Mental Health Literacy Among Adolescents in Rural Communities

Chantel Amelia-Lyn-Marie Windy

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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Abstract

Having an understanding of mental health literacy in rural based adolescents is essential for creating change in levels of knowledge, beliefs about mental health, and help-seeking behaviors. The Mental Health Literacy Scale (MHLS) is a self-report measure of mental health literacy. This study used the MHLS to measure mental health literacy in rural students ages 14-17 and in Grades 9–12. Results from this study can help researchers understand the relationships between mental health literacy, age, gender, and stigma. A sample of 120 participants was used for this study. Participants' guardians were asked to complete a consent form, and participants completed the mental health literacy scale survey. Four research questions were evaluated in this study using both the Kruskal-Wallis test and the Mann-Whitney test. Descriptive statistics were also run to evaluate important data relevant to this study. Four research questions were analyzed for this study, and four hypotheses were considered. After data collection and data analysis, it was found that only one hypothesis was supported.

Keywords: mental health literacy, adolescent mental health, help-seeking, mental health stigma

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Dedication

This manuscript is dedicated to those who lost their life to suicide. May this publication help to increase our knowledge of mental health and decrease our losses to suicide.

Acknowledgments

To those who walked by my side through this lengthy and difficult process, I appreciate you always. Here's to you!

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List of Abbreviations

Mental Health Literacy (MHL)

Mental Health Literacy Scale (MHLS)

World Health Organization (WHO)

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Chapter One: Introduction

Overview

Mental illness impacts adolescents on a large scale, and one in five adolescents have been documented as having experienced difficulties when it comes to mental health (Musbahi et al., 2021). Although the number of adolescents experiencing mental health issues is high, only a fraction of individuals receive mental health services. One study suggested that only 20% of youth in need of mental health services actually receive treatment (Musbahi et al., 2021).

Mental health literacy has a direct impact on adolescent help-seeking behaviors, and adolescents need to be able to recognize mental health disorders, feel that it is acceptable to ask for help, and know whom to ask for help (Duffy et al., 2021). The barriers to help-seeking behaviors for adolescents are important to understand, especially in rural adolescent populations. Research indicates that adolescents are more likely to receive mental health services in school-based populations (Duffy et al., 2021). However, few studies exist on adolescent mental health help-seeking, specifically in rural school populations (Musbahi et al., 2021). This study will seek to understand the impact of mental health literacy on help-seeking behaviors among adolescents who attend school in a rural community.

Background

Historical Context

The term mental health literacy was introduced by Anthony Jorm in 1997 and is defined as “knowledge and beliefs about mental health disorders that aid in their recognition, management, or prevention” (Yu et al., 2015, p. 1). Mental health literacy is not just about knowledge but relates to knowledge and its usefulness in benefiting the mental health of oneself and others (Campos et al., 2018; Crowe et al., 2018; Duffy et al., 2021; Tissera & Tairi, 2020;

Wickstead & Furnham, 2017). Jorm's (2012) definition of mental health literacy included the following concepts:

> Knowledge one has on how to prevent mental disorders, one's capability to recognize when a disorder is developing, a person's knowledge of help-seeking options and treatments available to them, one's knowledge of effect self-help strategies for milder problems, and a person's first aid skills to support others who are developing a mental health disorder or are in crisis. (p. 231)

Approximately 80% of all mental illnesses are estimated to start by the age of 24 (Marshall & Dunstan, 2013). The onset of mental illness during adolescence and young adulthood is likely to negatively impact education, employment, and relationships (Marshall & Dunstan, 2013). Contributing to the devastating effects of mental health disorders is the fact that many young people affected by these disorders are not seeking help (Marshall & Dunstan, 2013). The lack of help-seeking has been closely tied to low levels of mental health literacy, which include negative beliefs about mental illness, efficacy of mental health treatment, and a fear of stigmatization (Marshall & Dunstan, 2013).

A study published in Norway supports the concept of help-seeking bias (Bjørnsen et al., 2019). Results of a cross-sectional school-based survey indicated that positive mental health literacy levels were significantly and positively associated with mental well-being compared to those adolescents with lower mental health literacy scores (Bjørnsen et al., 2019). The World Health Organization (WHO) had predicted that by the end of 2020 mental illness rates would be higher than any physical disease globally, which was supported by Schroeder et al.'s (2021) findings. In 2017, the National Survey on Drug Use and Health reported an estimate of 46.6

million United States citizens as having a mental illness (Schroeder et al., 2021). These rates are higher among younger adults ages 18–25 years old (Schroeder et al., 2021).

Theoretical Context

Social cognitive theory has an ideal framework for health behavior research because physical and psychological health are affected by one's own behaviors, behaviors of those around them, and the environment (Mundorf et al., 2018). The health beliefs model postulates behaviors in terms of values and expectations and explores how an individual interpretation of a situation influences their behavior (Mundorf et al., 2018; Rosenstock, 1974). Social cognitive theory and its conceptual framework tie to mental health literacy because one's interpretation of mental health and education level has an impact on help-seeking (Campos et al., 2018; Crowe et al., 2018; Duffy et al., 2021; Tissera & Tairi, 2020; Wickstead & Furnham, 2017).

Although mental health literacy aligns with social cognitive theory, researchers have also suggested that mental health literacy be viewed as its own theory (Spiker & Hammer, 2019). The concept of mental health literacy has grown exponentially, and a number of studies show the benefits of understanding knowledge through this lens. Looking at mental health literacy as its own theory allows scientists to keep the constructs of mental health knowledge, stigma, attitudes, positive mental health, and help-seeking behaviors separate, which will promote narrow and concise results when studied.

Problem Statement

The problem is that low mental health literacy adversely impacts adolescents seeking mental health services. Failure or delays in help-seeking behavior for mental health disorders can result in serious consequences for those suffering (Campos et al., 2018). For example, the delayed recognition of mental health disorders is associated with onset of mental health disorders

among adolescents and people in early adulthood (Campos et al., 2018). Studies in the United States report that the median age of onset for anxiety disorders is 11 years old. Furthermore, onset of mood disorders are at 30 years old and substance use disorders at 20 years old (Duffy et al., 2021). Mental health disorders have been shown to negatively impact exam performance and secondary education dropout rates (Duffy et al., 2021).

In the United States and other countries, the prevalence of mental health disorders is high, but people do not often seeking professional help or they delay help-seeking (Wickstead & Furnham, 2017). The WHO's World Health Initiative examined research data from 28 countries and found that only a small portion of individuals received treatment for mood, anxiety, or substance use disorders within that first year of onset (Wickstead & Furnham, 2017). Studies for a range of different mental health disorders have shown that the longer someone goes with an untreated mental illness, the poorer the outcomes of treatment are (Wickstead & Furnham, 2017). Research on mental health literacy in Australia, Canada, India, Japan, Sweden, the United Kingdom, and the United States has shown that many people are unable to correctly recognize and label mental health disorders (Crowe et al., 2018). One study demonstrated that 28% of U.S. youth could identify social anxiety disorder as a mental health disorder and 42% identified depression as a disorder (Tissera & Tairi, 2020).

A study published in 2013 found a gap between the mental health literacy of metropolitan adolescents and rural adolescents (Marshall & Dunstan, 2013). This study showed there was a gap in knowledge about suicide ideation and knowledge about sources of help and appropriate intervention (Marshall & Dunstan, 2013). Rural areas have fewer mental health services, and research has indicated that rural residents access available mental health services much less frequently than those in metropolitan communities (Marshall & Dunstan, 2013). Despite this

discrepancy, rural residents report that their mental health needs are met with satisfaction (Marshall & Dunstan, 2013). A possible explanation for this is the lower levels of mental health literacy within rural populations (Marshall & Dunstan, 2013). Improvements in mental health literacy can help individuals recognize mental health disorders, which has been shown to improve mental health help-seeking (Campos et al., 2018; Crowe et al., 2018; Duffy et al., 2021; Tissera & Tairi, 2020; Wickstead & Furnham, 2017). Existing literature also supports that by diagnosing mental health disorders during adolescence, mental health professionals can change the trajectory of these disorders through early recognition and intervention (Attygalle et al., 2017).

Purpose Statement

The purpose of this study was to better understand the correlation between mental health literacy, age, gender, and stigma. This study investigated the recognition of mental health disorders, intentions to seek help, beliefs about the helpfulness of interventions, recognition of interventions, and stigmatizing attitudes in rural adolescent populations. Since there is currently a lack of research on rural and adolescent populations (Tissera & Tairi, 2020), the increased knowledge gained from this study may allow community leaders to understand mental health literacy within their own communities and use this information to improve mental health literacy.

Significance of the Study

The study is significant because it provides foundational knowledge to further develop interventions that promote mental health help-seeking behaviors and increased mental health literacy among adolescents (Dias et al., 2018). A better understanding of mental health literacy within our own communities can determine the best ways to improve mental health literacy

levels. Results of the study may be beneficial to community leaders and organizations that work with children and families.

By improving mental health literacy levels, one will be able to have earlier identification of mental health disorders and provide more proactive interventions. Through early recognition and identification, adolescents can begin treatment for mental health disorders at an earlier time in life. This can change the trajectory of mental health disorders in these individuals, promoting a healthier and more successful future (Attygalle et al., 2017). Mental health literacy initiatives that educate the public about mental health disorders, causes, and available treatment options are valuable tools in the reduction of stigma and increase the likelihood of help-seeking (Van Beveren et al., 2020).

Research Questions

RQ1: Does age influence mental health literacy scores?

RQ2: Does gender influence mental health literacy scores?

RQ3: Does having a mental health diagnosis influence mental health literacy scores?

RQ4: Does experiencing mental health stigma influence mental health literacy scores?

Definitions

1. *Age* – The time of life at which some particular qualification, power, or capacity arises or rests (Merriam-Webster, n.d.-a).
2. *Gender* – Membership of a word or a grammatical form in such a subclass (Merriam-Webster, n.d.-b).
3. *Help-Seeking Behaviors* – A problem-focused, planned behavior, involving interpersonal interaction with a selected healthcare professional (Cornally & McCarthy, 2011; Tsigebrhan et al., 2017).

4. *Mental Health Disorders* – A mental health disorder is generally characterized by experiencing disturbance in cognition, emotional regulation, or behavior (WHO, 2022).
5. *Mental Health Literacy* (MHL) – The knowledge and beliefs about mental health disorders that aid in their recognition, management, or prevention (Yu et al., 2015).
6. *Rural* – A population, housing, or territory not in an urban area (Health Resources & Services Administration, n.d.).
7. *Stigma* – A mark of shame or discredit (Merriam-Webster, n.d.-c).

Assumptions and Limitations

There are certain assumptions and limitations that should be considered when completing this study. This study will probably have low internal validity because it is not experimental. MHL has also only recently grown to include attitudes, stigma, and help-seeking behaviors (Spiker & Hammer, 2019). Due to these changes, researchers struggle to know what is important to measure. Therefore, one can assume that the questions might not completely represent mental health literacy as a whole. The MHLS is still a somewhat new instrument, and internal consistency for newer scales can range between 0.6 and 0.69 (Gray & Grove, 2021).

Summary

Despite the known importance of mental health literacy, limited research exists on adolescents in rural populations and their levels of mental health literacy. Several studies recognize the challenges adolescents and rural populations face when it comes to mental health disorders, stigma, and lower levels of mental health literacy. Although mental health literacy research exists, it lacks emphasis on adolescent populations as well as rural populations. Through this study, mental health providers and other community leaders may reach a better understanding on how to improve mental health literacy in adolescent populations. Improvement

in mental health literacy has a direct impact on help-seeking behaviors as well as early interventions with mental health disorders.

Low mental health literacy adversely impacts adolescents seeking mental health services. Failure or delays in help-seeking behavior for mental health disorders can result in serious consequences for those suffering. The purpose of this study was to better understand the relationships between mental health literacy, age, gender, and stigma. This increased knowledge may allow community leaders to improve mental health literacy within their own communities and assist organizations that work with children and families.

Chapter Two: Literature Review

Overview

The World Health Organization (WHO) focuses on empowering communities and individuals within those communities to aim for the highest levels of well-being (WHO, 2022). This level of well-being can only be attained if people take care of their physical and mental health. Research indicates that health literacy is an important educational topic, and the WHO reports that health literacy is a strong predictor of overall good health (WHO, 2022). Better health literacy has been strongly associated with decreasing health inequalities, creating better help policies, and enhancing existing health systems (WHO, 2022). The WHO demonstrates that overall well-being is predicted by managing physical and mental health, but mental health literacy is understudied. In fact, recent studies indicate that people are more knowledgeable about physical health when compared to mental health (Wickstead & Furnham, 2017). Due to the important nature of mental health literacy and its impact on one's overall well-being, it is important to study levels of knowledge, stigmatizing beliefs, and help-seeking behaviors to better understand their impact.

Theoretical Framework

Cognitive theories of motivation indicate that thoughts, beliefs, and emotions are key in motivating individuals and in identifying their behavioral tendencies (Schunk & Usher, 2012). People act in accordance with their individual beliefs about their capabilities, as well as personal impact on expected outcomes (Schunk & Usher, 2012). For example, people are more likely to make lifestyle changes when they know that these changes will produce positive outcomes. Bandura's social cognitive theory indicates that learning occurs through experience and through

observation of others (Schunk & Usher, 2012). Learning from the consequences of other people's actions helps to inform an individual and motivate their behavioral response.

A key concept in social cognitive theory is that people are motivated to develop a sense of urgency for learning and doing based on having control over important life events. Motivation is affected by evaluation of progress, potential outcomes, values, social comparisons, and self-efficacy (Schunk & Usher, 2012). Individuals often only undertake tasks that they believe they are capable of and will avoid things that they believe to be beyond their abilities (Ewen & Ewen, 2010). Therefore, behavior is often influenced by the extent to which someone believes they can perform expected actions in a specific situation. In social cognitive theory social learning is a key component; this includes individuals learning by observing other people's behaviors or consequences (Ewen & Ewen, 2010).

Social cognitive theory has an ideal framework for health behavior research because physical and psychological health are affected by one's own behaviors, behaviors of those around them, and the environment. One's interpretation of mental health, mental health professionals, and mental health diagnoses has an impact on help-seeking (Campos et al., 2018; Crowe et al., 2018; Duffy et al., 2021; Tissera & Tairi, 2020; Wickstead & Furnham, 2017). This makes the social cognitive theory the perfect conceptual framework for evaluating impact.

Although mental health literacy aligns with social cognitive theory, researchers have also requested that mental health literacy be viewed as multi-construct theory itself (Spiker & Hammer, 2019). Looking at mental health literacy as a multi-construct theory allows for scientists to keep the constructs of mental health knowledge, stigma, attitudes, positive mental health, and help-seeking behaviors separate. This promotes narrow and concise results when

studied. If researchers frame mental health literacy as a theory itself, the field can begin to define relationships between the conceptual factors of mental health literacy.

At this time mental health literacy is only an approximation of a theory because it fails to demonstrate the utility of a theory (Spiker & Hammer, 2019). This is because the theory currently only specifies the variables researchers should look at when studying mental health literacy but does not define the direction one should take when comparing the different variables (Spiker & Hammer, 2019). Mental health literacy as a theory offers researchers insights that do not come from recreating, but instead function from a place of originality that provides insight into a topic that has not otherwise been studied (Spiker & Hammer, 2019).

Taking both these theories into account, one can assume that social cognitive theory most closely aligns with mental health literacy studies at this time. However, it is important to note that the ultimate goal is to view mental health literacy as a theoretical framework of its own. Existing research supports the connection of mental health literacy to social cognitive theory and supporting literature can be viewed in the following sections.

Related Literature

Mental Health Literacy

In the mid-1990s Anthony F. Jorm and colleagues recognized that a lack of research existed around knowledge and beliefs about mental health disorders (Jorm, 2012). The view during this time period was that only general practitioners and health workers needed to be able to identify and manage mental health disorders (Duffy et al., 2021). However, Jorm and his colleagues recognized that it was important for people beyond practitioners to understand mental health literacy, and this is how the term of mental health literacy was coined.

Mental health literacy (MHL) refers to a person's knowledge and beliefs about mental health that help to aid in recognition, management, and prevention of mental health disorders (Jorm et al., 1997). MHL is not just having knowledge; instead, it is knowledge that leads to an action which benefits one's mental health and the mental health of others (Crowe et al., 2018). Having knowledge of mental health, or high levels of MHL, has been known to help with this early recognition and intervention in mental health disorders. The recognition of the importance of MHL has helped to make the subject a primary research topic in recent years (Dias et al., 2018). By assessing existing research data, identifying knowledge gaps, and addressing stigmatized beliefs, communities can create better interventions to promote and improve MHL (Dias et al., 2018).

Although the concept of MHL has grown since 1997, the definition of MHL has kept its core (Ratnayake & Hyde, 2019). The definition coined by Jorm et al. (1997) is considered to be the standard in research surrounding the concept of MHL. Operationalization of MHL has grown to include assessments of mental health knowledge, help-seeking behaviors, and stigma-related components (Katz et al., 2020). MHL has grown to include stigma-related components, which was previously separately considered. Furthermore, MHL was expanded to include self-help strategies and the efficacy of help-seeking behaviors. These additions were made through the years to benefit individuals and overall public mental health (Katz et al., 2020).

MHL is important and relevant to individuals as well as whole communities (Jorm, 2012). MHL not only helps with the detection of mental health disorders but also helps individuals know how to manage their illness as well as providing education to caregivers so they can provide support to their family and loved ones (Jorm, 2012). To better understand the concept of MHL, one must understand the framework upon which it is built.

MHL Framework

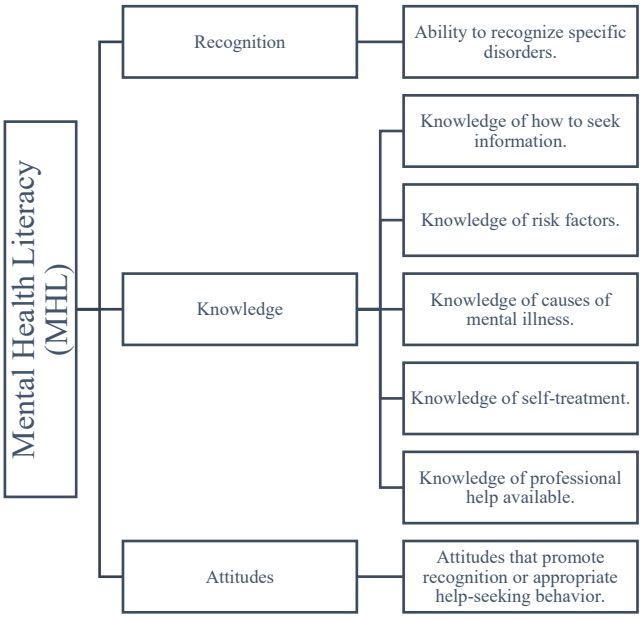
The components of the MHL framework have an impact on communities. A number of studies support the need to help promote mental health as well as empower communities to act (Morgado et al., 2021). By having a better understanding of knowledge and attitude-related barriers to help-seeking for mental health, researchers can identify targets that can be modified and improved as well as interventions that will increase help-seeking behaviors in adolescents (Brooks et al., 2019).

The concept of MHL is composed of seven primary components according to Jorm et al. (1997). The framework includes one's ability to recognize mental health disorders, one's knowledge of how to seek mental health information, one's knowledge of mental health risk factors, one's knowledge around mental health diagnoses and causes of mental illness, one's knowledge of self-treatment options, one's knowledge of what professional help is available to them, and one's attitude around mental health that influences help-seeking behaviors (Spiker & Hammer, 2019).

Results of community epidemiological surveys indicate that mental health disorders are common among the public, and the WHO claims that over one third of worldwide population meet criteria for a mental health disorder diagnosis at some point during their lifetime (Tay et al., 2018). Similar results were found in European studies, which reported that one in three people met this same criterion for a mental health disorder diagnosis (Yee et al., 2020). These results show the prevalence of mental health disorders and the importance of knowing how to treat them. The attributes of MHL can be grouped into recognition, knowledge of factors that relate to mental health, and attitudes and beliefs about mental health disorders. To have a clear understanding of a person's MHL requires one to measure all attributes (see Figure 1).

Figure 1

MHL Framework



Knowledge and Attitudes. Knowledge about professional help and effective treatments available to community members and adolescents is important because the first step in help-seeking requires that a person be able to recognize a mental health disorder. To get help, a person needs to know what professional help is available to them and how to access it. Although several services are available to some communities, a belief that professionals have something to offer is necessary for people to utilize the help.

A number of surveys have been conducted in a range of countries that seek to understand public beliefs about mental health professionals and treatments available to them (Wickstead & Furnham, 2017). These surveys have shown multiple discrepancies between public and professional views of mental health services (Wickstead & Furnham, 2017). A consistent finding among studies indicates that community members tend to seek out informal sources of help before seeking out professional help (Wickstead & Furnham, 2017). Informal sources of help

have also been rated more positively than those of mental health professionals. Seeking help from friends and family members can be beneficial for individuals suffering from mental health disorders; however, it becomes a problem when it is takes the place of professional help (Wickstead & Furnham, 2017).

Studies have indicated that professionals who are educated in mental health are not viewed as positively as those who are trained in generic help (Jorm et al., 2006; Jorm & Wright, 2007). An example of this can be found in Australian standards of practice where psychologists are registered health professionals and counselors are not. Surveys of the Australian public found that counselors are more often rated as more helpful than psychologists when it comes to mental health practices (Jorm et al., 2006; Jorm & Wright, 2007). These differences in opinion and beliefs around public help and professional help impact the action that people will take to treat their own mental health disorders. Data support that perceived effectiveness of mental health help is strongly associated with someone actually receiving mental health care, which creates a problem (Tay et al., 2018). Prior research findings have shown that mainstream media tends to negatively associate mental health issues with danger, violence, and sensations that contribute to social and self-stigma, which in turn stop people from seeking help for mental health disorders (Van Beveren et al., 2020). These findings reinforce that personal beliefs and knowledge regarding mental health significantly impact help-seeking, which in turn impacts overall functioning of individuals and communities as a whole.

Self-Help Strategies. An important component of the knowledge framework is self-help strategies. Self-help strategies are things that a person can do independently to manage a mental health disorder. Self-help strategies can be used while working with a mental health professional or outside of therapy. Community surveys have assessed public beliefs around the concept of

self-help and found that self-help is viewed positively. Crowe et al. (2018) found that self-help strategies were viewed more positively than professional mental health help. Jorm and colleagues conducted a study in Australia and Canada that indicated the majority of communities believed that vitamins, physical activity, reading about the problem, getting out of the house more, eating healthier, and using relaxation techniques could all help with depression (Crowe et al., 2018). These self-help strategies were viewed as more helpful than psychotherapy.

Although self-help strategies can be useful and a number of studies support this (Kitchener & Jorm, 2002), it is important to note that these self-help strategies should not replace professional help. Jorm's (2000) Australian study indicated that self-help strategies were more commonly used than professional help, including seeing a general practitioner.

Individuals often seek help from loved ones or members of their community before seeking help from professionals (Cusack et al., 2006). One can conclude based on these findings that it is important that communities know how to best assist and support others. During adolescence it is important that others assist in facilitating recognition and help-seeking due to vulnerabilities attached to adolescence. Ongoing social support for those suffering from mental health disorders is equally as important and oftentimes much needed (Jorm, 2012). The assistance to others when it comes to mental health has been coined as mental health first aid (Wickstead & Furnham, 2017). A survey in Australia sought to understand what communities believed about providing mental health first aid and found that common responses for helping were to encourage professional help-seeking and to listen to the person who was struggling (Jorm, Blewitt et al., 2005).

Katz et al. (2020) indicated that there are several factors involved when it comes to why people delay help-seeking. One significant factor is that individuals are often unable to recognize

that they have a mental health disorder (Katz et al., 2020). An Australian study demonstrated this in a study published in 2008 and illustrated that there was an average delay of 8.2 years for individuals seeking treatment for anxiety or mood disorders (Cheung et al., 2017). Further findings indicate that over the period of 8.2 years it took individuals 6.9 years to recognize they had a mental health disorder and on average 1.3 years between this recognition and seeking help for the disorder (Cheung et al., 2017).

This is further supported in a number of countries including the United States where community surveys indicate that many individuals are unable to recognize mental health disorders (Crowe et al., 2018). Vignette style surveys were used to evaluate a person's ability to detect what they think is wrong with a person based on an explanation of mental health symptoms. The overall results of this survey study vary based on country, but under-recognition of mental health disorders is a common theme among respondents (Duffy et al., 2021). In the Crowe et al. (2018) study, results showed that only 58% of people were able to correctly recognize a child with depression when given a certain vignette. Other studies show that recognition of other mental health disorders like schizophrenia and anxiety was even lower (Campos et al., 2018; Crowe et al., 2018; Duffy et al., 2021; Tissera & Tairi, 2020; Wickstead & Furnham, 2017).

Contributing factors to the lack of correct labels can sometimes be attributed to using normalized labels for mental health conditions like stress or common life problems. The use of alternative labels can cause delays in professional help-seeking behaviors. An Australian study found that when people labeled a person with depression with a different mental health disorder they were more likely to believe that the individual could deal with the problem on their own versus needing professional help (Tissera & Tairi, 2020).

Mental Health Stigma. Stigmatizing attitudes toward mental health can be associated with adolescents' preference to seek informal help for mental health conditions versus formal help (Dey et al., 2019). Sociological literature exists supporting the concept that labeling a person as mentally ill correlates with stigmatizing beliefs and attitudes (Link et al., 1989). These stigmatizing attitudes have been proven to be a barrier to adolescents receiving mental health treatment (Katz et al., 2020). Unfortunately, many adolescents are faced with a limited ability to provide help to their peers during a mental health crisis (Katz et al., 2020). This can often be associated with low MHL and creates disruption to the help-seeking process because again, research supports how adolescents often seek informal help over professional help (Dey et al., 2019). The negative perceptions of mental health disorders found among adolescent populations, high levels of negative attitudes, and negative beliefs can be associated with reduced help-seeking (Reavley & Jorm, 2011; Yap et al., 2013).

Perry et al. (2014) indicated that there are two aspects of stigma that are important to note when it comes to mental health disorders. First, public stigma recognizes negative prejudicial attitudes and discrimination toward people who have mental health disorders from the general population (Perry et al., 2014). Second, self-stigma recognizes individuals who internalize mental health stigma and have negative attitudes and beliefs around concepts of mental health (Katz et al., 2020).

A number of professions exist to provide mental health services to those suffering from mental health disorders (Jorm, 2012). However, high standards of care are not enough to ensure that people seek out mental health services. Belief that professionals have something to offer has been proven to increase mental health help-seeking (Jorm, 2012).

Showing communities that they can believe in mental health professionals can be difficult, and a range of countries sought to understand this better. Public surveys were completed to study the beliefs of community members around mental health professionals and treatments, and the results of these studies showed major discrepancies including differences in public and professional views of mental health (Jorm, 2012). A consistent finding was that members of the public viewed informal help like family and friends for mental health disorders in a positive light. The beliefs about informal help were viewed more positively than help from mental health professionals (Wickstead & Furnham, 2017). Historical evidence does support that it is possible to change community beliefs about mental health treatment, however (Campos et al., 2018; Kometsi et al., 2020). Further research on this topic could help professionals find ways to change these community beliefs. This would help increase MHL and help-seeking behaviors.

In adolescent populations, not being able to recognize a problem, not knowing where to get help, and beliefs that professional help will not make a difference can be attributed to low MHL (Dey et al., 2019). Mental health stigma correlates closely with MHL and limits help-seeking behaviors in both children and adults (Jorm, 2012). MHL includes mental health stigma and is a Western scientific conceptualization that conflicts with folk beliefs (Jorm, 2012). These conflicts are seen strongly in people from cultural minorities and developing countries (Jorm, 2012). People in minorities often do not use mental health services, and low MHL is a barrier within these communities (Jorm, 2012). For example, in Asian communities within the United States, it has been found that people lack knowledge of what a mental illness is as well as how to detect early signs and symptoms (Jorm, 2012). These communities are often unaware of the treatments available and how to access these treatments (Kim et al., 2017).

Crowe et al. (2018) indicated that only a minority of people who are experiencing mental health symptoms receive treatment for their mental health disorders. Multiple studies support that the average treatment delays for mental health disorders ranges from 1–14 years for mood disorders, 3–30 years for anxiety disorders and 6–18 years for substance use disorders (Crowe et al., 2018). Marshall et al. (2005) further supported these findings and reported that help-seeking delays are also common in those with severe psychotic disorders. Years of research show that delays in help-seeking increase negative consequences for those with mental health disorders (Altamura et al., 2008). Studies indicate that the longer one goes without treatment for mental health disorders, the poorer the outcomes of treatment and overall health will be (Altamura et al., 2008, 2010; de Diego-Adelino et al., 2010; Marshall et al., 2005).

Research in low- and middle-income countries like Ethiopia and India support that stigma has a direct impact on help-seeking behaviors (Perry et al., 2014; Shibre et al., 2001). Individuals suffering from mental health disorders often do not want to disclose their symptoms with healthcare professionals or within their families (Perry et al., 2014; Shibre et al., 2001). To reduce discrimination within these countries, the implementation of educational campaigns to improve MHL is needed (Sartorius & Schulze, 2005). Stigma has been proven to be a universal phenomenon, but certain target areas have experienced this more. A qualitative study conducted by 50 researchers indicated that stigma is a stronger barrier to help-seeking in lower resource areas (Perry et al., 2014). Vulnerable members of rural communities like the poor, women, children, and ethnic minorities were proven to engage in even less help-seeking due to stigma (Clement et al., 2010; Perry et al., 2014). Thus, there is a clear need for research in rural communities.

MHL Findings

Due to significant levels of mental health disorders among adolescent populations and low to moderate levels of MHL, it is important to explore existing literature on MHL and current programs and interventions. By understanding existing MHL theories, researchers can provide clearer, more logical models to help change MHL interventions. New and improved interventions are needed because adolescent MHL studies are currently lacking (Mansfield et al., 2020). Several studies support the importance of examining levels of MHL because the topic is both understudied and important (Attygalle et al., 2017; Tissera & Tairi, 2020).

The WHO notes that 10–20% of adolescents worldwide have experienced a mental health problem, many of whom go untreated (WHO, 2021). Untreated mental health disorders often extend into adulthood and can lead to lasting physical and mental impairments. Community providers are responsible for finding quality interventions that will enhance an adolescent's resiliency and strengthen their protective factors (WHO, 2021). By treating these mental health disorders in adolescence, the severe impact on teenagers and adult populations is expected to decrease. Teenagers are specifically at risk of mental health disorders due to a number of factors including environment, discrimination, poverty level, abuse history, and exposure to violence (Tissera & Tairi, 2020). The lack of access to quality support increases levels of risk, and this risk often carries into adulthood if not treated. Tissera and Tairi (2020) reported that adolescent help-seeking behaviors are essential for maintaining mental health.

By increasing MHL, community members are encouraged to seek help early from appropriate resources; this is especially important during adolescence (Tissera & Tairi, 2020). Early recognition of mental health disorders benefits young people, and those who can recognize mental health disorders not only tend to seek help more frequently but also have better treatment

outcomes (Tissera & Tairi, 2020). Mental health disorders that go untreated often result in negative outcomes, such as mental health symptoms affecting exam performance and dropout rates for college students (Tissera & Tairi, 2020). Stallman (2008) supported this theory when findings showed that students who experienced high levels of stress were unable to work or study for 8 days within a 4-week period and often had a lower capacity for work. These educational impacts can have lifelong consequences, especially for those who cannot complete their college courses (Scutella & Wooden, 2008). In fact, further studies show that an estimated 86% of individuals with a mental health disorder withdraw from college prior to completing their degree (Tissera & Tairi, 2020). Findings further supported that lack of help-seeking and mental health treatment in adolescence can carry into adulthood (Tissera & Tairi, 2020).

The likelihood of a person developing a mental health disorder is high and can be seen through the increase of mental health problems throughout one's lifespan (Jorm, 2000; WHO, 2021). Early identification and intervention of these mental health disorders can be increased through MHL (Jorm, 2000, 2012). Awareness campaigns used to educate the public about MHL and available treatment options have been proven to be valuable tools in the reduction of stigma in communities. These campaigns promote and encourage help-seeking behaviors (Duffy et al., 2021; Jorm, 2012). Having a better understanding of MHL within one's own community can help individuals identify the educational campaigns most needed in their area.

Research findings also indicate that mental health problems are higher among individuals who have similar characteristics, including interpersonal and financial problems (Handley et al., 2018). These results support previous findings that indicated that mental health disorders among rural populations are important to study (Fuller-Thompson et al., 2016; Handley et al., 2018). Individuals in community settings might normalize distressing life events, which help them to

rationalize responses to situations they may be experiencing (Handley et al., 2018). This normalization can prevent individuals from recognizing a potential need for professional help, including physical responses to distressing life experiences. Individuals might also assign symptoms to a physical cause versus a mental health disorder. For example, feelings of tiredness as well as weight change can be both a physical condition as well as a mental health symptom; therefore, it can be disguised well (Attygalle et al., 2017). However, Attygalle et al. (2017) found that that the trajectory of mental health disorders can be changed through early detection and early intervention. MHL gives communities the opportunity to have a direct impact on changing these trajectories.

Again, adolescents commonly do not seek mental health services when facing mental health problems. This has become an increasingly pressing public health concern with growing numbers of mental health problems during the COVID-19 pandemic (Tullius & Beukema, 2021). Findings supported that mental health problems among adolescents have grown over the past 3 years due to social isolation, lack of future outlooks, and problematic home environments (Tullius & Beukema, 2021). By strengthening MHL in adolescents, communities have the opportunity to prevent worsening of mental health problems as well as delayed help-seeking (Tullius & Beukema, 2021).

Poor help-seeking rates have been shown to be related to mental health symptoms, and scholars have sought to understand what contributes to help-seeking behavior (Katz et al., 2020; Kutcher et al., 2016). Existing research has focused on systemic barriers like economic hardship, access to psychiatric services, and awareness of existing services (Katz et al., 2020; Kutcher et al., 2016). Other scholars have expanded their research by looking at psychological factors affecting help-seeking including utilization of psychiatric services, attitudes toward professional

help (Clough et al., 2020), and skepticism toward psychiatry as a profession (Swami & Furnham, 2011). Findings from these studies indicate that there is a separation between lay perceptions of health and those with scholarly knowledge (Swami & Furnham, 2011). This has been seen to influence how community members seek help for both physical health and mental health (Andersén et al., 2017). Failure to be able to identify mental health symptoms as well as inability to label psychiatric conditions negatively impacts help-seeking behaviors (Jorm et al., 2006; Wright et al., 2007). Inability to identify these symptoms or label them has a direct impact on communication with practitioners. Although practitioners are trained to identify these conditions, they are sometimes missed when patients are unable to communicate their symptoms in psychological terms versus somatic terms (Melin et al., 2018).

Again, research has found that conceptual mental health models that lay people use to describe mental health disorders do have an impact on help-seeking behaviors (Campos et al., 2018; Kometsi et al., 2020). Existing conceptual models are believed to impact choice of treatment, compliance with treatment, as well as impacting stigmatizing attitudes toward individuals diagnosed with mental health disorders (Campos et al., 2018; Kometsi et al., 2020). When exploring concepts of MHL in the general public, it has been found repeatedly that low levels of MHL and stigmatizing beliefs are impeding help-seeking (Tay et al., 2018). Furthermore, psychosocial explanations for mental health disorders are often favored over biological explanations for the development of these disorders (Campos et al., 2018; Kometsi et al., 2020). A study among Finnish populations showed that the common belief is that depression is a matter of personal will (Aromaa et al., 2010). Further studies indicate that stressful circumstances are often viewed as the cause of a number of mental health disorders (Hansson et al., 2010). Other researchers have reached similar findings and reported that social environment

and life events are more strongly associated with the diagnosis of a mental health disorder or mental health symptoms rather than biological factors, including depression (Tissera & Tairi, 2020).

A study published in 2017 supported MHL in relation to community mental health initiatives (Attygalle et al., 2017). The objective of this study was to describe aspects of MHL in regard to recognizing problems, awareness of interventions, and referral options available to adolescent populations (Attygalle et al., 2017). Researchers compared adolescent scores from one country to another and found that results were the same among groups of adolescents from a multitude of countries (Attygalle et al., 2017).

The WHO refers to the proportion of people who need mental health care but do not receive it as the "treatment gap" (Macayano et al., 2015; Patel & Prince, 2010). The treatment gap for mental health disorders in developed countries is 35–50%, whereas in less developed countries this gap accounts for 7690% of people (Patel & Prince, 2010).

The WHO examined 28 countries and found that only a minority of the population received treatment for their mood, anxiety, or substance use disorders during the year their mental health symptoms began (Crowe et al., 2018). This proved to be true for both developed and underdeveloped countries. For those who received treatment, the median delay range was up to 14 years for those with mood disorders and up to 30 years for anxiety disorders. For those with substance use disorders, individuals waited up to 18 years to receive help for their disorder. Help-seeking delays are very common (Marshall et al., 2005). Many published studies indicate that the longer someone goes without treatment for a mental health disorder, the poorer their outcomes of treatment tend to be (Altamura et al., 2008, 2010; de Diego-Adelino et al., 2010; Marshall et al., 2005). This can have a severe impact on an individual's success in the world.

Treatment Gap. Across the globe a high prevalence of mental illness exists, which impacts the quality of life for both individuals and their communities (WHO, 2006, 2008). Compared to physical health the general population has very limited knowledge when it comes to mental health and factors that might influence a person's mental health (WHO, 2006, 2008). The inability to recognize mental health disorders can have a direct impact on one's help-seeking behaviors for such disorders (Wickstead & Furnham, 2017). Many individuals fail to identify symptoms of common mental health disorders like depression and anxiety (Armstrong et al., 2019). The lack of identification of mental health symptoms or disorders results in failure to comply with treatment strategies that are endorsed by professionals in the field (Armstrong et al., 2019; Jorm, Nakane, et al., 2005).

Mental health disorders such as schizophrenia are considered to be a leading cause of disability adjusted life years. Mental health disorders are known to contribute to severe educational, social, and occupational impairments (Macayano et al., 2015). Furthermore, mental health disorders are directly related to physical illnesses and premature death (Macayano et al., 2015). Low- and middle-income countries find that the burden of mental health disorders are higher, and governments in these countries do not invest in mental health care (Macayano et al., 2015). In fact, Macayano et al. (2015) found that only 75% of people who need mental health care in lower to middle income countries actually receive mental health help because care is unavailable.

In research conducted by Caldwell and Jorm (2000), they found that nurses and psychiatrists have higher levels of MHL than many lay people. Higher levels of MHL have been positively associated with help-seeking for mental health disorders (Clough et al., 2020). In fact, due to these findings many programs have been developed within communities to increase MHL

(Wickstead & Furnham, 2017). Supporting low help-seeking findings, the WHO published data that indicated that 25% of adolescents will experience at least one major depressive episode by the time they turn 18 and only 20% of them will seek mental health treatment (Singh et al., 2019; Tay et al., 2018). Furthermore, less than 40% of those that receive mental health treatment will comply with their treatment (Singh et al., 2019; Tay et al., 2018). Unfortunately, adolescents who experience mental health difficulties like depression are more prone to have lower functional, emotional, cognitive and social development (Hudson et al., 2019). Findings have shown a research gap when it comes to adolescents and MHL.

Adolescence. A 2021 study by Tullius and Beukema examined attitudes of adolescents regarding mental health, help-seeking behaviors, and interventions that would promote MHL. The mixed-methods design included online focus groups involving discussion, interviews, and surveys (Tullius & Beukema, 2021). This study looked at mental health in adolescents pre, during, and post COVID lockdown and found that adolescents experienced a lack of attention for mental health in their secondary education. Researchers looked at beliefs about mental health treatment, knowledge about help-sources, stigma and negative attitudes. Preliminary findings suggested that MHL and competencies around this are necessary for adolescents when it comes to managing their mental health, and this was especially true in crisis situations like COVID (Tullius & Beukema, 2021).

Adolescents are characterized by their emerging sense of increasing independence, growing responsibilities, and development of decision-making skills (Bjørnsen et al., 2019). Young people begin making decisions about their health and well-being during these adolescent years (Katz et al., 2020). It is important during these formative years that they become capable of making healthy decisions, and MHL promotes this (Bjørnsen et al., 2019). Growing numbers of

research studies exist supporting the benefits of health literacy, and MHL is expected to have similar attributes (Bjørnsen et al., 2019).

In the United States the onset of anxiety disorders in adolescents is typically around 11 years of age (Tissera & Tairi, 2020). Delayed recognition of mental health disorders is often associated with the onset of mental health disorders during adolescence or young adulthood (Jorm, 2012). People often experience mental health disorders during a period of their life where their brains and wealth of knowledge are underdeveloped (Jorm, 2012). Existing evidence indicates that most lifetime mental health disorders begin by the time a person reaches 14 years old and increases by the time a person is 24 (Tissera & Tairi, 2020). These findings support the idea that early help-seeking and intervention can help prevent adverse experiences tied to mental health disorders. Findings supported that MHL is important in adolescents to catch mental health disorders and treat them, so they do not follow them into adulthood (Tissera & Tairi, 2020).

A critical life phase for all human beings is the phase of adolescence. Adolescence can be a developmental, transitional phase in a child's life and offers great opportunities for them to improve their overall health. During adolescence a person is receptive to educational interventions, some of which promote MHL (Morgado et al., 2021). Adolescence is known to be a critical period of transition in one's life, characterized by physical, emotional, cognitive, social, and behavioral development. Therefore, one can note that MHL is important to promote in this highly developmental stage (Neufeld et al., 2017).

Psychoeducation around mental health is associated with prevention and intervention, particularly when used in a school setting. There are a limited number of studies that examine levels of MHL among adolescents (Tissera & Tairi, 2020). However, some studies exist. Tissera and Tairi (2020) studied adolescents between the ages of 12 and15 years old and sought to

understand recognition of depression and psychosis as well as mental health problems associated with loss (Tissera & Tairi, 2020). They looked at ratings of problem severity, understandings of help available and whether gender, school year, or experience with mental health influenced adolescent MHL (Tissera & Tairi, 2020). Through the use of a vignette data collection tool, Tissera and Tairi (2020) found that adolescents were able to identify depression as a mental health disorder, but confusion existed about risk-factors of this diagnosis and what constituted healthy coping skills. Results of this study also indicated that in terms of help-seeking, most adolescents steer toward informal help rather than seeking formal help (Tissera & Tairi, 2020).

Findings supported the suggestion that adolescents are often more likely to seek help from a friend or peer versus a helping professional (Beaudry et al., 2019). Evidence indicates that adolescent mental health first aid is important, especially because researchers know that most young people prefer to talk to their peers rather than a mental health professional (Offer et al., 1991). Young people, however, are not well equipped to help their peers who are suffering with mental health disorders. Dunham (2004) found that only a quarter of individuals between 13 and 16 years old indicated they would seek out help from an adult helper; half of the population indicated they would reach out to their friends instead.

Global studies support these findings, indicating that half of adolescents can recognize depression and only a few can recognize social anxiety disorder (Tissera & Tairi, 2020). MHL in adolescents is low; a study published in 2016 identified that 40% of vignette respondents were able to correctly label depression whereas only 1% of participants could appropriately label social anxiety disorder (Tissera & Tairi, 2020). Like other studies, participants were found to mislabel mental health disorders like social anxiety and mislabeled the social anxiety vignette as

"shy" or "quiet." Instead, participants should have identified the person in the vignette as having "low self-esteem" and "low confidence" (Tissera & Tairi, 2020).

Researchers have found that many adolescents do not have a positive view of mental health, and they often use lay terms to describe mental health conditions due to knowledge they have attained from media (Armstrong et al., 2000; Pow, 2003). Many adolescents discriminate between conditions; for example, they may view substance use more harshly than they do mental illness alone and often correlate mental illness and physical illness (Katz et al., 2020). Furthermore, adolescents often correlate dangerousness and blame with mental illness, which can lead to discrimination (Katz et al., 2020). Many times, adolescents also attribute symptoms of diagnosable disorders to normal adverse life experiences (Tissera & Tairi, 2020). This mindset often takes away from the seriousness of mental health disorders. It is also important to note that adolescents have fewer life experiences to call on, which means they have less experience or information to recognize signs of mental health disorders. These impact identifying disorders or symptoms for themselves or their peers (Tissera & Tairi, 2020).

Due to the limited abilities adolescents have in identifying mental health disorders, it is important for supportive adults to be capable of recognizing these mental health symptoms in adolescents (Jorm, 2012). Assistance from others can help in facilitating recognition of mental health disorders in adolescents, especially when they lack knowledge and experience at times to take action (Jorm, 2012). Social networks can also assist in providing ongoing social support, which has proven to be beneficial in recovery from things like depression (Keitner et al., 1995).

Adolescents often seek help from their peers, family, or other loved ones before seeking help from professionals (Jorm, 2012). This is problematic because of the lack of education and ability to provide substantial help. The rate at which one recognizes a mental health disorder can

have a significant impact. As recognition rates improve and mental health disorders are discovered, earlier benefits for young people increase (Tissera & Tairi, 2020). Adolescents who can identify a mental health disorder are more likely to seek help and will most likely have healthier treatment preferences (Tissera & Tairi, 2020). The concept of self-labeling may contribute to this because self-labeling of specific mental health disorders helps adolescents determine what actions they should take as well as increase their capability to explain symptoms better to helping professionals (Tissera & Tairi, 2020).

Adolescents have also been known to act as agents of change and can continue this trajectory when it comes to mental health and MHL within their communities. Therefore, researchers can conclude that targeting adolescent populations and their MHL is important in community mental health initiatives (Attygalle et al., 2017).

Interventions and Literacy Measures. Multiple interventions have been studied across several different settings, and one study showed that an undeveloped area of interest in research was peer-to-peer training (Duffy et al., 2021). This is problematic due to existing literature indicating that adolescents also seek help from their peers. Duffy et al. (2021) found that there are seven effective components to interventions and programs that increase MHL. These seven components to interventions and programs can be seen in Table 1.

Table 1

Effective Components of MHL Interventions

Component	Intervention
1	Preliminary research should be carried out, and this should be done with an audience to whom the message is going to be directed. Focus-group research and qualitative research designs help to ensure researchers that messages for targeted audiences are tailored appropriately.
2	There needs to be a theoretical basis on which individuals can build their campaign. Not many campaigns currently exist that demonstrate they have a solid theoretical basis.
3	Intended audiences needed to be separated into homogenous groups to ensure that target messages are tailored to the groups being studied.
4	Intended messages need to be designed in an appealing way.
5	Appropriate types of media should be used to relay messages.
6	Evaluations need to be done to ensure that the messages are reaching the targeted audiences. If the message is not being relayed appropriately, a different approach may be needed.
7	Campaigns need to be evaluated. This helps one identify if it was successful or if changes might be needed. Evaluations need to be built into the campaign.

In a study conducted by Mcluckie et al. (2014), they found that mental health education plays a large role in promoting healthy levels of knowledge and attitudes toward mental health. This is especially true when MHL is integrated into existing curriculum (Mohammadi et al., 2020). Improving MHL among adolescents is suggested to be most successful if it is normalized and integrated into a child's daily activity. Cooperation among families and professionals to enhance interventions has the potential to promote increased MHL, but there are some barriers to successful interventions.

A study published by Mohammadi et al. in 2020 looked at prerequisites, facilitators, and barriers to intervention. Prerequisites for improving MHL were examined, and seven key themes emerged. These themes include (a) education at the school level, (b) parent's education, (c) training of trainers and providers, (d) cooperation and participation among providers,

(e) intervention assessment and monitoring, (f) provision of educational content, and (g) consideration of the cultural and linguistic issues (Mohammadi et al., 2020). Mohammadi et al. also identified five common themes among the way facilitators provide services. These themes were (a) use of interactive learning, (b) diverse and stimulating educational content, (c) employing trainers with different backgrounds, (d) having direct contact with people with mental health disorders, and (e) utilizing technological advancements in education. Finally, Mohammadi et al. found common barriers to improving adolescents' MHL through the use of interventions including (a) short intervention time, (b) challenges of collaboration, and (c) lack of available information sources.

The prominence of mental health disorders worldwide shows the broad impact mental health has on a large portion of the world's overall population. The high levels of mental health disorders are a concern for public health professionals because there are many consequences for individuals and families who go untreated (Sobocki et al., 2007; White & Casey, 2017). The concept of MHL was first proposed by Jorm et al. (1997) as an extension of already existing health literacy. Valid measures of health literacy exist and show that individuals who score low on their health literacy evaluations report worse health status and lower understandings of the medical conditions they are experiencing (Wickstead & Furnham, 2017). This has been the case when measuring MHL as well. Like health literacy measures, MHL measures also help community members understand what interventions work best to improve MHL. Seedaket et al. (2020) sought to understand what school-based interventions worked best to impart information about mental health disorders and mental health resources to adolescent aged students. All studies evaluated found that stand-alone interventions were successful in improving MHL in adolescents (Seedaket et al., 2020). Furthermore, contact-based group interventions were also

useful. This type of intervention used survivors of mental health disorders to educate adolescents by fostering interaction between a person with lived experience and students (Seedaket et al., 2020).

Two types of interventions are mostly used within existing literature to promote MHL among adolescents: school-based and community-based interventions (Seedaket et al., 2020). School-based interventions have been the most widely used, probably because adolescents spend most of their time in the school environment (Seedaket et al., 2020). One can conclude from this study the most effective way to improve MHL is to target adolescent populations within educational settings (Bagnell & Santor, 2012). For adolescent populations, vignette-based surveys have been used to target these audiences. Often computer-assisted telephone interviews or school-based surveys have been used (Dey et al., 2019). Many screeners for MHL have targeted adult populations without taking into consideration different levels of understanding in adolescents.

Jorm et al. (1997) developed the vignette interview used to measure MHL using an interview style. The vignette interview presents individuals with a description of a person with mental health difficulties and asks a number of questions related to that vignette. The participant completing the interview is asked to gauge what is “wrong” with the person portrayed in the vignette (Jorm et al., 1997; Jorm, Nakane, et al., 2005). Many measures of MHL exist within literature, but the vignette is the most widely used by researchers today. The vignette interview approach does have some limitations, however, when it comes to methodology. First, the vignette model does not offer a total subscale score which is used in other tools to measure MHL (Ratnayake & Hyde, 2019). Furthermore, the wording in the screener does not always account for knowledge, beliefs, attitudes, or opinion (Ratnayake & Hyde, 2019). The vignette interview

style of measuring MHL is also time-consuming when it comes to administering the tool (Ratnayake & Hyde, 2019).

Mansfield et al. (2020) sought to explore ways in which MHL has been measured in adolescent research to date. They sought to understand the most common study designs, how MHL is conceptualized, the mostly commonly measured domains of MHL, evidence of validity for use in adolescent samples on existing measures, and if there was enough methodological homogeneity to conduct meta-analyses (Mansfield et al., 2020). Mansfield et al. found that there has been an increase in school-based MHL studies in adolescents and results have helped improve MHL and help-seeking behaviors.

For different populations, other research methods may need to be considered. Seedaket et al. (2020) indicated that instead of newspapers or written vignettes, use of videos or movies might be better for adolescents (Seedaket et al., 2020). Education is critical when it comes to improving mental health knowledge and reducing mental health stigma. Increase in education and reduction of stigma helps to improve access to care for individuals suffering from mental health disorders (Duffy et al., 2021). Four randomized trials were conducted in American and Pakistani secondary schools and looked at educational interventions that would enhance MHL (Perry et al., 2014).

The HeadStrong program was proven to be effective in increasing MHL among ninth and 10th graders; however, supplemental teaching throughout the year was deemed to be necessary (Katz et al., 2020). The Headstrong program was also effective in reducing mental health stigma regarding depression (Katz et al., 2020). The Headstrong program, however, was not effective in impacting respondents' attitudes toward help-seeking. This implies that interventions should be expanded to target beliefs and attitudes regarding mental health disorders.

MHL scales have been known to work (Lanfredi et al., 2019), and authors of one study reported that knowledge about mental health disorders, attitudes, willingness to interact with those with mental health disorders, and help-seeking behaviors were all improved after mental health education was conducted in school-based studies (Lanfredi et al., 2019; Seedaket et al., 2020). However to improve MHL effectively, interventions need to be able to be applied to everyday situations, need to be capable of being used across lifespans, and need to be able to be integrated into specific structures like schools and community organizations. Based on the concepts of MHL, interventions need to be evaluated to ensure that they can improve all components of existing constructs (Katz et al., 2020; Seedaket et al., 2020).

Jorm et al. (1997) indicated that MHL contains seven different attributes, all of which are important to consider when measuring MHL. There are low levels of knowledge around mental health, and for a number of reasons it is important to target this in future research. A part of understanding MHL is conducting studies that give researchers a better understanding of what is known and what is not among different populations. To do this, researchers need methodologically robust scales for measuring MHL that work. Unfortunately, there were several difficulties with existing measurements of MHL until 2015 (O'Connor et al., 2014; O'Connor & Casey, 2015). As mentioned, the most common measure of MHL was the vignette interview (Jorm et al., 1997), and although effective at times, it was hard to administer for the length of time it took and there was no scale-based scoring system (Ratnayake & Hyde, 2019). Furthermore, this method of understanding MHL was not useful overall because it did not measure each of the seven attributes that make up the definition of MHL (Ratnayake & Hyde, 2019).

A 2015 study explored the usefulness of the Mental Health Literacy Scale (MHLS), a 35-question screener used to assess all attributes of MHL. The use of the assessment can provide useful information to communities that will better help them in creating MHL improvement programs. The results of three-phase testing indicated that this scale demonstrated good internal and test-retest reliability (O'Connor & Casey, 2015). The MHLS had substantial methodological advantages when compared to existing scale-based measures of MHL. The MHLS is a versatile assessment that can be used with both individual and group populations as well as with lay people and professionals (O'Connor & Casey, 2015). O'Connor and Casey (2015) noted the rationale for included questions on the scale which can be seen in Table 2.

Table 2

Rationale for Item Development

Attribute	Development Rationale	Response Format
Recognition of disorders	Items had a stronger focus on the most common disorders (based on data from the Australian Bureau of Statistics, 2007). Descriptions of the disorders were based on the Diagnostical Psychiatric Association (2000) criteria and grouped into vignette items and specific diagnostic items. No items were affected when the Diagnostic and Statistical Manual of Mental Disorders transitioned to the 5th edition.	Multiple choice question
Knowledge about how to seek mental health information	Items were adapted from the vignette interview with permission from Jorm. Items were also included to assess an individual's capacity to access mental health information, comparable to the approach for measuring Health Literacy (Crowe et al., 2018). The format of capacity items was modeled on the Patient Activation Measure (Hibbard et al., 2004).	Multiple choice question and 4-point Likert scale
Knowledge of risk factors and causes	Items assessed knowledge of risk factors for developing mental illness, including a number of common misconceptions about risk factors. Items were also developed assessing knowledge of common at-risk groups, which were based on Australian Bureau of Statistics (2007) data.	Dichotomous: true/ false

Attribute	Development Rationale	Response Format
Knowledge of self-treatments	Items were developed based on the clinical experience of the clinical panel and included knowledge of common strategies typically recommended by mental health practitioners to improve mental health and wellbeing.	Multiple choice question
Knowledge of professional help available	Items were developed based on the clinical experience of the clinical panel and included knowledge of the services typically provided by mental health practitioners.	Multiple choice question
Attitudes that promote recognition and appropriate help-seeking	Items were adapted from the vignette interview with permission from Jorm, and similarly worded additional items were included based on the feedback panel.	Likert (5-point scale)

Future Research

As of this date, the most studied mental health disorders were depression and schizophrenia (Koutoufa & Furnham, 2014; Park et al., 2018; Thorsteinsson et al., 2014; Wong et al., 2010). Early published works indicated that only 40% of participants in MHL studies were capable of identifying depression (Jorm et al., 1997). Recent studies have shown that there has been improvement in the general public's recognition of depression as a mental health disorder, with up to 70% of individuals being capable of recognizing depression and labeling it correctly when asked (Jorm et al., 2006; Swami et al., 2011).

Further studies indicate that MHL in the general population as well as among adolescents has been increasing over time, but still MHL remains at low to moderate levels (Nobre et al., 2021). These numbers contribute to the known absence of help-seeking by adolescent-aged populations. Lack of help-seeking influences development and the recurrence of psychiatric disorders (Nobre et al., 2021). A study published in the *International Journal of Environmental Studies* supported the idea that adolescents look to other adolescents for guidance, and also found that intervention programs that utilized other adolescents and their knowledge proved successful

in increasing MHL (Nobre et al., 2021). Research on improving MHL among young people is very limited (Duffy et al., 2021), and further MHL research is needed.

Summary

Existing literature on MHL focuses more on the adult population versus adolescent populations. The improvements in the definition of MHL make it important to cover all components of the framework, including knowledge, help-seeking, and stigma components. Studies conducted using students or adolescents have often focused on individuals enrolled in health-related courses, but few studies have assessed MHL among a range of students. Mental health disorders in rural areas are rarely studied, but mental health disorders can be more prominent in rural areas due to stigma and stoicism. Mental health help-seeking is also lower in rural areas than in urban areas, and MHL remains at a very low level. Therefore, MHL remains a public health concern.

Many mental health disorders have an early onset that present during the adolescent years and have significant long-term impacts on these individuals throughout adulthood. Therefore, studying adolescent populations is equally as important in understanding MHL and in understanding unique ways that adolescents deal with mental health problems. Tissera and Tairi (2020) supported this in their research and reported that more data are needed to document adolescents' knowledge and beliefs regarding mental health and available interventions.

Existing literature recommends that future MHL research focus on increasing ways to understand and promote mental health as well as subjective wellbeing, coping and resilience, and optimal functioning in humans. Much of the existing literature in the field focuses on adult populations, and it should be expanded to adolescents. Jorm et al. (1997) indicated that there are gaps that need to be studied to increase help-seeking behaviors; these include both rural

communities and adolescents. Furthermore, Mansfield et al. (2020) indicated that to best serve adolescent populations, researchers need to develop reliable measures that acknowledge adolescents' developmental stages and understanding. With these reliable measures, researchers hope to gain essential information to tackle the barriers faced by those hoping to use interventions to improve mental health.

Chapter Three: Methods

Overview

Mental health literacy (MHL) impacts communities in a multitude of ways, further research on the topic can help promote mental health services as well as empower communities to intervene earlier (Morgado et al., 2021). Having a better understanding of knowledge and attitudes surrounding mental health help-seeking in adolescents can help identify targets that can be modified and improved to increase help-seeking behaviors (Brooks et al., 2019). This chapter addresses the design and methods used in this study to understand adolescents' MHL.

Design

This study used a cross-sectional design and an anonymous quantitative survey to collect data. Cross-sectional studies examine data from populations at a specific point in time. Participants in the study typically have particular variables of interest; in this study, participants' age, grade, experience with stigma, and MHL score were examined. Cross-sectional studies are typically used in the social sciences and are used to record information present among populations. When using a cross-sectional approach, variables within the study are not manipulated (Cherry, 2019). Furthermore, this type of research is used to describe different characteristics among populations but not used to determine the cause-and-effect of relationships.

This specific survey invited high school aged participants from multiple grade levels to participate. Non-probability sampling methods were used based on non-random criteria and convenience sampling (McCombes, 2022). Based on this type of research one should note that there was a higher risk of sampling bias. This type of research is used to understand small or under-researched populations, both of which were true for this study (McCombes, 2022).

Cross-sectional studies are strictly observational and known as being descriptive research, making this the most realistic design for this study. There is no causation or relational research conducted. Therefore, results cannot be used to determine the cause of something.

Research Questions

RQ1: Does age influence mental health literacy scores?

RQ2: Does gender influence mental health literacy scores?

RQ3: Does having a mental health diagnosis influence mental health literacy scores?

RQ4: Does experiencing mental health stigma influence mental health literacy scores?

Hypotheses

H1: Age will have a significant effect on mental health literacy scores.

H2: Gender will not a have significant effect on mental health literacy scores.

H3: Groups with a mental health diagnosis history will score differently than those with no mental health diagnosis.

H4: Those who report experiencing mental health stigma will have lower mental health literacy scores.

Participants and Setting

The participants for this study were recruited from Facebook, and individuals that participated were between the ages of 14 and 17 years old and in Grades 9–12. The survey was only published in English, so English-proficient students completed the survey. Data were collected from a purposeful sample size of 120, which was determined by previously running a G Power analysis. Participants accessed this survey through an online portal called zoho.

Inclusion and Exclusion Criteria

To participate in this study, participants met certain criteria. The criteria for participation are listed below.

1. Provide valid informed consent signed by a parent prior to completion of the survey.
2. Be between the ages of 14 and 17 years old.
3. Be enrolled in Grade 9 through 12.
4. Any gender and race.
5. Must be proficient in the English language.
6. Living in a rural area.

Some participants may be excluded from participation based on the criteria listed below.

1. Individual has not completed the entirety of the consent form.
2. Individual is not between the ages of 14 and 17 years old.
3. Individual is not enrolled in Grade 9 through 12.
4. Individual is not proficient in the English language.
5. Not living in a rural area.

Advertisement and Recruitment

A social media post was placed on Facebook in a number of groups for recruitment (see Appendix F). Parents completed a consent form that described in detail the study and expectations for participants. Once the consent form was completed, participants were then redirected to the survey platform and completed the survey at their convenience. Once completed with the survey, participants were forwarded to a form to complete to receive their $2.00 compensation. Compensation for participation was then sent out via mail.

Instrumentation

Participants were screened based on inclusion and exclusion criteria.

Demographics Questionnaire

Participants completed a demographic questionnaire (see Appendix B) as part of the survey, and the following demographics were requested: gender, age, if they have received mental health services before, and if they had experienced mental health stigma. The following questions were used to collect demographic information:

1. What is your current age at the time of this survey?
2. What grade are you in at the time of this survey?
3. What is your gender?
4. What is your race?
5. Have you ever received mental health services?
6. Have you experienced mental health stigma before? Stigma is defined as when someone sees you in a negative way because of your mental illness.

Mental Health Literacy Scale

The Mental Health Literacy Scale (MHLS) can be seen in Appendix D. This scale is a 35-item questionnaire created in 2015 (O'Connor & Casey, 2015) that is used to measure a person's ability to recognize mental health disorders, gauge one's knowledge of causes and factors, and identify knowledge of help-seeking information and professional treatments as well as attitudes toward help-seeking and promoting mental health. This literacy scale has been used in a number of published studies. The MHLS uses a Likert scale scoring system based on a 4- and 5-point scale; the possible point range is 35 to 160, where higher scores indicate higher levels of MHL (O'Connor & Casey, 2015). The MHLS has strong internal consistency (a = .87)

and good tests-retest reliability (r = .79). This is scored by summing all responses after reverse scoring 12 items (O'Connor & Casey, 2015). The MHLS reads at an 8.7 grade level, indicating it is appropriate to use with a high school population.

The MHLS originally consisted of all attributes coined by Jorm in 1997. The concepts were divided into six attributes relating to mental health disorder recognition as well as knowledge and attitudes regarding mental health (Korhonen et al., 2022). The survey can be better understood by looking at the theoretical framework laid out in Table 3.

Table 3

Theoretical Framework of MHLS by Items

Main Theme	Attribute	Item
Recognition	Ability to recognize specific disorders	Q1–Q8
Knowledge	Knowledge of risk factors and causes of mental illness	Q9–Q10
Knowledge	Knowledge of self-treatment	Q11–Q12
Knowledge	Knowledge of professional help available	Q13–Q15
Knowledge	Knowledge of how to seek information	Q16–Q19
Attitudes	Attitudes that promote recognition or appropriate help-seeking behavior	Q20–Q35

Items on the survey and scoring patterns can be reviewed in Appendix D. Permission to utilize this scale was gained from Matthew O'Connor on October 31, 2021 (see Appendix C). Per Matthew O'Connor's suggestion, Questions 5 and 8 were changed to be more inclusive of U.S. citizens.

Procedures

Administration of Procedures

The participants for this study were recruited from social media platforms, utilizing the approved invitation (see Appendix F). Parents were given access to a consent form using an online link, accessed directly from Facebook. The recruitment posting can be seen in Appendix F. After the consent form was completed, participants were redirected to the survey which could be completed at their convenience. To encourage participation, participants were offered $2.00 in compensation, which was sent to their home or PayPal account.

Inclusion criteria for participants include the following requirements:

- between the ages of 14 and 17 years old
- in Grades 9 through 12
- proficient in the English language
- living in a rural area

Data Collection

Data were collected from a purposeful sample size of 120, which was determined by previously running a G Power analysis. Participants accessed the survey through an online portal called Zoho, a web-based program that allows researchers to create surveys and generate reports. Data were de-identified and were imported into an Excel sheet that was used to run statistical analysis using SPSS.

Data Analysis

The following data were analyzed in this nonexperimental research design after the completion of surveys to collect participants' MHL score, mental health stigma history, mental

health treatment history, age, and gender. The analysis examined several different variables that are believed to be meaningfully related. This study did not introduce treatment or interventions.

Descriptive Statistics

Descriptive statistics are descriptive coefficients used to summarize a given data set. This data set can represent an entire population or samples of a population and are broken down into measures of central tendency and measures of variability (Hayes, 2022). When utilizing measures of central tendency, one looks at the mean, median, and mode. Measures of variability examine standard deviation, variance, minimum and maximum variables, as well as kurtosis and skewness (Hayes, 2022). This study used descriptive statistics to understand measures of central tendency and measures of variability for the following items: age, gender, grade, race, MHL score, prior mental health experience, and mental health stigma experience.

Tests

RQ1 asked if MHL scores and age are statistically related. This question utilized the Kruskal-Wallis test utilizing more than two groups. RQ2 asked if MHL scores and gender are statistically related. RQ3 asked if MHL scores and prior mental health treatment are statistically related. RQ4 asked if MHL scores and mental health stigma are statistically related. RQ2, RQ3, and RQ4 were tested using the Mann-Whitney test.

Summary

The participants for this study were recruited through the use of a social media platform utilizing the outline in Appendix F. Consent was gained by parents and participants through email. To encourage participation, participants were each offered $2.00 in compensation. Inclusion criteria for participants included the following requirements: (a) between the ages of 14 and 17 years old (b) in Grades 9 through 12 and (c) living in a rural area.

Non-probability sampling methods were used based on non-random criteria and convenience sampling. Based on this type of research, one should note that there is a higher risk of sampling bias. This type of research is used to understand small or under-researched populations, and research for this study was conducted using teens from several locations. This study's goal was to collect data exploring gaps in existing literature, allowing for improvement in future studies, and providing feedback for mental health professionals and local communities.

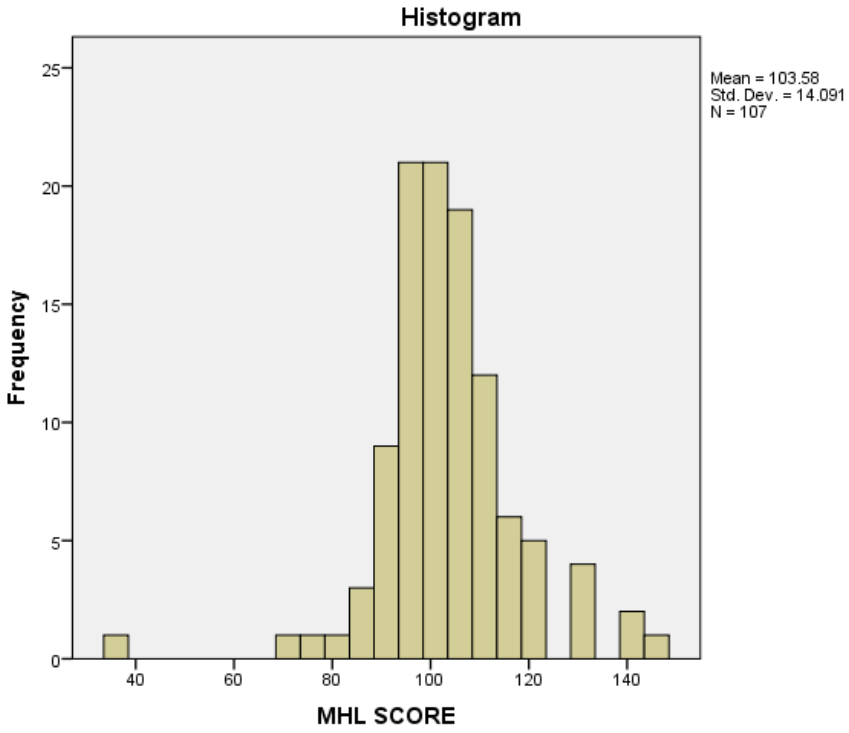
Chapter Four: Findings

Overview

This chapter presents a discussion of the findings, including descriptive statistics and the results from the data collection. For this study, it was originally anticipated that *t* tests would be used to analyze the data collected. However, it was found that when running the *t* test, the distribution of mental health literacy (MHL) scores was far from normal. This can be seen in Figure 2.

Figure 2

MHL Histogram



There were four hypotheses analyzed using the collected data. The Kruskal-Wallis test was utilized to analyze data for H1 and the Mann-Whitney test was used to analyze data for H2, H3, H4. Results from this study indicate only one null hypothesis could be rejected at the 0.05 level.

There were 120 participants in this study ranging from ages 14 to 17 years old and in Grades 9–12; 55 participants identified as female, 52 identified as male, and 13 identified as other. Over 69% of participants identified as White, 6.67% preferred not to answer, and the rest identified as a number of other races (see Table 4). A large portion of responses were from participants who identified as being 16 years old and in Grade 11. Descriptive statistics for a number of demographic variables can be viewed throughout this chapter.

Table 4

Race Descriptives

Participant's Ethnicity	*n*	%
American Indian or Alaska Native	8	6.67
Asian	4	3.33
Black or African American	14	11.67
Native Hawaiian or other Pacific Islander	3	2.50
White	83	69.17
Prefer not to answer	8	6.67
Other	0	0.00

Note. $N = 120$.

Descriptive Statistics

Diagnosis vs. Score

Results showed that in this sample of 120 participants, the average MHL score was 103 out of 160 possible points. The standard deviation was 13.980; a standard deviation close to zero indicates that data points are close to the mean, whereas a high or low standard deviation indicates data points exists above or below the mean. There was a minimum score of 36 and a maximum score of 144 out of 160, indicating a wide range of MHL scores. Furthermore, we can

see that out of 120 participants, the share of individuals who said they had been diagnosed with a mental health disorder by a professional was 35.83% (see Table 5).

Table 5

Diagnosis and MHL Descriptives

Questionnaire Statements	*n*	%
Yes, I have been diagnosed by a professional with a mental health disorder in the past.	43	35.83
No, I have not been diagnosed by a professional with a mental health disorder in the past.	70	58.33
Yes, I have a mental health disorder, but I was not diagnosed by a professional.	7	5.83

Note. $N = 120$.

Gender vs. Mental Health Literacy

Although a small percentage of participants answered "I prefer not to answer" or "Transgender" regarding the gender question, these results did not make up a significant statistical sample size (see Table 7). Therefore, these results were omitted from this part of the study. A sample size of 107 was used for this portion of the study, which skewed the mean a small amount when compared to the original sample size of 120. Descriptive statistics for the comparison of gender and MHL can be seen in Table 6. Furthermore, complete statistics on the gender of participants can be seen in Table 7.

Table 6

Gender and Mental Health Literacy Descriptives

	N	*M*	*SD*	Min	Max
MHL Score	107	103.58	14.091	36	144

Table 7

Gender Descriptives

Gender of Participant	*n*	%	Avg. MHL Score
Male	55	45.83	102.6538462
Female	52	43.33	104.4545455
Other	13	10.83	106.1538462

Note. $N = 120$.

Mental Health Literacy

Descriptive statistics for the overall MHL scores can be seen in Table 8. The mean for MHL scoring was 103.58 out of a 160-point possible score. The lowest score a participant had was 36 and the highest score attained was 144. There was an overall range between the two of 108. These results show that there was a wide range of MHL scores and knowledge about MHL. Statistics for MHL scores can be seen in Table 8.

Table 8

MHL Score Descriptives

	M	*SE*	Median	Variance	*SD*	Min.	Max.	Range
MHL Score	103.58	1.362	103.00	198.548	14.091	36	144	108

Results

Hypothesis One

The first hypothesis, based on RQ1, theorized that age would have a significant effect on mental health literacy scores. H1 was analyzed using the Kruskal-Wallis's test and sought to understand the relationship between MHL and age among rural adolescents. There were four age groups in this study, and 39.17% of participants identified as being 16 years old. More age

descriptives can be seen in Table 9. This table also shows the average MHL score for each age group.

Table 9

Age Descriptives

Age of Participant	*n*	%	Avg. MHL Score
14 years old	22	18.33	104.23
15 years old	25	20.83	100.20
16 years old	47	39.17	104.21
17 years old	26	21.67	106.42

The expected result for H1 was that age among rural adolescents would have a significant effect on MHL. However, no significant effect of age on MHL was found. When looking at those between the ages of 14 and 17 years old, no group scored significantly higher or lower than any other group being analyzed. Test statistics for H1 can be found in Table 10.

Table 10

H1 Test Statistics

	chi-square	*df*	Asymp. Sig.
MHL Score	4.143	3	.245

Hypothesis Two

The second hypothesis, based on RQ2, theorized that gender would not a have significant effect on mental health literacy scores. The Mann-Whitney test was used to examine the relationship between MHL scores and gender in rural adolescents. Again, of the 120 participants, 45.83% of participants identified female and 43.33% of participants identified as male. The

other10.83% of participants preferred not to answer or identified as transgender. These results were presented in Table 7.

The expected result of H2 was that the gender would not have a significant effect on MHL score; in other words, each gender would score the same. After running the Mann-Whitney test, it was found that males and females do not achieve the same scores. These were not surprising results when finding that the average male MHL score was 102.65 and average female MHL score was 104.86. The *p*-value on which we could reject was 0.930, which was not useful. These findings are further evaluated in Table 11. It is also important to note that only males and females were evaluated in this hypothesis because there were not enough participants who answered "prefer not to answer" or "transgender" to make up a good statistical sample.

Table 11

H2 Test Statistics

	Mann-Whitney U	Wilcox W	*z*	Asymp. Sig (2-tailed)
MHL Score	1416.000	2959.000	–.087	.930

Hypothesis Three

The third hypothesis, based on RQ3, theorized that groups with a mental health diagnosis history would score differently than those with no mental health diagnosis. The data indicated that 35.83% of participants had received a mental health diagnosis from a professional, 58.33% no history of a mental health diagnosis, and 5.83% of participants believed they had a mental health diagnosis but had not been diagnosed by a professional. A breakdown of these findings was presented in Table 5.

The expected result for H3 was that the group of people with the history of mental health diagnosis score differently than the group without. Test results showed both groups do not achieve the same scores. Adolescents who had been a mental health diagnosis by a professional achieved significantly higher scores than those who had not been diagnosed (see Table 12).

Table 12

H3 Test Statistics

	Mann-Whitney U	Wilcox W	*z*	Asymp. Sig. (2-tailed)
MHL Score	1158.500	4161.500	– 2.722	.006

Hypothesis Four

The fourth hypothesis, based on RQ4, theorized that those who report experiencing mental health stigma will have lower mental health literacy scores. The data indicated that among rural adolescents, 44.3% of participants had experienced mental health stigma in their lifetime and 54.1% had not (see Table 13).

Table 13

Stigma Experience

Have you experienced mental health stigma during your lifetime?	*n*	%
Yes	54	45
No	66	55
Total	120	100

The expected result of H4 was that those who reported experiencing past mental health stigma would have lower MHL scores. Results showed that this was not true; stigma had no

direct impact on scoring. However, it is worth noting that results did show that it was close to being significant. The relationship was potentially there, but a larger sample size would probably be needed to reach that *p*-value of 0.05. Further test statistics can be seen in Table 14.

Table 14

H4 Test Statistics

	Mann-Whitney U	Wilcox W	*z*	Asymp. Sig. (2-tailed)
MHL Score	1517.500	3002.500	–1.396	.163

Summary

There were 120 participants in this study ranging from ages 14 to 17 years old and in Grades 9–12; 55 participants identified as female, 52 identified as male, and 13 identified as other. 120 participants completed this survey and both the Kruskal-Wallis test, and the Mann-Whitney test were used to analyze collected data. A number of descriptive statistics was also collected for this study. The average mental health literacy score of participants was 103.58. There were four research questions analyzed, and four hypotheses were considered. After data collection and data analysis it was found that only one hypothesis could be accepted. Results showed that mental health literacy scores were not impacted by age, men and women did not achieve the same mental health literacy scores and experiencing stigma did not have a direct impact on scoring. However, it was found that past mental health services did in fact impact mental health literacy scores

Chapter Five: Conclusions

Overview

Despite the known importance of mental health literacy (MHL), limited research exists on adolescents in rural populations and their levels of MHL. Although MHL research exists, it lacks an emphasis on adolescent populations as well as rural populations. This study helps to fill the existing gaps in literature so that mental health providers and other community leaders can have a better understanding of how to improve MHL in adolescent populations. Low MHL adversely impacts adolescents seeking mental health services and failure or delays in help-seeking behavior for mental health disorders can result in serious consequences for those suffering. The purpose of this study was to better understand the relationships between MHL, age, gender, and stigma. This chapter presents a discussion of the findings, implications, limitations, and recommendations for future research.

Discussion

The purpose of this study was to better understand the correlation between MHL, age, gender, and stigma. The study sought to investigate recognition of mental health disorders, intentions to seek help, beliefs about the helpfulness of interventions, recognition of interventions, and stigmatizing attitudes in adolescents between the ages of 14 and 17 years old. The mental health literacy scale (MHLS) which was included in the survey offered a series of questions related to knowledge, beliefs, and help-seeking behaviors which added up to 160 possible points. Data analysis showed that the average score of the 120 adolescent participants was 103 points. Of the 120 participants, there were 52 individuals who identified as male, 55 individuals who identified as female, and 13 individuals who identified as other.

This study gathered data to address the following research questions:

RQ1: Does age influence mental health literacy scores?

RQ2: Does gender influence mental health literacy scores?

RQ3: Does having a mental health diagnosis influence mental health literacy scores?

RQ4: Does experiencing mental health stigma influence mental health literacy scores?

After data collection and careful analysis, it was found that only one hypothesis could be proven. There was no significant relationship between age and MHL scores, no significant relationship between gender and MHL scores, and no significant relationship between MHL scores and stigma. However, the data indicated that there was a significant relationship between past mental health treatment and MHL scores.

Prior research in the subject area of MHL has indicated that low recognition of mental health disorders, lack of knowledge, and stigmatizing attitudes can impact an individual's help-seeking behaviors negatively. Research further demonstrates that the longer an individual goes without mental health care, the worse a person's condition or outcome might be. Therefore, it is important for adolescents to receive mental health care as soon as possible. Although the MHL scores in this study showed no significant associations with age, gender, and stigma experience, there was a significant association between past care and a participant's MHL. Therefore, one might further conclude that when an adolescent is exposed to mental health knowledge, the outcome of their literacy scores will change; this impacts recognition, knowledge, and their stigmatizing attitudes in a positive way.

Existing literature on MHL sought to define MHL and focused more on the adult population versus adolescent populations. Studies conducted using students or adolescents have often focused on individuals enrolled in health-related courses, but few studies have assessed MHL among a range of students. Mental health disorders in rural areas are rarely studied, but

research indicates that mental health disorders can be more prominent in rural areas due to stigma and stoicism. Mental health help-seeking is also lower in rural areas than in urban areas, and MHL remains at a very low level. Therefore, MHL remains a public health concern. Many mental health disorders have an early onset that present during the adolescent years and have significant long-term impacts on these individuals through adulthood, again demonstrating the importance of focusing on the adolescent age range. Tissera and Tairi (2020) emphasized the necessity of more research among adolescents. They also reported that more data are needed to document adolescents' knowledge and beliefs around mental health and available interventions. The current study on adolescent MHL in among rural communities is the first of its kind to be conducted at this location, making it beneficial for the counties from which the data were pulled.

Implications

Results from this study are important for the participating communities. Existing research supports the fact that rural adolescents are understudied; therefore, a gap in research knowledge exists. The findings of this study indicate a further need for continued research and education on MHL among adolescents in rural communities. Although results were not what was anticipated, the finding that mental health treatment is associated with higher MHL scores shows the importance of mental health treatment. Lack of knowledge, stigma, and negative beliefs have all been known to impact help-seeking behaviors when it comes to mental health. The data from this study may help show rural communities the importance of mental health education for adolescent populations.

Furthermore, this information could be useful to churches and Christian leadership in rural areas. Those in leadership positions in the church are capable of using this research to support their teachings and influence when it comes to mental health care. Many parents and

young adults look to the church and to their leadership teams for guidance on a number of health-related struggles. This research can help Christian leadership members understand the importance of creating safe space as well as both having and providing education on the topic.

Limitations

Validity and Reliability

Validity should be considered when conducting a study. A study is known to have high internal validity when control of rival explanatory variables is thorough and there are no rival explanatory variables to worry about when making a causal inference (Warner, 2021). Nonexperimental studies are known to have low internal validity because the ability to rule out rival explanatory variables is often limited. Therefore, this study will probably have low internal validity because it is not experimental. External validity regards itself with similarities of situations in a study to real-world situations one would like to focus on. High validity is found in studies when they resemble real-world situations (Warner, 2021). Therefore, we can conclude that this nonexperimental study should have higher external validity.

Researchers through the years have noted concerns about the validity of MHL and its construct. Since 1997 the definition of MHL has expanded, and there is worry that this impedes the construct's ability to be defined across multiple studies (Spiker & Hammer, 2019). Scholars have primarily conceptualized MHL as a mental health knowledge construct; MHL has only recently grown to include attitudes, stigma, and help-seeking behaviors (Spiker & Hammer, 2019). Due to these changes, researchers struggle to know what is important to measure.

O'Connor, the founder of the mental health literacy scale (MHLS), sought to examine 13 scale-based MHL measures which included 12 attributes that were not included in Jorm's original concept of MHL (Spiker & Hammer, 2019). However, O'Connor's measurement has

been adapted throughout the years and has acted as a starting point for measuring MHL while the concept continues to be studied. Overall, the MHLS has been known to function with great validity overall in a multitude of studies (Korhonen et al., 2022; O'Connor & Casey, 2015; Wei et al., 2016). There was also sufficient proof indicating that the content validity was up to par as well (Korhonen et al., 2022). By running Cronbach's alpha on the MHLS, Korhonen et al. (2022) also found that there was evidence for strong internal consistency for the entirety of the scale, measuring at 0.804. The MHLS is still a somewhat new instrument, and internal consistency for newer scales can range between 0.6 and 0.69 (Gray & Grove, 2021). Therefore, one can conclude that these findings demonstrate the scale is an asset in studying MHL.

Self-Report Validity

Furthermore, validity of using self-report surveys should be considered when using the MHLS. Using self-report data is critical in studying social science and validity of self-report data has been studied extensively (Brener et al., 2003). Researchers have found that there are two important components of assessing validity when it comes to self-report data. Cognitive issues are important when identifying if respondents can understand the questions, which is why testing language on surveys is important (Brener et al., 2003). Situational issues are also important when considering validity of a survey, and socially desirable responses should be identified, based on setting. Research of validity also indicates that if there is fear of reprisal for responses this can influence the validity of survey results (Brener et al., 2003). The best results have occurred when respondents have a strong sense of anonymity and very little fear of reprisal (Brener et al., 2003).

Recommendations for Future Research

Studies on MHL have increased through the years and over 500 articles had been published in the field as of 2018 (Wickstead & Furnham, 2017). Depression and schizophrenia

are the most commonly studied mental health diagnoses (Park et al., 2018). Furthermore, only 40% of participants in Jorm et al.'s (1997) study were able to identify what depression was. This indicates that there is room for further research on several other mental health diagnoses and how researchers can share knowledge about this diagnosis.

Findings from this study indicate that there is a wide range of knowledge among adolescents, some of whom scored as low as 36 out of 160 on the mental health literacy scale. This indicates that communities need to prioritize teaching about mental health within this age range. Narrowing the research on what teens need to know and how to teach these skills could be beneficial moving forward; as well as focusing on what programs work and what programs do not. Finally, research on improving MHL among young people is very limited (Duffy et al., 2021) and further adolescent MHL research is needed.

Summary

An understanding of mental health literacy in rural based adolescents is essential for creating change in levels of knowledge, beliefs about mental health, and help-seeking behaviors. The MHLS was used as measure of mental health literacy in this study and rural students ages 14-17 and in Grades 9–12 completed the surveys. A sample of 120 participants was used for this study, and participants' guardians were asked to complete a consent form, then participants completed the mental health literacy scale survey. A number of limitations were considered for this study including self-report validity and the MHLS itself. Four research questions were evaluated in this study using both the Kruskal-Wallis test and the Mann-Whitney test. Descriptive statistics were also run to evaluate important data relevant to this study. Four research questions were analyzed for this study, and four hypotheses were considered. After data collection and data analysis, it was found that only one hypothesis was supported. Future MHL

research is needed to better understand what programs could help with increasing mental health literacy, and this should be considered in future research.

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Appendices

Appendix A: IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

October 26, 2022

Chantel Windy
Jennifer Weniger

Re: IRB Approval - IRB-FY22-23-77 Mental Health Literacy in Rural School-Based Adolescents

Dear Chantel Windy, Jennifer Weniger,

We are pleased to inform you that your study has been approved by the Liberty University Institutional Review Board (IRB). This approval is extended to you for one year from the following date: October 26, 2022. If you need to make changes to the methodology as it pertains to human subjects, you must submit a modification to the IRB. Modifications can be completed through your Cayuse IRB account.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

Appendix B: Demographic Questionnaire

1. What is your current age at the time of this survey?

14 years old 15 years old 16 years old 17 years old

2. What grade are you in at the time of this survey?

9th grade 10th grade 11th grade 12th grade

3. What is your gender?

Woman Man Transgender Non-binary/non-conforming Prefer not to respond

4. What is your race?

American Indian or Alaska Native

Asian

Black or African American

Native Hawaiian or other Pacific Islander

White

Prefer not to answer

Other

5. Have you ever received mental health services? Mental health services are defined as an assessment, diagnosis, treatment or counseling in a professional relationship to assist an individual or group in alleviating mental or emotional illness, symptoms, conditions or disorders.

Yes, I have received services in my lifetime. No, I have not received services in my lifetime.

6. Have you ever experienced stigma around mental health? Stigma is defined as when someone sees you in a negative way because of your mental illness.

Yes, I have experienced stigma No, I have not experienced stigma

Appendix C: Mental Literacy Scale Permission

From: **Matt O'Connor** <matt.f.oconnor@gmail.com>
Date: Sun, Oct 31, 2021 at 9:52 PM
To: Chantel Windy <cwindy@thumbpsych.org>

Thank you very much for your interest in the MHLS, it is always a pleasure to hear from a researcher with a similar interest in this area. You are welcome to use the MHLS for your research

For the questions relating to Australia, we have been suggesting that researchers look at population level data for their country and modify the answer accordingly. In addition, given the changes in the DSM 5, we are suggesting that you modify:

Q5 to: To what extent do you think it is likely that **Persistent Depressive Disorder** (Dysthymia) is a disorder

Q8 to: To what extent do you think it is likely that the diagnosis of **Substance Abuse Disorder** can include physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect)

Please keep us updated on your research as we would be interested to hear how it progresses

Appendix D: Mental Health Literacy Scale

Mental Health Literacy Scale

The purpose of these questions is to gain an understanding of your knowledge of various aspects to do with mental health. When responding, we are interested in your degree of knowledge. Therefore when choosing your response, consider that:

Very unlikely = I am certain that it is NOT likely

Unlikely = I think it is unlikely but am not certain

Likely = I think it is likely but am not certain

Very Likely = I am certain that it IS very likely

1
If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have **Social Phobia**

Very unlikely Unlikely Likely Very Likely

2
If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have **Generalised Anxiety Disorder**

Very unlikely Unlikely Likely Very Likely

3
If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have **Major Depressive Disorder**

Very unlikely Unlikely Likely Very Likely

4
To what extent do you think it is likely that **Personality Disorders** are a category of mental illness

Very unlikely Unlikely Likely Very Likely

5
To what extent do you think it is likely that **Dysthymia** is a disorder

Very unlikely Unlikely Likely Very Likely

6
To what extent do you think it is likely that the diagnosis of **Agoraphobia** includes anxiety about situations where escape may be difficult or embarrassing

Very unlikely Unlikely Likely Very Likely

7
To what extent do you think it is likely that the diagnosis of **Bipolar Disorder** includes experiencing periods of elevated (i.e., high) and periods of depressed (i.e., low) mood

Very unlikely Unlikely Likely Very Likely

8
To what extent do you think it is likely that the diagnosis of **Drug Dependence** includes physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect)

Very unlikely Unlikely Likely Very Likely

9
To what extent do you think it is likely that in general in Australia, **women are MORE likely to experience a mental illness of any kind compared to men**

Very unlikely Unlikely Likely Very Likely

10
To what extent do you think it is likely that in general, in Australia**, men are MORE likely to experience an anxiety disorder compared to women**

Very unlikely Unlikely Likely Very Likely

When choosing your response, consider that:

- Very Unhelpful = I am certain that it is NOT helpful
- Unhelpful = I think it is unhelpful but am not certain
- Helpful = I think it is helpful but am not certain
- Very Helpful = I am certain that it IS very helpful

11
To what extent do you think it would be helpful for someone to **improve their quality of sleep** if they were having difficulties managing their emotions (e.g., becoming very anxious or depressed)

Very unhelpful Unhelpful Helpful Very helpful

12
To what extent do you think it would be helpful for someone to **avoid all activities or situations that made them feel anxious** if they were having difficulties managing their emotions

Very unhelpful Unhelpful Helpful Very helpful

When choosing your response, consider that:

- Very unlikely = I am certain that it is NOT likely
- Unlikely = I think it is unlikely but am not certain
- Likely = I think it is likely but am not certain
- Very Likely = I am certain that it IS very likely

13
To what extent do you think it is likely that **Cognitive Behaviour Therapy (CBT)** is a therapy based on challenging negative thoughts and increasing helpful behaviours

Very unlikely Unlikely Likely Very Likely

14
Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

If you are at immediate risk of harm to yourself or others

Very unlikely Unlikely Likely Very Likely

15
Mental health professionals are bound by confidentiality; however there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

if your problem is not life-threatening and they want to assist others to better support you

Very unlikely Unlikely Likely Very Likely

Please indicate to what extent you agree with the following statements:

	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
16. I am confident that I know where to seek information about mental illness					
17. I am confident using the computer or telephone to seek information about mental illness					
18. I am confident attending face to face appointments to seek information about mental illness (e.g., seeing the GP)					
19. I am confident I have access to resources (e.g., GP, internet, friends) that I can use to seek information about mental illness					

Please indicate to what extent you agree with the following statements:

	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
20. People with a mental illness could snap out if it if they wanted					
21. A mental illness is a sign of personal weakness					
22. A mental illness is not a real medical illness					
23. People with a mental illness are dangerous					
24. It is best to avoid people with a mental illness so that you don't develop this problem					
25. If I had a mental illness I would not tell anyone					
26. Seeing a mental health professional means you are not strong enough to manage your own difficulties					
27. If I had a mental illness, I would not seek help from a mental health professional					
28. I believe treatment for a mental illness, provided by a mental health professional, would not be effective					

Please indicate to what extent you agree with the following statements:

	Definitely unwilling	Probably unwilling	Neither unwilling or willing	Probably willing	Definitely willing
29. How willing would you be to move next door to someone with a mental illness?					
30. How willing would you be to spend an evening socialising with someone with a mental illness?					
31. How willing would you be to make friends with someone with a mental illness?					

	Definitely unwilling	Probably unwilling	Neither unwilling or willing	Probably willing	Definitely willing
32. How willing would you be to have someone with a mental illness start working closely with you on a job?					
33. How willing would you be to have someone with a mental illness marry into your family?					
34. How willing would you be to vote for a politician if you knew they had suffered a mental illness?					
35. How willing would you be to employ someone if you knew they had a mental illness?					

Scoring

Total score is produced by summing all items (see reverse scored items below). Questions with a 4-point scale are rated 1- very unlikely/unhelpful, 4 – very likely/helpful and for 5-point scale 1 – strongly disagree/definitely unwilling, 5 – strongly agree/definitely willing

Reverse scored items: 10, 12, 15, 20-28

Maximum score – 160

Minimum score – 35

Reference

O'Connor, M., & Casey, L. (2015). The mental health literacy scale (MHLS): A new scale-based measure of mental health literacy, *Psychiatry Research,* http://dx.doi.org/10.1016/j.psychres.2015.05.064

If you intend to use the MHLS, please contact Matt O'Connor at matt.f.oconnor@gmail.com

Appendix E: Parental Consent Form and Student Assent

Parental Consent and Student Assent

Title of the Project: Mental Health Literacy in Rural School-Based Adolescents
Principal Investigator: Chantel Windy, Ed.D Candidate, Liberty University

Invitation to be Part of a Research Study

Your child is invited to participate in a research study. Participants must be between the ages of 14 and 17 years old, in 9th through 12th grade, and proficient in the English language. Taking part in this research project is voluntary. Please take time to read this entire form and ask questions before deciding whether to allow your child to take part in this research project.

What is the study about and why are we doing it?

The purpose of the study is to gain a better understanding of mental health knowledge and beliefs in adolescents. The results of this study may help create useful mental health literacy programs for schools as well as provide useful information on help seeking behaviors in school aged children.

What will participants be asked to do in this study?

If you agree to allow your child to be in this study, I will ask him or her to do the following:

1. Complete an online demographic questionnaire which will take about 5 minutes.
2. Complete an online survey about mental health literacy that will take approximately 20-30 minutes.

How could participants or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. Benefits to society include increased public knowledge on the topic.

What risks might participants experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks your child would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Survey responses will be anonymous.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

How will you be compensated for being part of the study?

Participants will be compensated for participating in this study. Students will receive $2.00 upon completion of the survey. Student email addresses will be requested for compensation purposes; however, they will be pulled separately from students' responses to maintain their anonymity.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to allow your child to participate will not affect your or his or her current or future relations with Liberty University or their school. If you decide to allow your child to participate, he or she is free to not answer any

question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw your child from the study or your child chooses to withdraw, please have him or her exit the survey and close his or her internet browser. Your child's responses will not be recorded in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Chantel Windy. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [redacted]
You may also contact the researcher's faculty sponsor, Jennifer Weniger, at [redacted]

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University

Your Consent

By signing this document, you are agreeing to allow your child to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to allow my child to participate in the study.

_____
Printed Child's/Student's Name

_____
Parent's Signature Date

_____
Minor's Signature Date

_____
Student Email

Appendix F: Social Media Recruitment Post

Social Media Recruitment

ATTENTION FACEBOOK FRIENDS: I am conducting research as part of the requirements for a Doctoral Degree at Liberty University. The purpose of my research is to better understand knowledge, beliefs, and help-seeking behaviors in rural based adolescent aged students. To participate, your child must be enrolled in grades 9 through 12, between the ages of 14 and 17 and able to read English. Participants, if willing, will be asked to complete an online demographic survey and a mental health literacy survey. It should take approximately 30 minutes to complete the procedures listed. Participation will be completely anonymous, and no personal, identifying information will be collected.

To allow your child to participate, please sign and have your child sign the attached parental consent form found at the link below. After I have received the signed parental consent, I will forward the survey link to your child's email.

Consent Form: [redacted]

The consent document contains additional information about my research. If you choose to allow your child to participate, you will need to sign the consent document and have your child sign the consent document. Once the consent form is completed, the survey will be sent to your child's email address for completion.

Your child will be compensated $2.00 for their participation. At the end of the survey, he/she will be directed to a different link to enter his/her information for compensation.