้สึกไม่ดีพอถ้าต้องไปหานักบำบัดเพื่อขอความช่วยเหลือด้านจิตใจ
2. ความมั่นใจในตัวเองของฉันจะไม่ลดลง ถึงแม้ฉันจะขอความช่วยเหลือจากผู้เชี่ยวชาญด้านสุขภาพจิต
3. การขอความช่วยเหลือด้านจิตใจทำให้ฉันรู้สึกฉลาดน้อยลง
4. ความมั่นใจในตัวเองของฉันจะเพิ่มขึ้นถ้าฉันได้คุยกับนักบำบัด
5. ภาพลักษณ์ที่ฉันมีต่อตัวเองจะไม่เปลี่ยนไปถ้าฉันเลือกจะไปหานักบำบัด
6. ฉันรู้สึกด้อยค่าถ้าจะต้องขอความช่วยเหลือจากนักบำบัด
7. ฉันจะรู้สึกโอเคกับตัวเองถ้าเลือกที่จะขอความช่วยเหลือจากผู้เชี่ยวชาญด้านสุขภาพจิต
8. ถ้าฉันเข้าพบนักบำบัดฉันจะรู้สึกโอเคกับตัวเองน้อยลง
9. ความมั่นใจในตัวเองของฉันจะยังคงอยู่เท่าเดิม ถ้าฉันให้ผู้เชี่ยวชาญด้านสุขภาพจิตช่วยแก้ปัญหาที่ฉันแก้ไขเองไม่ได้
10. ฉันจะรู้สึกแย่ลงกับตัวเองถ้าแก้ปัญหาของตัวเองไม่ได้

Appendix F-1

Attitudes Toward Seeking Professional Psychological Help-Short Form

To what extent do you agree or disagree with the statements below:

	Disagree	Partly Disagree	Partly Agree	Agree
1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.	0	1	2	3
2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.	0	1	2	3
3. If I were experiencing a serious emotional crisis at this point in my life. I would be confident that I could find relief in psychotherapy.	0	1	2	3
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears *without* resorting to professional help.	0	1	2	3
5. I would want to get psychological help if I were worried or upset for a long period of time.	0	1	2	3
6. I might want to have psychological counseling in the future.	0	1	2	3
7. A person with an emotional problem is not likely to solve it alone; he or she *is* likely to solve it with professional help.	0	1	2	3
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.	0	1	2	3
9. A person should work out his or her own problems; getting psychological counseling would be a last resort.	0	1	2	3
10. Personal and emotional troubles, like many things, tend to work out by themselves.	0	1	2	3

Appendix F-2

Attitudes Toward Seeking Professional Psychological Help-Short Form (Thai)

ทัศนคติต่อการขอความช่วยเหลือทางจิตใจจากผู้เชี่ยวชาญด้านสุขภาพจิต-แบบสั้น

คุณเห็นด้วยหรือไม่เห็นด้วยกับคำกล่าวด้านล่างนี้มากน้อยแค่ไหน

0 = ไม่เห็นด้วย 1 = ไม่เห็นด้วยบางส่วน 2 = เห็นด้วยบางส่วน 3 = เห็นด้วย

1. ถ้าฉันคิดว่าตัวเองกำลังจะสติแตกความคิดแรกคือฉันต้องไปหาหมอ
2. สำหรับฉันแล้วการพูดคุยปรึกษาปัญหากับนักจิตวิทยาฟังดูเป็นวิธีแก้ปัญหาทางอารมณ์ที่แย่
3. สมมติว่าในช่วงเวลานี้ของชีวิตฉันกำลังเจอวิกฤติทางอารมณ์อยู่ฉันมั่นใจว่าการบำบัดทางจิตใจจะช่วยคลี่คลายปัญหาได้
4. ฉันชื่นชมทัศนคติของคนที่พร้อมจะจัดการปัญหาและความกลัวของตัวเองโดยไม่ต้องขอความช่วยเหลือจากผู้เชี่ยวชาญ
5. ฉันอยากได้รับความช่วยเหลือทางด้านจิตใจถ้ารู้สึกกังวลหรือไม่สบายใจเป็นเวลานาน
6. ฉันอาจอยากขอเข้ารับการปรึกษาทางจิตในอนาคต
7. คนที่มีปัญหาทางอารมณ์ไม่ควรจะแก้ปัญหาด้วยตัวเองแต่ควรจะแก้ปัญหาด้วยความช่วยเหลือจากผู้เชี่ยวชาญ
8. เมื่อพิจารณาดูทั้งเรื่องเวลาและค่าใช้จ่ายแล้ว การเข้ารับการบำบัดทางจิตใจไม่น่าจะมีประโยชน์นักสำหรับคนอย่างฉัน
9. คนเราควรจะจัดการปัญหาของตัวเอง การไปขอคำปรึกษาทางจิตใจควรจะเป็นทางเลือกสุดท้าย
10. ปัญหาส่วนตัวและปัญหาทางอารมณ์ก็เหมือนกับเรื่องอื่นหลาย ๆ คือมันมักจะคลี่คลายด้วยตัวมันเอง

Appendix G-1

Mental Help Seeking Intention Scale

INSTRUCTIONS: For the purposes of this survey, "mental health professionals" include psychologists, psychiatrists, clinical social workers, and counselors. Likewise, "mental health concerns" include issues ranging from personal difficulties (e.g., loss of a loved one) to mental illness (e.g., anxiety, depression). Please mark the box that best represents your opinion.

If I had a mental health concern, I would intend to seek help from a mental health professional.

1 (Extremely unlikely)	2	3	4	5	6	7 (Extremely likely)

If I had a mental health concern, I would try to seek help from a mental health professional.

1 (Definitely false)	2	3	4	5	6	7 (Definitely true)

If I had a mental health concern, I would plan to seek help from a mental health professional.

1 (Strongly disagree)	2	3	4	5	6	7 (Strongly agree)

Appendix G-2

Mental Help Seeking Intention Scale (Thai)

มาตรวัดความตั้งใจที่จะร้องขอความช่วยเหลือทางจิตใจ

คำสั่ง: เพื่อวัตถุประสงค์ของแบบสอบถามนี้ คำว่า ‘‘ผู้เชี่ยวชาญด้านสุขภาพจิต’’ หมายความรวมถึงทั้งนักจิตวิทยา จิตแพทย์ นักสังคมสงเคราะห์ทางการแพทย์ และที่ปรึกษา เช่นเดียวกัน ‘‘ปัญหาสุขภาพจิต’’ หมายความรวมตั้งแต่ปัญหาส่วนตัว (เช่น สูญเสียคนที่รัก) จนถึงโรคทางจิตเวช (เช่น โรควิตกกังวล โรคซึมเศร้า) กรุณาทำเครื่องหมายในกล่องที่แทนความเห็นของคุณได้ดีที่สุด

1. ถ้าฉันมีปัญหาสุขภาพจิตฉันมีแนวโน้มที่จะขอความช่วยเหลือจากผู้เชี่ยวชาญด้านสุขภาพจิต
1 = ไม่น่าเป็นไปได้อย่างยิ่ง 2 3 4 5 6 7 = เป็นไปได้อย่างยิ่ง

2. ถ้าฉันมีปัญหาสุขภาพจิตฉันจะพยายามที่จะขอความช่วยเหลือจากผู้เชี่ยวชาญด้านสุขภาพจิต
1 = ไม่น่าเป็นไปได้อย่างยิ่ง 2 3 4 5 6 7 = เป็นไปได้อย่างยิ่ง

3. ถ้าฉันมีปัญหาสุขภาพจิตฉันจะวางแผนที่จะขอความช่วยเหลือจากผู้เชี่ยวชาญด้านสุขภาพจิต
1 = ไม่น่าเป็นไปได้อย่างยิ่ง 2 3 4 5 6 7 = เป็นไปได้อย่างยิ่ง

Appendix H

Reliability Analysis Output

1- Mental Health Literacy Questionnaire-Young Adult form

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.942	.949	29

Inter-Item Correlation Matrix

	MHL_1	MHL_2	MHL_3	MHL_4	MHL_5	MHL_6	MHL_7	MHL_8	MHL_9	MHL_10	MHL_11	MHL_12	MHL_13	MHL_14	MHL_15	MHL_16	MHL_17	MHL_18	MHL_19	MHL_20	MHL_21	MHL_22	MHL_23	MHL_24	MHL_25	MHL_26	MHL_27	MHL_28	MHL_29
MHL_1	1.000	.389	.432	.240	.434	.038	.522	.404	.422	.352	.447	.395	.065	.478	.627	.302	.407	.207	.518	.414	.154	.406	.046	.460	.452	.525	.374	.388	.414
MHL_2	.389	1.000	.380	.349	.508	.068	.455	.520	.455	.015	.407	.266	.082	.523	.126	.305	.402	.246	.453	.475	.083	.484	.035	.425	.399	.484	.380	.514	.474
MHL_3	.432	.380	1.000	.288	.540	.264	.373	.514	.495	.291	.538	.483	.277	.377	.302	.541	.440	.313	.461	.435	.368	.399	.216	.421	.487	.393	.550	.447	.411
MHL_4	.240	.349	.288	1.000	.404	.422	.310	.469	.302	.368	.367	.359	.358	.297	.292	.321	.357	.491	.342	.392	.351	.390	.370	.383	.396	.383	.359	.399	.363
MHL_5	.434	.508	.540	.404	1.000	.064	.557	.755	.643	.188	.660	.412	.164	.647	.162	.506	.715	.435	.562	.623	.193	.598	.143	.559	.646	.577	.590	.653	.693
MHL_6	.038	.068	.264	.422	.064	1.000	.489	.085	.009	.529	.089	.268	.694	.673	.556	.214	.354	.422	.098	.083	.507	.047	.625	.103	.034	.217	.199	.032	.275
MHL_7	.522	.455	.373	.310	.557	.489	1.000	.536	.604	.628	.481	.439	.026	.650	.458	.398	.538	.262	.586	.524	.068	.585	.055	.564	.468	.599	.439	.547	.555
MHL_8	.404	.520	.514	.469	.755	.085	.536	1.000	.633	.208	.701	.463	.145	.645	.142	.628	.692	.451	.569	.705	.234	.615	.156	.540	.683	.648	.603	.685	.722
MHL_9	.422	.455	.495	.302	.643	.009	.604	.633	1.000	.080	.619	.464	.001	.621	.107	.511	.603	.350	.518	.660	.131	.557	.110	.480	.640	.581	.586	.602	.570
MHL_10	.352	.015	.291	.368	.188	.529	.628	.208	.080	1.000	.209	.341	.514	.643	.714	.325	.125	.401	.045	.190	.586	.036	.473	.239	.152	.691	.280	.099	.087
MHL_11	.447	.407	.538	.367	.660	.089	.481	.701	.619	.209	1.000	.441	.084	.584	.208	.553	.631	.394	.524	.666	.267	.543	.169	.466	.654	.544	.549	.583	.601
MHL_12	.395	.266	.483	.359	.412	.268	.439	.463	.464	.341	.441	1.000	.288	.436	.322	.534	.440	.470	.522	.475	.432	.518	.352	.551	.463	.445	.530	.499	.392
MHL_13	.065	.082	.277	.358	.164	.694	.026	.145	.001	.514	.084	.288	1.000	.368	.575	.265	.061	.431	.142	.112	.547	.043	.566	.105	.083	.016	.167	.073	.078
MHL_14	.478	.523	.377	.297	.647	.673	.650	.645	.621	.643	.584	.436	.368	1.000	.116	.469	.642	.333	.606	.633	.062	.664	.055	.635	.586	.684	.565	.649	.658
MHL_15	.627	.126	.302	.292	.162	.556	.458	.142	.107	.714	.208	.322	.575	.116	1.000	.363	.102	.424	.059	.161	.669	.068	.465	.036	.092	.844	.269	.046	.063
MHL_16	.302	.305	.541	.321	.506	.214	.398	.628	.511	.325	.553	.534	.265	.469	.363	1.000	.480	.411	.462	.561	.409	.519	.313	.401	.535	.446	.575	.524	.487
MHL_17	.407	.402	.440	.357	.715	.354	.538	.692	.603	.125	.631	.440	.061	.642	.102	.480	1.000	.396	.536	.624	.195	.574	.101	.543	.641	.598	.597	.575	.695
MHL_18	.207	.246	.313	.491	.435	.422	.262	.451	.350	.401	.394	.470	.431	.333	.424	.411	.396	1.000	.335	.499	.456	.403	.396	.353	.361	.398	.486	.410	.396
MHL_19	.518	.453	.461	.342	.562	.098	.586	.569	.518	.045	.524	.522	.142	.606	.059	.462	.536	.335	1.000	.511	.249	.567	.243	.544	.558	.627	.493	.610	.535
MHL_20	.414	.475	.435	.392	.623	.083	.524	.705	.660	.190	.666	.475	.112	.633	.161	.561	.624	.499	.511	1.000	.195	.610	.203	.547	.657	.661	.659	.643	.692
MHL_21	.154	.083	.368	.351	.193	.507	.068	.234	.131	.586	.267	.432	.547	.062	.669	.409	.195	.456	.249	.195	1.000	.238	.500	.202	.230	.112	.377	.204	.156
MHL_22	.406	.484	.399	.390	.598	.047	.585	.615	.557	.036	.543	.518	.043	.664	.068	.519	.574	.403	.567	.610	.238	1.000	.174	.653	.570	.639	.554	.720	.631
MHL_23	.046	.035	.216	.370	.143	.625	.055	.156	.110	.473	.169	.352	.566	.055	.465	.313	.101	.396	.243	.203	.500	.174	1.000	.147	.124	.081	.298	.154	.092
MHL_24	.460	.425	.421	.383	.559	.103	.564	.540	.480	.239	.466	.551	.105	.635	.036	.401	.543	.353	.544	.547	.202	.653	.147	1.000	.552	.634	.526	.606	.573
MHL_25	.452	.399	.487	.396	.646	.034	.468	.683	.640	.152	.654	.463	.083	.586	.092	.535	.641	.361	.558	.657	.230	.570	.124	.552	1.000	.612	.612	.632	.640
MHL_26	.525	.484	.393	.383	.577	.217	.599	.648	.581	.691	.544	.445	.016	.684	.844	.446	.598	.398	.627	.661	.112	.639	.081	.634	.612	1.000	.509	.643	.644
MHL_27	.374	.380	.550	.359	.590	.199	.439	.603	.586	.280	.549	.530	.167	.565	.269	.575	.597	.486	.493	.659	.377	.554	.298	.526	.612	.509	1.000	.555	.579
MHL_28	.388	.514	.447	.399	.653	.032	.547	.685	.602	.099	.583	.499	.073	.649	.046	.524	.575	.410	.610	.643	.204	.720	.154	.606	.632	.643	.555	1.000	.626
MHL_29	.414	.474	.411	.363	.693	.275	.555	.722	.570	.087	.601	.392	.078	.658	.063	.487	.695	.396	.535	.692	.156	.631	.092	.573	.640	.644	.579	.626	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MHL_1	107.17	282.807	.486	.463	.941
MHL_2	107.58	279.099	.503	.435	.941
MHL_3	107.70	274.546	.637	.543	.940
MHL_4	107.84	275.491	.578	.472	.940
MHL_5	107.51	272.393	.740	.732	.939
MHL_6	108.41	278.411	.338	.659	.944
MHL_7	107.38	276.897	.573	.595	.940
MHL_8	107.58	272.198	.771	.762	.938
MHL_9	107.61	274.672	.660	.648	.939
MHL_10	108.47	276.516	.378	.647	.943
MHL_11	107.73	272.967	.707	.650	.939
MHL_12	107.75	271.812	.676	.579	.939
MHL_13	108.35	277.329	.375	.625	.943
MHL_14	107.49	275.034	.635	.709	.940
MHL_15	108.55	274.908	.371	.700	.944
MHL_16	107.91	272.419	.694	.585	.939
MHL_17	107.60	273.361	.680	.659	.939
MHL_18	107.95	273.321	.631	.528	.940
MHL_19	107.56	274.325	.661	.597	.939
MHL_20	107.70	271.408	.740	.717	.939
MHL_21	108.21	274.893	.499	.614	.941
MHL_22	107.60	273.651	.688	.671	.939
MHL_23	108.31	277.504	.411	.526	.942
MHL_24	107.58	273.137	.641	.632	.940
MHL_25	107.68	272.116	.698	.656	.939
MHL_26	107.53	273.803	.645	.686	.939
MHL_27	107.82	272.271	.736	.637	.939
MHL_28	107.65	272.980	.705	.679	.939
MHL_29	107.64	273.391	.684	.681	.939

2- Stigma Scale for Receiving Psychological Help

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.828	.828	5

Inter-Item Correlation Matrix

	SocialStig_1	SocialStig_2	SocialStig_3	SocialStig_4	SocialStig_5
SocialStig_1	1.000	.661	.511	.504	.363
SocialStig_2	.661	1.000	.593	.417	.289
SocialStig_3	.511	.593	1.000	.473	.536
SocialStig_4	.504	.417	.473	1.000	.563
SocialStig_5	.363	.289	.536	.563	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SocialStig_1	6.28	8.874	.656	.507	.785
SocialStig_2	6.47	9.014	.630	.535	.793
SocialStig_3	6.33	8.745	.684	.503	.777
SocialStig_4	6.08	9.559	.619	.430	.797
SocialStig_5	6.02	9.760	.540	.423	.818

3- Self-Stigma of Seeking Help scale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.676	.668	10

Inter-Item Correlation Matrix

	SelfStig_1	SelfStig_2	SelfStig_3	SelfStig_4	SelfStig_5	SelfStig_6	SelfStig_7	SelfStig_8	SelfStig_9	SelfStig_10
SelfStig_1	1.000	.155	.695	.274	.172	.677	.161	.679	.175	.620
SelfStig_2	.155	1.000	.076	.620	.639	.154	.602	.187	.644	.323
SelfStig_3	.695	.076	1.000	.278	.185	.754	.158	.735	.164	.574
SelfStig_4	.274	.620	.278	1.000	.656	.287	.677	.231	.629	.346
SelfStig_5	.172	.639	.185	.656	1.000	.216	.634	.194	.633	.409
SelfStig_6	.677	.154	.754	.287	.216	1.000	.195	.796	.228	.646
SelfStig_7	.161	.602	.158	.677	.634	.195	1.000	.184	.716	.381
SelfStig_8	.679	.187	.735	.231	.194	.796	.184	1.000	.261	.702
SelfStig_9	.175	.644	.164	.629	.633	.228	.716	.261	1.000	.405
SelfStig_10	.620	.323	.574	.346	.409	.646	.381	.702	.405	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SelfStig_1	23.8710	25.653	.447	.594	.628
SelfStig_2	24.5484	29.187	.282	.555	.662
SelfStig_3	24.2194	25.978	.502	.674	.618
SelfStig_4	24.5065	30.426	.174	.616	.680
SelfStig_5	24.5097	29.875	.231	.585	.670
SelfStig_6	24.1742	25.555	.470	.713	.623
SelfStig_7	24.5194	29.318	.262	.624	.665
SelfStig_8	24.1161	25.812	.493	.741	.619
SelfStig_9	24.4516	29.821	.227	.622	.671
SelfStig_10	23.8226	29.421	.235	.626	.671

4- Attitude Toward Seeking Professional Psychological Help-Short Form

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.842	.848	10

Inter-Item Correlation Matrix

	Attitude_1	Attitude_2	Attitude_3	Attitude_4	Attitude_5	Attitude_6	Attitude_7	Attitude_8	Attitude_9	Attitude_10
Attitude_1	1.000	.146	.325	.208	.442	.461	.450	.188	.273	.119
Attitude_2	.146	1.000	.143	.170	.141	.250	.171	.526	.149	.433
Attitude_3	.325	.143	1.000	.424	.651	.450	.613	.242	.481	.326
Attitude_4	.208	.170	.424	1.000	.479	.446	.420	.349	.540	.399
Attitude_5	.442	.141	.651	.479	1.000	.501	.678	.217	.501	.264
Attitude_6	.461	.250	.450	.446	.501	1.000	.569	.237	.407	.322
Attitude_7	.450	.171	.613	.420	.678	.569	1.000	.215	.407	.269
Attitude_8	.188	.526	.242	.349	.217	.237	.215	1.000	.421	.695
Attitude_9	.273	.149	.481	.540	.501	.407	.407	.421	1.000	.467
Attitude_10	.119	.433	.326	.399	.264	.322	.269	.695	.467	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Attitude_1	17.26	24.705	.402	.344	.839
Attitude_2	17.85	24.703	.303	.399	.854
Attitude_3	17.23	23.658	.587	.528	.823
Attitude_4	17.31	23.962	.580	.404	.824
Attitude_5	17.23	23.133	.627	.615	.819
Attitude_6	17.41	22.617	.625	.462	.818
Attitude_7	17.35	23.017	.651	.585	.816
Attitude_8	17.57	23.973	.513	.570	.829
Attitude_9	17.34	23.622	.617	.462	.820
Attitude_10	17.51	23.733	.546	.573	.826

5- Mental Help-Seeking Intention Scale

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.915	.915	3

Inter-Item Correlation Matrix

	MHSIS_1	MHSIS_2	MHSIS_3
MHSIS_1	1.000	.758	.759
MHSIS_2	.758	1.000	.831
MHSIS_3	.759	.831	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MHSIS_1	10.64	5.706	.793	.628	.908
MHSIS_2	10.85	5.512	.848	.729	.863
MHSIS_3	10.82	5.402	.848	.730	.863

Appendix I

Exploratory Factor Analysis Output

1- Mental Health Literacy Questionnaire-Young Adult form / initial EFA run

Inter-Item Correlation Matrix

	MHL_1	MHL_2	MHL_3	MHL_4	MHL_5	MHL_6	MHL_7	MHL_8	MHL_9	MHL_10	MHL_11	MHL_12	MHL_13	MHL_14	MHL_15	MHL_16	MHL_17	MHL_18	MHL_19	MHL_20	MHL_21	MHL_22	MHL_23	MHL_24	MHL_25	MHL_26	MHL_27	MHL_28	MHL_29
MHL_1	1.000	.389	.432	.240	.434	.038	.522	.404	.422	.352	.447	.395	.065	.478	.627	.302	.407	.207	.518	.414	.154	.406	.046	.460	.452	.525	.374	.388	.414
MHL_2	.389	1.000	.380	.349	.508	.068	.455	.520	.455	.015	.407	.266	.082	.523	.126	.305	.402	.246	.453	.475	.083	.484	.035	.425	.399	.484	.380	.514	.474
MHL_3	.432	.380	1.000	.288	.540	.264	.373	.514	.495	.291	.538	.483	.277	.377	.302	.541	.440	.313	.461	.435	.368	.399	.216	.421	.487	.393	.550	.447	.411
MHL_4	.240	.349	.288	1.000	.404	.422	.310	.469	.302	.368	.367	.359	.358	.297	.292	.321	.357	.491	.342	.392	.351	.390	.370	.383	.396	.383	.359	.399	.363
MHL_5	.434	.508	.540	.404	1.000	.064	.557	.755	.643	.188	.660	.412	.164	.647	.162	.506	.715	.435	.562	.623	.193	.598	.143	.559	.646	.577	.590	.653	.693
MHL_6	.038	.068	.264	.422	.064	1.000	.489	.085	.009	.529	.089	.268	.694	.673	.556	.214	.354	.422	.098	.083	.507	.047	.625	.103	.034	.217	.199	.032	.275
MHL_7	.522	.455	.373	.310	.557	.489	1.000	.536	.604	.628	.481	.439	.026	.650	.458	.398	.538	.262	.586	.524	.068	.585	.055	.564	.468	.599	.439	.547	.555
MHL_8	.404	.520	.514	.469	.755	.085	.536	1.000	.633	.208	.701	.463	.145	.645	.142	.628	.692	.451	.569	.705	.234	.615	.156	.540	.683	.648	.603	.685	.722
MHL_9	.422	.455	.495	.302	.643	.009	.604	.633	1.000	.080	.619	.464	.001	.621	.107	.511	.603	.350	.518	.660	.131	.557	.110	.480	.640	.581	.598	.602	.570
MHL_10	.352	.015	.291	.368	.188	.529	.628	.208	.080	1.000	.209	.341	.514	.843	.714	.325	.125	.401	.045	.190	.586	.036	.473	.239	.152	.691	.280	.099	.087
MHL_11	.447	.407	.538	.367	.660	.089	.481	.701	.619	.209	1.000	.441	.084	.584	.208	.553	.631	.394	.524	.666	.267	.543	.169	.466	.654	.544	.549	.583	.601
MHL_12	.395	.266	.483	.359	.412	.268	.439	.463	.464	.341	.441	1.000	.288	.436	.322	.534	.440	.470	.522	.475	.432	.518	.352	.551	.463	.445	.530	.499	.392
MHL_13	.065	.082	.277	.358	.164	.694	.026	.145	.001	.514	.084	.288	1.000	.368	.575	.265	.061	.431	.142	.112	.547	.043	.566	.105	.083	.016	.167	.073	.078
MHL_14	.478	.523	.377	.297	.647	.673	.650	.645	.621	.843	.584	.436	.368	1.000	.116	.469	.642	.333	.606	.633	.062	.664	.055	.635	.586	.684	.565	.649	.658
MHL_15	.627	.126	.302	.292	.162	.556	.458	.142	.107	.714	.208	.322	.575	.116	1.000	.363	.102	.424	.059	.161	.669	.068	.465	.036	.092	.844	.269	.046	.063
MHL_16	.302	.305	.541	.321	.506	.214	.398	.628	.511	.325	.553	.534	.265	.469	.363	1.000	.480	.411	.462	.561	.409	.519	.313	.401	.535	.446	.575	.524	.487
MHL_17	.407	.402	.440	.357	.715	.354	.538	.692	.603	.125	.631	.440	.061	.642	.102	.480	1.000	.396	.536	.624	.195	.574	.101	.543	.641	.598	.597	.575	.695
MHL_18	.207	.246	.313	.491	.435	.422	.262	.451	.350	.401	.394	.470	.431	.333	.424	.411	.396	1.000	.335	.499	.456	.403	.396	.353	.361	.398	.486	.410	.396
MHL_19	.518	.453	.461	.342	.562	.098	.586	.569	.518	.045	.524	.522	.142	.606	.059	.462	.536	.335	1.000	.511	.249	.567	.243	.544	.558	.627	.493	.610	.535
MHL_20	.414	.475	.435	.392	.623	.083	.524	.705	.660	.190	.666	.475	.112	.633	.161	.561	.624	.499	.511	1.000	.195	.610	.203	.547	.657	.661	.659	.643	.692
MHL_21	.154	.083	.368	.351	.193	.507	.068	.234	.131	.586	.267	.432	.547	.062	.669	.409	.195	.456	.249	.195	1.000	.238	.500	.202	.230	.112	.377	.204	.156
MHL_22	.406	.484	.399	.390	.598	.047	.585	.615	.557	.036	.543	.518	.043	.664	.068	.519	.574	.403	.567	.610	.238	1.000	.174	.653	.570	.639	.554	.720	.631
MHL_23	.046	.035	.216	.370	.143	.625	.055	.156	.110	.473	.169	.352	.566	.055	.465	.313	.101	.396	.243	.203	.500	.174	1.000	.147	.124	.081	.298	.154	.092
MHL_24	.460	.425	.421	.383	.559	.103	.564	.540	.480	.239	.466	.551	.105	.635	.036	.401	.543	.353	.544	.547	.202	.653	.147	1.000	.552	.634	.526	.606	.573
MHL_25	.452	.399	.487	.396	.646	.034	.468	.683	.640	.152	.654	.463	.083	.586	.092	.535	.641	.361	.558	.657	.230	.570	.124	.552	1.000	.612	.612	.632	.640
MHL_26	.525	.484	.393	.383	.577	.217	.599	.648	.581	.691	.544	.445	.016	.684	.844	.446	.598	.398	.627	.661	.112	.639	.081	.634	.612	1.000	.509	.643	.644
MHL_27	.374	.380	.550	.359	.590	.199	.439	.603	.586	.280	.549	.530	.167	.565	.269	.575	.597	.486	.493	.659	.377	.554	.298	.526	.612	.509	1.000	.555	.579
MHL_28	.388	.514	.447	.399	.653	.032	.547	.685	.602	.099	.583	.499	.073	.649	.046	.524	.575	.410	.610	.643	.204	.720	.154	.606	.632	.643	.555	1.000	.626
MHL_29	.414	.474	.411	.363	.693	.275	.555	.722	.570	.087	.601	.392	.078	.658	.063	.487	.695	.396	.535	.692	.156	.631	.092	.573	.640	.644	.579	.626	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.953
Bartlett's Test of Sphericity	Approx. Chi-Square	6535.285
	df	406
	Sig.	.000

Communalities

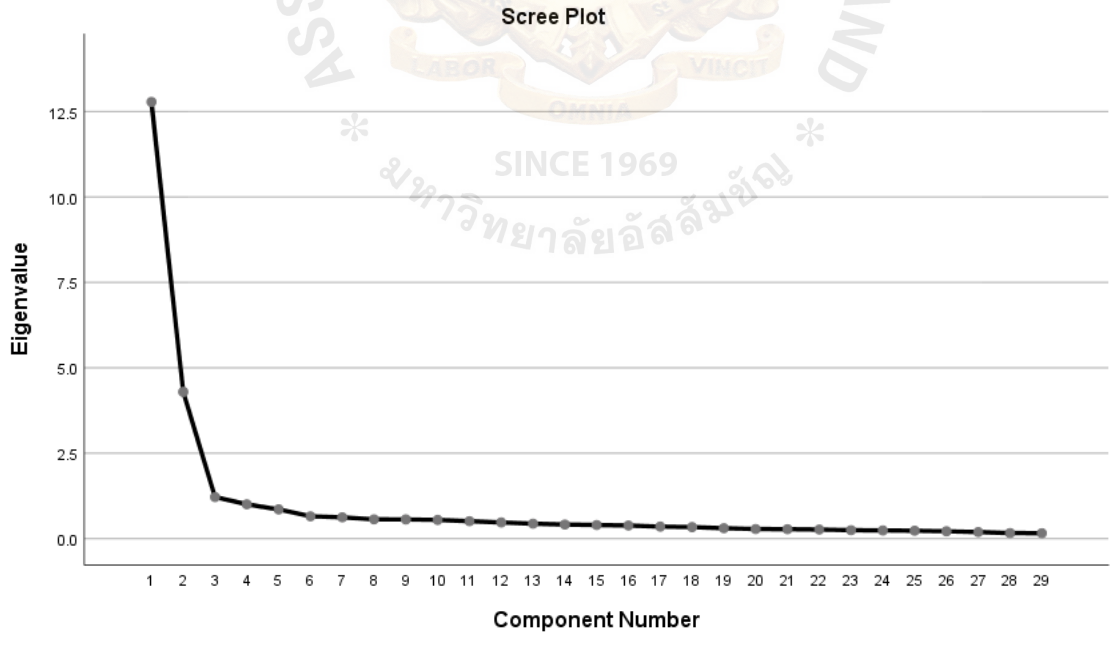
	Initial	Extraction
MHL_1	1.000	.619
MHL_2	1.000	.450
MHL_3	1.000	.640
MHL_4	1.000	.646
MHL_5	1.000	.711
MHL_6	1.000	.749
MHL_7	1.000	.628
MHL_8	1.000	.779
MHL_9	1.000	.645
MHL_10	1.000	.732
MHL_11	1.000	.673
MHL_12	1.000	.620
MHL_13	1.000	.682
MHL_14	1.000	.732
MHL_15	1.000	.765
MHL_16	1.000	.626
MHL_17	1.000	.678
MHL_18	1.000	.601
MHL_19	1.000	.656
MHL_20	1.000	.715
MHL_21	1.000	.666
MHL_22	1.000	.651
MHL_23	1.000	.594
MHL_24	1.000	.643
MHL_25	1.000	.664
MHL_26	1.000	.717
MHL_27	1.000	.634
MHL_28	1.000	.671
MHL_29	1.000	.711

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.781	44.072	44.072	12.781	44.072	44.072	10.111	34.866	34.866
2	4.295	14.811	58.883	4.295	14.811	58.883	4.941	17.037	51.903
3	1.217	4.195	63.078	1.217	4.195	63.078	3.116	10.745	62.648
4	1.005	3.466	66.544	1.005	3.466	66.544	1.130	3.896	66.544
5	.855	2.950	69.494						
6	.654	2.256	71.750						
7	.624	2.151	73.901						
8	.566	1.952	75.853						
9	.562	1.938	77.791						
10	.547	1.887	79.678						
11	.512	1.765	81.443						
12	.475	1.638	83.081						
13	.439	1.514	84.595						
14	.414	1.426	86.021						
15	.400	1.379	87.401						
16	.384	1.325	88.726						
17	.352	1.216	89.941						
18	.337	1.163	91.104						
19	.307	1.059	92.163						
20	.280	.966	93.129						
21	.277	.954	94.083						
22	.266	.916	94.999						
23	.248	.855	95.853						
24	.240	.827	96.680						
25	.231	.796	97.477						
26	.216	.744	98.221						
27	.193	.664	98.885						
28	.163	.563	99.448						
29	.160	.552	100.000						

Extraction Method: Principal Component Analysis.



Rotated Component Matrix[a]

	Component			
	1	2	3	4
MHL_8	.859			
MHL_29	.824			
MHL_20	.820			
MHL_5	.815			
MHL_17	.806			
MHL_25	.770			
MHL_11	.763			
MHL_28	.745			
MHL_9	.742			
MHL_14	.731		.423	
MHL_26	.689		.460	
MHL_22	.687		.397	
MHL_27	.682			
MHL_16	.596	.353		.339
MHL_7	.558		.557	
MHL_24	.555		.555	
MHL_2	.533			
MHL_3	.452		.371	.444
MHL_6		.840		
MHL_13		.813		
MHL_15		.795		
MHL_10		.766		
MHL_21		.757		
MHL_23		.749		
MHL_18	.478	.573		
MHL_4	.436	.508		.433
MHL_1	.332		.701	
MHL_19	.522		.605	
MHL_12	.399	.417	.490	

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 7 iterations.

Component Transformation Matrix

Component	1	2	3	4
1	.869	.286	.401	.037
2	.233	.950	.182	.101
3	.343	.116	.717	.595
4	.268	.047	.540	.796

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

1.1-Mental Health Literacy Questionnaire-Young Adult form / EFA constrained to 2 factors

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.781	44.072	44.072	12.781	44.072	44.072	11.951	41.209	41.209
2	4.295	14.811	58.883	4.295	14.811	58.883	5.126	17.674	58.883
3	1.217	4.195	63.078						
4	1.005	3.466	66.544						
5	.855	2.950	69.494						
6	.654	2.256	71.750						
7	.624	2.151	73.901						
8	.566	1.952	75.853						
9	.562	1.938	77.791						
10	.547	1.887	79.678						
11	.512	1.765	81.443						
12	.475	1.638	83.081						
13	.439	1.514	84.595						
14	.414	1.426	86.021						
15	.400	1.379	87.401						
16	.384	1.325	88.726						
17	.352	1.216	89.941						
18	.337	1.163	91.104						
19	.307	1.059	92.163						
20	.280	.966	93.129						
21	.277	.954	94.083						
22	.266	.916	94.999						
23	.248	.855	95.853						
24	.240	.827	96.680						
25	.231	.796	97.477						
26	.216	.744	98.221						
27	.193	.664	98.885						
28	.163	.563	99.448						
29	.160	.552	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component	
	1	2
MHL_14		.844
MHL_8	.827	
MHL_26	.820	
MHL_29	.810	
MHL_28	.806	
MHL_5	.805	
MHL_20	.797	
MHL_22	.788	
MHL_17	.788	
MHL_25	.783	
MHL_9	.777	
MHL_11		.839
MHL_7	.747	
MHL_24	.739	
MHL_19	.730	
MHL_27	.698	
MHL_2	.620	
MHL_16	.606	
MHL_1	.606	
MHL_12	.564	
MHL_3	.562	
MHL_15		.834
MHL_6		.807
MHL_10		.804
MHL_13		.789
MHL_21		.778
MHL_23		.726
MHL_18	.430	
MHL_4	.422	

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

Component Transformation Matrix

Component	1	2
1	.950	.313
2	.313	.950

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

2- Stigma Scale for Receiving Psychological Help

Inter-Item Correlation Matrix

	SocialStig_1	SocialStig_2	SocialStig_3	SocialStig_4	SocialStig_5
SocialStig_1	1.000	.661	.511	.504	.363
SocialStig_2	.661	1.000	.593	.417	.289
SocialStig_3	.511	.593	1.000	.473	.536
SocialStig_4	.504	.417	.473	1.000	.563
SocialStig_5	.363	.289	.536	.563	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.757
Bartlett's Test of Sphericity	Approx. Chi-Square	606.500
	df	10
	Sig.	.000

Communalities

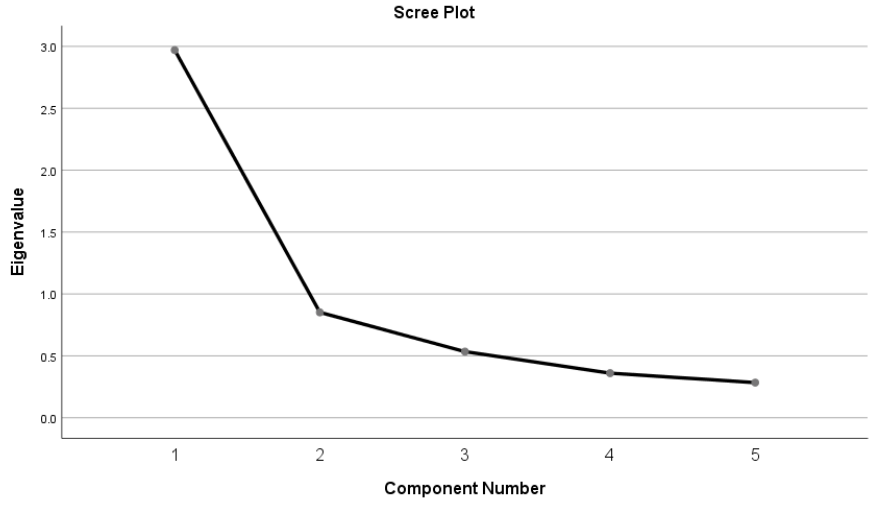
	Initial	Extraction
SocialStig_1	1.000	.633
SocialStig_2	1.000	.602
SocialStig_3	1.000	.662
SocialStig_4	1.000	.583
SocialStig_5	1.000	.490

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.970	59.401	59.401	2.970	59.401	59.401
2	.851	17.029	76.430			
3	.534	10.682	87.113			
4	.360	7.207	94.320			
5	.284	5.680	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Component
	1
SocialStig_3	.814
SocialStig_1	.796
SocialStig_2	.776
SocialStig_4	.763
SocialStig_5	.700

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

3- Self-Stigma of Seeking Help scale

Inter-Item Correlation Matrix

	SelfStig_1	SelfStig_2	SelfStig_3	SelfStig_4	SelfStig_5	SelfStig_6	SelfStig_7	SelfStig_8	SelfStig_9	SelfStig_10
SelfStig_1	1.000	.155	.695	.274	.172	.677	.161	.679	.175	.620
SelfStig_2	.155	1.000	.076	.620	.639	.154	.602	.187	.644	.323
SelfStig_3	.695	.076	1.000	.278	.185	.754	.158	.735	.164	.574
SelfStig_4	.274	.620	.278	1.000	.656	.287	.677	.231	.629	.346
SelfStig_5	.172	.639	.185	.656	1.000	.216	.634	.194	.633	.409
SelfStig_6	.677	.154	.754	.287	.216	1.000	.195	.796	.228	.646
SelfStig_7	.161	.602	.158	.677	.634	.195	1.000	.184	.716	.381
SelfStig_8	.679	.187	.735	.231	.194	.796	.184	1.000	.261	.702
SelfStig_9	.175	.644	.164	.629	.633	.228	.716	.261	1.000	.405
SelfStig_10	.620	.323	.574	.346	.409	.646	.381	.702	.405	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.879
Bartlett's Test of Sphericity	Approx. Chi-Square	2107.797
	df	45
	Sig.	.000

Communalities

	Initial	Extraction
SelfStig_1	1.000	.721
SelfStig_2	1.000	.690
SelfStig_3	1.000	.773
SelfStig_4	1.000	.705
SelfStig_5	1.000	.711
SelfStig_6	1.000	.810
SelfStig_7	1.000	.741
SelfStig_8	1.000	.820
SelfStig_9	1.000	.737
SelfStig_10	1.000	.695

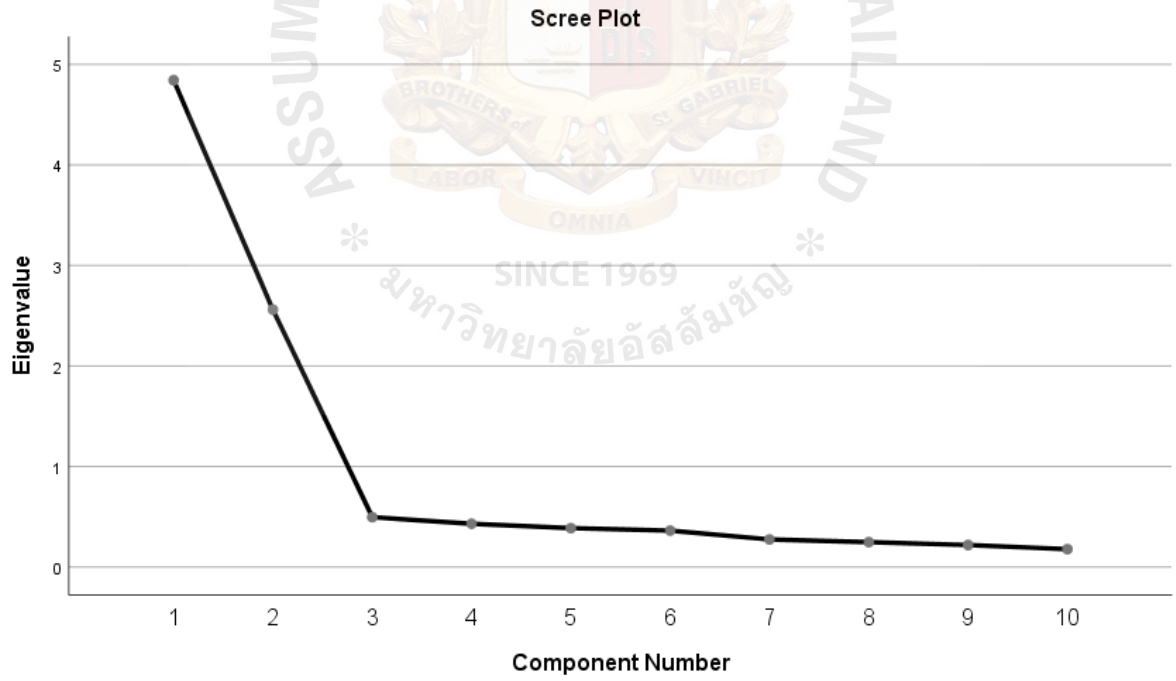
Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.842	48.421	48.421	4.842	48.421	48.421	4.075
2	2.560	25.600	74.021	2.560	25.600	74.021	3.992
3	.496	4.964	78.985				
4	.431	4.308	83.293				
5	.387	3.874	87.167				
6	.363	3.628	90.794				
7	.275	2.748	93.542				
8	.248	2.482	96.025				
9	.219	2.194	98.218				
10	.178	1.782	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.



Rotated Component Matrix[a]

	Component	
	1	2
SelfStig_1	.844	
SelfStig_2		.828
SelfStig_3	.877	
SelfStig_4		.815
SelfStig_5		.833
SelfStig_6	.892	
SelfStig_7		.854
SelfStig_8	.898	
SelfStig_9		.846
SelfStig_10	.753	.357

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Component Transformation Matrix

Component	1	2
1	.721	.693
2	.693	.721

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

4- Attitude Toward Seeking Professional Psychological Help-Short Form / Initial EFA

Inter-Item Correlation Matrix

	Attitude_1	Attitude_2	Attitude_3	Attitude_4	Attitude_5	Attitude_6	Attitude_7	Attitude_8	Attitude_9	Attitude_10
Attitude_1	1.000	.146	.325	.208	.442	.461	.450	.188	.273	.119
Attitude_2	.146	1.000	.143	.170	.141	.250	.171	.526	.149	.433
Attitude_3	.325	.143	1.000	.424	.651	.450	.613	.242	.481	.326
Attitude_4	.208	.170	.424	1.000	.479	.446	.420	.349	.540	.399
Attitude_5	.442	.141	.651	.479	1.000	.501	.678	.217	.501	.264
Attitude_6	.461	.250	.450	.446	.501	1.000	.569	.237	.407	.322
Attitude_7	.450	.171	.613	.420	.678	.569	1.000	.215	.407	.269
Attitude_8	.188	.526	.242	.349	.217	.237	.215	1.000	.421	.695
Attitude_9	.273	.149	.481	.540	.501	.407	.407	.421	1.000	.467
Attitude_10	.119	.433	.326	.399	.264	.322	.269	.695	.467	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.837
Bartlett's Test of Sphericity	Approx. Chi-Square	1362.497
	df	45
	Sig.	.000

Communalities

	Initial	Extraction
Attitude_1	1.000	.739
Attitude_2	1.000	.832
Attitude_3	1.000	.684
Attitude_4	1.000	.564
Attitude_5	1.000	.755
Attitude_6	1.000	.636
Attitude_7	1.000	.702
Attitude_8	1.000	.778
Attitude_9	1.000	.633
Attitude_10	1.000	.778

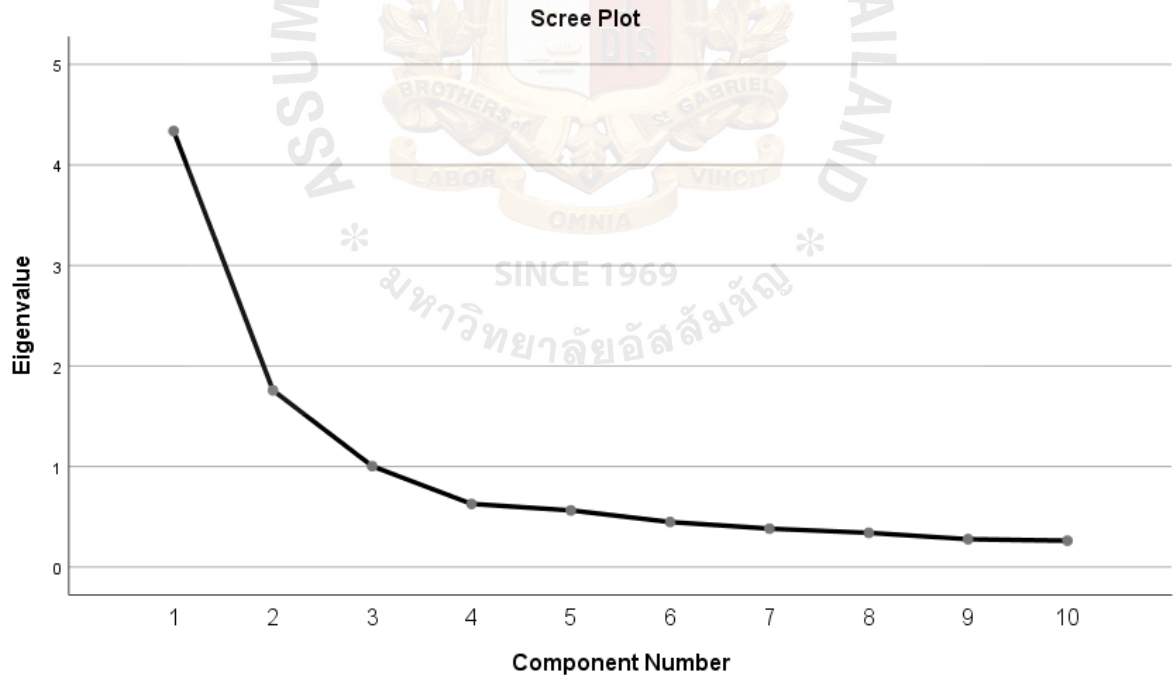
Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.338	43.376	43.376	4.338	43.376	43.376	3.763
2	1.758	17.579	60.955	1.758	17.579	60.955	2.382
3	1.003	10.035	70.990	1.003	10.035	70.990	2.131
4	.628	6.279	77.269				
5	.564	5.637	82.906				
6	.448	4.479	87.385				
7	.382	3.819	91.205				
8	.340	3.405	94.609				
9	.277	2.771	97.381				
10	.262	2.619	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.



Rotated Component Matrix[a]

	Component		
	1	2	3
Attitude_1	.116	-.003	.851
Attitude_2	-.216	.827	.319
Attitude_3	.768	.001	.307
Attitude_4	.685	.282	.121
Attitude_5	.738	-.036	.457
Attitude_6	.396	.231	.653
Attitude_7	.561	.075	.618
Attitude_8	.286	.834	-.011
Attitude_9	.723	.315	.103
Attitude_10	.437	.762	-.077

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Component Transformation Matrix

Component	1	2	3
1	.753	.427	.501
2	.227	.883	.412
3	.618	.196	.761

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

4.1- Attitude Toward Seeking Professional Psychological Help-Short Form / EFA constrained to 2 factors

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.338	43.376	43.376	4.338	43.376	43.376	3.665	36.652	36.652
2	1.758	17.579	60.955	1.758	17.579	60.955	2.430	24.304	60.955
3	1.003	10.035	70.990						
4	.628	6.279	77.269						
5	.564	5.637	82.906						
6	.448	4.479	87.385						
7	.382	3.819	91.205						
8	.340	3.405	94.609						
9	.277	2.771	97.381						
10	.262	2.619	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component	
	1	2
Attitude_5	.859	
Attitude_7	.818	
Attitude_3	.783	
Attitude_6	.701	
Attitude_1	.635	
Attitude_8		.870
Attitude_10		.835
Attitude_2		.735
Attitude_9		.591
Attitude_4		.577

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

Component Transformation Matrix

Component	1	2
1	.860	.511
2	.511	.860

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

5- Mental Help-Seeking Intention Scale

Inter-Item Correlation Matrix

	MHSIS_1	MHSIS_2	MHSIS_3
MHSIS_1	1.000	.758	.759
MHSIS_2	.758	1.000	.831
MHSIS_3	.759	.831	1.000

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.750
Bartlett's Test of Sphericity	Approx. Chi-Square	664.628
	df	3
	Sig.	.000

Communalities

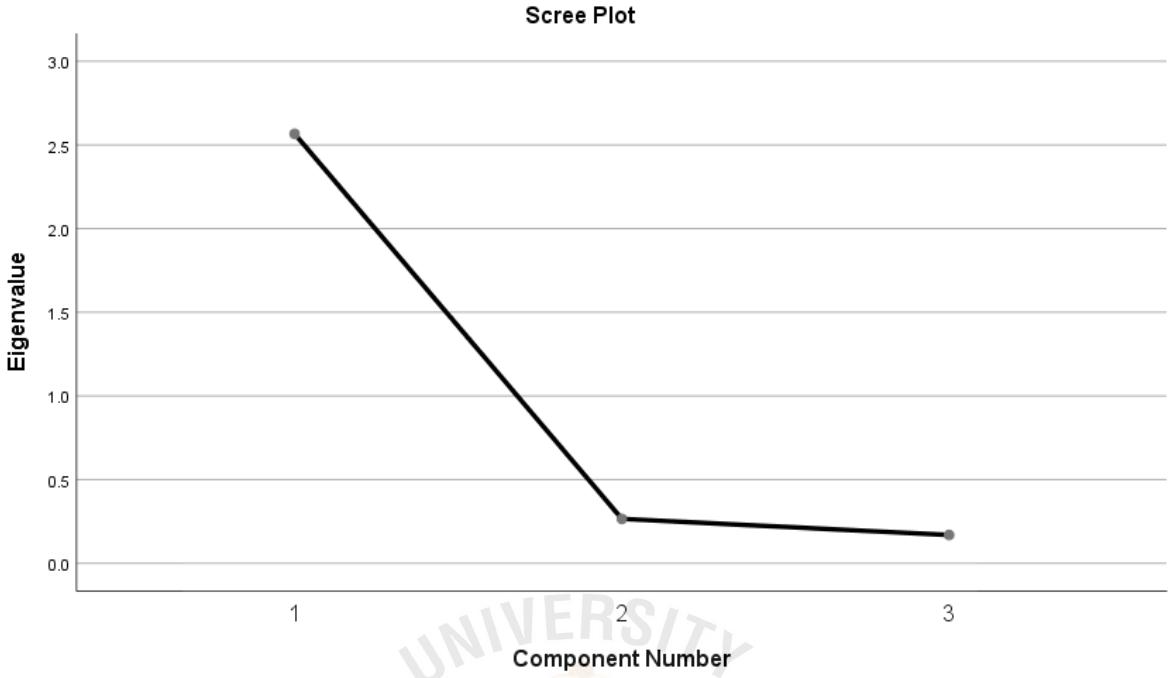
	Initial	Extraction
MHSIS_1	1.000	.819
MHSIS_2	1.000	.873
MHSIS_3	1.000	.873

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.566	85.532	85.532	2.566	85.532	85.532
2	.265	8.841	94.372			
3	.169	5.628	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Component
	1
MHSIS_3	.935
MHSIS_2	.934
MHSIS_1	.905

Extraction Method: Principal Component Analysis.

a. 1 components extracted.