EMERGING ADULTS' MENTAL HEALTH LITERACY AND MENTAL HEALTH FIRST AID EXPERIENCES: A MIXED-METHODS STUDY

ASHLEY S. MORGAN

A DISSERTATION SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

GRADUATE PROGRAM IN PSYCHOOGY

YORK UNIVERSITY

TORONTO, ONTARIO

OCTOBER 2014

Abstract

Mental health problems are a significant health concern in Canada. Canadian prevalence rates suggest that emerging adults are one of the most at risk age groups in terms of experiencing mental health problems. Many Westernized countries, including Canada, have begun to recognize the importance of improved knowledge of mental health problems including recognition of specific disorders, knowledge of treatment options, and attitudes that promote recognition, appropriate help-seeking behaviour, and reduced stigma, a construct termed "mental health literacy" (MHL; Jorm et al., 1997). Improving MHL has been identified as a key step in increasing help-seeking behaviour and ensuring early intervention.

The present mixed-methods study involved quantitative and qualitative components. The quantitative study involved an examination of MHL using novel online survey methodology and was focused on four disorders that often first occur or worsen during emerging adulthood: depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa. Previous research has not investigated MHL in relation to substance abuse disorder specifically and few studies have looked at MHL related to bulimia nervosa; thus, the current study addresses these gaps in the literature. Participants were $N = 561$ Canadian emerging adults, defined as individuals between the ages of 18 through 29 years (72.0% women; $M_{age} = 23.81$, $SD = 3.41$).

Recognition of specific disorders is a major component of MHL. The recognition rates found in the current study ranged from moderate to strong (depression = 83.2%; substance abuse disorder = 69.8%, social anxiety disorder = 57.1%, and bulimia nervosa = 68.8%). However, women had significantly better recognition rates than men with regard to depression and bulimia nervosa. The importance of recognizing that one has a mental health problem was identified as a key contributing factor in the help-seeking process and in terms of accessing treatment. Stigma

was also identified as a barrier to help-seeking. In the current sample of emerging adults, knowledge of and attitudes towards mental illness were generally positive, although men had significantly weaker knowledge and less favourable attitudes than women. The current study's findings suggest that focusing on substance abuse and social anxiety disorders may be particularly important in terms of emerging adults' knowledge of these disorders, treatment options, and attitudes towards individuals who experience these disorders.

The process of using one's MHL to support someone with a mental health problem has been termed "mental health first aid" (MHFA; Jorm, Wright, & Morgan, 2007). The qualitative component of the current study involved an exploration of participants' MHFA experiences using a semi-structured interview. A total of 10 participants (5 women and 5 men) between the ages of 18 and 29 participated in the qualitative component of the study. Using a thematic analysis approach, five major themes were identified in the data: (1) progression of recognition of a mental health problem, (2) the importance of mental health literacy, (3) the helping experience, (4) stigma, and (5) lessons learned. This was one of the first studies to comprehensively investigate emerging adults' actual MHFA experiences, and the results have important implications for the development and tailoring of MHFA training programs.

Together, MHL and MHFA have been identified as important components in the broader initiative to improve mental health at the population level. Implications for future research and the application of the findings to prevention and intervention efforts are discussed.

Dedication

This work is dedicated to J.F. whose story inspired my interest in better understanding young adults' mental health literacy and led to my passion for improving young Canadians' mental health literacy and mental health first aid skills.

Acknowledgements

There are countless individuals who have supported my doctoral studies and, in particular, this important research. I must acknowledge my supervisor, Dr. Maxine Wintre, for her guidance and support throughout my graduate studies and for being enthusiastic about pursuing an area of research that was new to both of us – your belief in me and my project means so much. I am appreciative of the helpful feedback provided by my committee members, Dr. Henny Westra, Dr. Jonathan Weiss, and Dr. John Eastwood, as well as my examining committee members: Dr. Gordon Flett, Dr. Lesley Beagrie, and Dr. Charles Cunningham; your thoughtful and insightful comments certainly strengthened the study. Thank you to the entire Wintre Lab for their enduring support and encouragement. I am grateful to Megan Ames and Stella Dentakos for their coding assistance and for our intellectual discussions. I am also appreciative of Madalyn Marcus' willingness to share her knowledge; our inspiring conversation helped to guide my project. I thank Dr. Anthony Jorm for graciously sharing his research tools with me. This study would not have been possible without the participants and their commitment to being a part of this important research. I am particularly indebted to the interview participants and was honoured by their willingness to share their personal stories with me. Thank you to the City of Mississauga, the independent businesses, and the many agencies and individuals who were willing to post and share information about this study with their networks. Special thanks to the Ontario Ministry of Training, Colleges and Universities for their financial support during my graduate studies and to the Canadian Psychological Association Foundation for supporting my doctoral research. To my husband, family, and friends who have been there throughout my journey and who have provided unwavering love, support, and understanding – thank you.

Table of Contents

List of Tables

List of Appendices

Introduction

Mental health problems are a significant health concern in Canada. Indeed, it is estimated that 20% of Canadians will experience a mental disorder during their lifetime (Kirby & Keon, 2004). Using 1998 data, findings from one report estimated the direct and indirect economic cost of mental disorders in Canada was at least $14.4 billion (Stephens & Joubert, 2001; Health Canada, 2002). Recently, there has been a shift towards improving citizens' mental health in Canada and other Westernized countries such as the United States and Australia (Jorm, 2012). Part of this shift has involved recognition of the importance of improved knowledge and reduced stigma.

Despite the prevalence rates of mental disorders and their costly impact on society, many people do not recognize the signs and symptoms of specific mental disorders, nor are they aware of where to go for help or appropriate treatment options for mental health problems. This issue, first identified by Jorm and colleagues (1997) and termed "mental health literacy" (MHL; Jorm, 2011; Jorm et al., 1997; Jorm et al., 2006), refers to "knowledge and beliefs about mental disorders which aid their recognition, management, or prevention" (Jorm et al., 1997, p. 182). More specifically, recognition of the signs and symptoms of specific mental disorders is one component of MHL. Other components of MHL include knowing how to seek and access mental health information, knowledge of risk factors and causes, self-treatments, and professional help available, and attitudes that promote recognition and appropriate help-seeking (Jorm, 2012; Jorm et al., 1997; Jorm et al., 2006).

Jorm and colleagues developed a program of research focused on improving MHL at the population level to address the public's lack of knowledge of appropriate prevention and treatment strategies related to mental disorders. This research program began in Australia, but

has begun to resonate in other Westernized countries as governments have put mental health and mental disorder on the political agenda (Kirby & Keon, 2006). For example, the recently released strategic reports from the Mental Health Commission of Canada called for broad public education campaigns focused on MHL to educate the public about the signs and symptoms of mental health problems and illnesses (Mental Health Commission of Canada, 2009; 2012).

Improving MHL is a key step in increasing help-seeking behaviour and ensuring early intervention when a mental health problem exists either within the individual or within someone in their social network. The process of using one's MHL to support someone with a mental health problem has been termed "mental health first aid" (MHFA) and has been defined as "the help provided to a person developing a mental health problem or in a mental health crisis. The first aid is given until appropriate professional treatment is received or until the crisis resolves" (Jorm, Wright, & Morgan, 2007, p. 61). Together, MHL and MHFA have been identified as important components in the broader initiative to improve mental health at the population level (Jorm, 2012; Mental Health Commission of Canada, 2009; 2012).

The present mixed-methods study involved quantitative (Study 1) and qualitative (Study 2) components. Study 1 involved an examination of MHL using novel online survey methodology (i.e., the use of social media tools to distribute the online survey link) and was focused on four disorders: depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa. Study 2 involved an exploration of MHFA experiences using a semi-structured interview. The interview tapped into participants' recognition of a mental health problem in a friend or family member and what actions they took to help the friend or family member with the mental health problem. The interview also asked participants retrospectively about the experience and if they would change the actions they had taken. The current dissertation

includes the following components: a general introduction, Study 1, Study 2, and a general discussion consisting of the main findings of the dissertation, directions for future research, and key implications.

Study 1: Emerging Adults' Mental Health Literacy

Young people, including emerging adults (EAs; Arnett, 2000), are especially vulnerable to the development of mental health problems (Grant & Potenza, 2010; Kirby & Keon, 2004). In addition, past research has underscored that many EAs do not recognize the symptoms of a variety of mental disorders or have adequate knowledge regarding help-seeking and treatment options (Jorm, 2012). Previous research has also underscored the importance of recognizing the symptoms of mental disorders and, more specifically, accurate labeling of disorders as being associated with appropriate treatment and help-seeking behaviours (Wright & Jorm, 2009; Wright, Jorm, Harris, & McGorry, 2007). Thus, the primary objective of Study 1 was to investigate MHL in a community sample of EAs, aged 18 to 29 years.

Given the rates of mental illness in EAs, they are an especially salient target population for improving rates of MHL. From an epidemiological perspective, many disorders first emerge during adolescence and emerging adulthood (Kessler et al., 2005; Kessler et al., 2007; Mackenzie et al., 2011), underscoring the need to improve MHL in young people. From a prevention perspective, sound knowledge of useful preventive strategies instilled in young people will guide them through adulthood (e.g., knowledge of how to maintain positive mental health such as physical activity and avoiding use of harmful substances; Jorm, 2012). The present study involved an examination of MHL in a community sample of EAs. The study is positioned within the developmental theory of emerging adulthood proposed by Arnett (2000) as EAs are at increased risk for the development of numerous mental disorders. A brief overview of the theory of emerging adulthood is provided, followed by a discussion of epidemiological findings on rates of mental illness in this age group.

Emerging Adulthood Theory

Emerging adulthood (Arnett, 2000; 2006) is the period of development proposed to take place between adolescence and adulthood (ages 18 to 29 approximately) for young people living in Westernized countries (Arnett, 2012). Arnett (2012) notes that there is no definite age when emerging adulthood ends and young adulthood begins. Indeed, he acknowledges that, for some young people, emerging adulthood may end by the mid-twenties (Arnett, 2000). However, in the United States, Canada, and some Westernized countries such as Australia and Japan, demographic trends in marriage and parenthood indicate that the median age of these life events is closer to 30 years, suggesting that the age range of 18 to 29 is more fitting as a rough age range for the period of emerging adulthood. Thus, the present study sampled 18 to 29 year olds as the age range which best fits Canadian demographic trends.

As a developmental stage, emerging adulthood is characterized by identity explorations in the areas of work and education, relationships, morals, and values. According to Arnett (2012), the primary feature that distinguishes emerging adulthood from young adulthood is a developmental concept referred to as *role immersion*. That is, young adults in their thirties and early forties have increased demands in the areas of love and work compared to EAs.
Many EAs take on jobs that will not lead to a long-term career, but serve to provide financial support to subsidize leisure activities, world travels, or provide early experience in a particular field of work (Arnett, 2006; 2012). This instability is also seen within educational contexts. For example, EAs may begin a post-secondary education program at one institution and decide to transfer schools to pursue a different program (Wintre & Morgan, 2009). Research on emerging adulthood underscores both the transient quality of EAs' lives and the heterogeneity seen in the demographics of this stage of life (Arnett, 2000; 2006). Arnett (2006) describes emerging

adulthood as characterized by instability due to EAs' explorations of different possibilities in their relationships, living arrangements, work, and sense of self. Schulenberg and Zarrett (2006) further describe the distinctive features in the transition to adulthood as including extensive changes in personal and social roles, "heterogeneity in life paths, and decreased institutional structure coupled with increased agency" (p. 140).

EAs face a unique set of developmental tasks that place them at risk for developing mental health problems, at least in part due to the transient and uncertain nature of emerging adulthood, their interest in experimentation and exploration, and the pervasive changes in their contextual and support systems (Schulenberg & Zarrett, 2006). The stress that EAs face as a result of the pressure (both self- and other-imposed) to be successful in their identity explorations may be one mechanism underlying the increased risk for mental health problems observed in this population. Emerging adulthood is also characterized by changes in the nature of the parent-child relationship. This change is exemplified by the fact that EAs often assume responsibility for their mental and physical health, taking over what had previously been regarded as their parents' responsibility (Schulenberg & Zarrett, 2006). Thus, a confluence of factors converges during emerging adulthood, serving to increase EAs' risk for developing mental health problems. The elevated risk for mental health problems during emerging adulthood is well-documented in the epidemiological literature.

Rates of Mental Illness in Emerging Adulthood

Epidemiological findings indicate that many mental health problems first develop in emerging adulthood (Kessler et al., 2007). For example, 25% of EAs experience a depressive episode by age 24 and depression is the most common disorder experienced by EAs (Grant & Potenza, 2010; Kessler et al., 2005; Schulenberg & Zarrett, 2006). Substance abuse disorders

peak in prevalence during emerging adulthood (Grant & Potenza, 2010), and social anxiety disorder is the third most common disorder in EAs behind depression and substance abuse disorder (Kessler et al., 2005). Furthermore, bulimia nervosa often first occurs during late adolescence and emerging adulthood (Schulenberg & Zarrett, 2006).

Canadian prevalence rates identified in the 2002 Canadian Community Health Survey Supplement on Mental Health and Well-Being (Statistics Canada, 2003) suggest that individuals between the ages of 15 and 24 are more likely than any other age group to experience mental health problems (18% in 15 to 24 year olds compared to 12% in 25 to 44 year olds, 8% in 45 to 64 year olds, and 3% in seniors ages 65 and over; Kirby & Keon, 2004). Thus, the transition from adolescence to emerging adulthood represents a salient time period during which to study mental health and its correlates. The current study involved an investigation of MHL in relation to four disorders, namely, depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa.

Depression. Depression is characterized, in part, by low mood, feelings of hopelessness and helplessness, and changes in sleep, appetite, and weight (American Psychiatric Association, 2000). Depression is one of the most common disorders experienced by EAs; findings from one cross-national study showed that 25% of EAs presenting at health clinics on campus reported symptoms of depression (Mackenzie et al., 2011). Furthermore, about 24% of deaths in 15- to 24-year-olds in Canada are due to suicide, underscoring the potential severity of depression (Ontario Government, 2011). Kessler and colleagues (2005) found that the median age of onset (i.e., 50th percentile on the age-of-onset distribution) for major depressive disorder was 32 years. This is slightly outside the age range considered to be emerging adulthood (i.e., 18-29 years). However, it is important to note that half of all lifetime cases start by age 14 years and 75% by

age 24 years (Kessler et al., 2007). This suggests that, for a large proportion of individuals, an earlier episode of another disorder would likely have occurred. The finding is bolstered by Kessler and colleagues' (2005) observation that later onsets are mostly of comorbid conditions.

Substance abuse disorder. Substance abuse disorder is characterized by a maladaptive pattern of substance use leading to clinically significant impairment (APA, 2000). For the purpose of the current study, alcohol was the substance of interest. In terms of prevalence, one study found that 31% of undergraduate college students endorsed enough criteria to meet a diagnosis of alcohol abuse according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR; APA, 2000) and another 6% would have met criteria for alcohol dependency (Knight et al., 2002). Kessler and colleagues (2005) found that the median age of onset (i.e., 50th percentile on the age-of-onset distribution) for alcohol abuse was 21 years. Young people between the ages of 15 and 24 are three times more likely to have a substance use problem than people over the age of 24 (Ontario Government, 2011). Thus, given that rates of alcohol consumption increase in this age group, emerging adulthood represents a critical time period during which to study substance abuse and MHL related to this disorder (Arnett, 2000; Schulenberg & Zarrett, 2006).

Social anxiety disorder. Social anxiety disorder, also referred to as social phobia, is characterized by persistent fear of social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others and avoidance of such situations (APA, 2000). Social anxiety disorder is the fourth most commonly diagnosed psychiatric disorder, with a lifetime prevalence rate of 12.1% in the general population (Kessler et al., 2005). Within EAs (18 to 29 year olds), the lifetime prevalence rate of social anxiety disorder is 13.6% and represents the third most common disorder in this age group behind major depressive

disorder and alcohol abuse disorder (Kessler et al., 2005). Social anxiety disorder typically emerges in the early teen years and tends to maintain a chronic course (Bruce et al., 2005; Kessler et al., 2005; Kessler et al., 2007). Due to the nature of the disorder, individuals with social anxiety often report reduced quality of life (Wittchen & Beloch, 1996). Therefore, learning the signs and symptoms of social anxiety disorder and having knowledge of available treatment options is especially important in the pursuit of early intervention.

Bulimia nervosa. Bulimia nervosa is an eating disorder characterized by binge eating and compensatory behaviours such as vomiting (APA, 2000). A recent population-based study in the Netherlands found that the peak age of incidence was between 16 and 20 years old (Keski-Rahkonen et al., 2009). Female EAs are at particular risk for developing bulimia, with the majority of bulimia nervosa cases first occurring upon entrance to post-secondary education (Barker & Galambos, 2007). While the prevalence rate of bulimia nervosa is low relative to some other disorders (1% to 2% in adolescents and EAs), individuals who have bulimia tend to continue to experience subthreshold symptoms of the disorder after recovery (Barker & Galambos, 2007; Keski-Rahkonen et al., 2009). Therefore, bulimia nervosa is a concerning disorder due to its severity and impact even once an individual no longer meets diagnostic criteria. Bulimia nervosa is extremely rare in men (one study found the 12-month prevalence rate to be 0.3%; Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011) and thus only bulimia nervosa in women was examined in the current study.

Despite the prevalence of mental disorders during this distinct stage of life, findings in the youth mental health literature consistently show that a large proportion of EAs do not recognize the signs and symptoms of specific mental disorders and are not aware of where to go for help for mental health related concerns (e.g., Jorm, 2011; Jorm et al., 2006; Lauber, Ajdacic-

Gross, Fritschi, Stulz, & Rössler, 2005; Reavley & Jorm, 2011a; Reavley & Jorm, 2011b). These epidemiological findings speak to the importance of improving MHL by targeting young people in general, and EAs in particular, as a first step towards improving their overall mental health functioning (Ontario Government, 2011). Indeed, recent research has begun to explicitly study the relation between MHL and help-seeking behaviour with initial findings suggesting that particular aspects of MHL (e.g., knowledge about interventions, beliefs about mental illness) are positively associated with the intention to seek help (Smith & Shocet, 2011).

The Research on Mental Health Literacy

Jorm (1997; 2000) has developed a unique methodology for studying MHL that involves using vignettes and a semi-structured interview to gather data on individuals' knowledge and attitudes related to mental health. As the MHL literature has expanded, vignettes based on different disorders have been developed by others. For example, Mond and colleagues (2007; 2010) developed a vignette to assess individuals' MHL related to bulimia nervosa. In general, the literature on MHL has revealed that improvement in the public's knowledge of mental disorders and appropriate treatment options remains necessary. Further, some disorders (e.g., substance abuse disorder) have not yet been investigated or have been studied relatively infrequently (e.g., bulimia nervosa) in the MHL literature. As such, the current study sought to address this gap in the literature by including vignettes related to these particular disorders.

Rates of Mental Health Literacy

Wright and Jorm (2009) found that accuracy of labeling by youth varies significantly between disorders. For example, in their study, Wright and Jorm found that depression was more often correctly labeled than psychosis, and social phobia was rarely correctly identified. A similar pattern of findings was identified in a more recent study in which recognition rates

related to depression were highest, followed by much lower recognition rates related to schizophrenia, post-traumatic stress disorder, and social phobia (Reavley & Jorm, 2011b). While past studies have focused on MHL related to depression and schizophrenia, and to some extent the anxiety disorders, the current focus in the literature is on continuing to study MHL in relation to other mental disorders. For example, only two known studies have investigated MHL related to bulimia nervosa and no known published studies exist on MHL related to substance abuse specifically. Thus, given their prevalence and relevance to emerging adulthood, the current study investigated MHL with regard to depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa.

Mental health literacy: Depression. In one of the only published Canadian studies on mental health literacy, Wang and colleagues (2007) sampled adults in the community in the province of Alberta (18 to 74 year olds) and assessed their ability to recognize symptoms of depression, their attitudes toward mental health treatments for depression, possible causal factors for depression, and prognosis of depression. Although 18.3% of the sample fell between the ages of 18 and 24 years of age, analyses were not conducted by age so rates of MHL for EAs in this study are unknown. Encouragingly, three-quarters of participants (75.6%) correctly recognized that the individual described in the vignette was experiencing depression. There were gender differences in the rate of recognition; 85.5% of women versus 66.1% of men correctly recognized depression as the disorder being experienced by the person described in the vignette. However, MHL in areas other than recognition were not quite as promising. For example, over 43% of participants believed that depression may be due to weakness of character, and a large proportion of participants believed that a viral infection (40.2%) or allergic reaction (33.2%) could cause depression. Furthermore, in terms of treatment for depression, less than half of

participants (45.8%) spontaneously reported that seeing one's family doctor or general practitioner (GP) would be helpful for the individual described in the vignette.

In the most recent and second known published Canadian study on MHL, Marcus, Westra, and the Mobilizing Minds Research Group (2012) utilized a national community sample of adults to examine MHL related to depression, anxiety, and schizophrenia. Marcus and colleagues found that the recognition rate in the national sample was about 80% for depression, which is similar to Wang and colleagues' (2007) findings. In a recent MHL study by Reavley and Jorm (2011b), a similar rate of 75% was found for the recognition rate of depression.

Mental health literacy: Substance abuse disorder. No known published studies exist on MHL related to substance abuse disorder specifically. One previous study examined depression with alcohol misuse, but the focus of the paper was on beliefs about appropriate intervention and recognition rates of the disorder were not reported (Jorm & Wright, 2007). Another study identified guidelines on how to help someone who is experiencing alcohol abuse or dependence, but recognition rates were not the focus of the study (Kingston et al., 2009). It is well-established that substance abuse disorders are a particular concern for EAs (Lubman, Hides, Yücel, & Toumbourou, 2007). One population-based study found that 90% of youth aged 18 to 24 years have drinking patterns that place them at risk of harm (Heale, Stockwell, Dietze, Chikritzh, & Catalano, 2000). Given the shift in patterns in binge drinking documented during this developmental stage, it is of particular interest to study EAs' MHL related to substance abuse, in particular alcohol abuse (Lubman et al., 2007; Reavley, Cvetkovski, Jorm, & Lubman, 2010).

Mental health literacy: Social anxiety disorder. Marcus and colleagues (2012) found the rate of recognition for anxiety to be slightly less than 50% in young adults aged 18 to 24

years. This is higher than the rate observed by Reavley and Jorm (2011b) in relation to a vignette describing social phobia. Reavley and Jorm found that 32.7% of participants stated the vignette illustrated anxiety and only 9.2% correctly identified social phobia. These findings highlight the need to continue to study MHL related to social anxiety disorder in EAs to improve recognition and general help-seeking.

Mental health literacy: Bulimia nervosa. Only two known studies have investigated the public's MHL regarding bulimia nervosa, both of which were carried out in Australia. One study sampled adolescent girls (Mond et al., 2007) and another study sampled women who were experiencing eating disorder symptoms (Mond et al., 2010). In the adolescent sample, the authors did not determine if the participants correctly recognized the disorder. Rather, their focus was on participants' knowledge of and attitudes towards various treatment options. Mond and colleagues (2007) found that primary care practitioners, mothers, and close female friends were identified as being the best sources of help. In the adult sample, the correct recognition rate was approximately 20%, and the results revealed differences in attitudes and beliefs of individuals with eating disorder symptoms versus those at high and low risk for developing an eating disorder but who did not yet have symptoms (Mond et al., 2010). In light of the limited evidence related to this disorder, the present study investigated EAs' MHL regarding bulimia nervosa.

Factors Related to Mental Health Literacy

Several socio-demographic factors have been shown to relate to MHL including gender, age, and level of education, although findings related to these factors have been inconsistent (Cotton, Wright, Harris, Jorm, & McGorry, 2006; Lauber et al., 2005; Wang et al., 2007; Yap, Wright, & Jorm, 2011). In the present study, gender was the primary covariate of interest. Age

was considered a secondary covariate of interest and was examined on an exploratory basis when possible. Level of education was not investigated in the current study as it was determined a posteriori that there was not enough variability in the sample to explore differences in MHL related to education (98% of participants had attended some form of post-secondary education).

Gender. Women often show better rates of MHL than men; however, the differences depend on the disorder in question (e.g., Cotton et al., 2006; Wright & Jorm, 2009). For example, Cotton and colleagues found that female respondents were significantly more likely to identify depression described in a vignette compared to male respondents. However, no significant gender differences were found in relation to a psychosis vignette. Interestingly, men are also more likely than women to endorse the use of alcohol to deal with mental health problems (Cotton et al., 2006). Interestingly, Marcus and colleagues (2012) did not find any gender differences related to depression, schizophrenia, or anxiety.

Age. Marcus and colleagues (2012) examined age differences in MHL between younger (18 to 24 year olds, $n = 123$) and older adults (25 to 64 year olds; $n = 881$). No age differences in recognition rates were found between the age groups across disorders (depression, schizophrenia, and anxiety). That is, both younger and older adults evidenced moderate rates of recognition across disorders, and depression was recognized at a higher rate than anxiety and schizophrenia in both age groups. Although recognition rates did not differ significantly between the age groups, Marcus and colleagues (2012) found that attitudes towards treatment options differed by age and concluded that further MHL studies be carried out with samples of various age groups.

Yap and colleagues (2011) found that the age of respondents influenced the actions taken in trying to help a family member or friend who was experiencing a mental health problem.

Specifically, in their 12 to 25 year old sample, older respondents were more likely than younger respondents to suggest professional help-seeking. Yap and colleagues hypothesized that this finding may have been due to older respondents' greater knowledge and resourcefulness or their underlying beliefs about the helpfulness of professional help for mental disorders. Taken together, these findings suggest that MHL varies according to specific sociodemographic characteristics underscoring the need for a diverse and representative sample of EAs.

The Present Study

The current study used Jorm's well-established methodology to examine EAs' MHL in terms of rates of recognition of four mental disorders: depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa. These disorders were chosen based on epidemiological evidence indicating that they often first develop or are known to increase in severity during emerging adulthood (Kessler et al., 2005). Furthermore, depression (15.4%), alcohol abuse disorder (14.3%), and social anxiety disorder (13.6%) represent the top three most prevalent disorders during emerging adulthood according to Kessler and colleagues (2005). Additional objectives of Study 1 were to assess EAs' knowledge of treatment options and causes of mental disorders and to understand EAs' attitudes related to mental health and to those who experience mental disorders.

Given that there have been mixed findings in the literature with regard to gender differences in rates of recognition, with some studies finding no gender differences (e.g., Marcus et al., 2012) and others finding that women have better MHL than men (e.g., Cotton et al., 2006; Wang et al., 2007; Wright & Jorm, 2009), gender was the primary covariate of interest in the present study. It is worth noting that the effect sizes related to gender differences in previous studies generally range from small to medium, although the strength of the gender difference

tends to vary based on the disorder in question. Analyses related to age were exploratory in nature as there is no previous research to suggest that differences in MHL exist within the developmental stage of emerging adulthood. Data collection involved asking participants to complete an online survey. As the literature on emerging adulthood suggests that EAs who do not attend post-secondary education are qualitatively different than those EAs who attend some form of post-secondary education (Arnett, 2000), the present study sampled EAs in unique ways (e.g., through social networking sites and by posting flyers in diverse urban areas).

In summary, MHL is relevant to a range of issues including, perhaps most importantly, seeking help for a mental health problem (Reavley et al., 2010; Smith & Shocet, 2011). Given that many disorders first occur in emerging adulthood, it is critical to study MHL in this population. The study of MHL is relatively new, and research in this area has largely been carried out in Australia and Europe. As one of the first Canadian studies of its kind (see Canadian Alliance on Mental Illness and Mental Health, 2007), the present research may contribute to theory development in the area of MHL and provide important information about EAs knowledge of and attitudes towards mental illness. In addition, the current research addressed a gap in the MHL literature by including an investigation of MHL related to substance abuse disorder and bulimia nervosa.

Hypotheses

MHL was measured, in part, according to correct recognition of the disorder described in the vignette. Additional components of MHL included EAs' knowledge of treatment options, causes of mental health problems, and attitudes that facilitate recognition of disorders and help-seeking. It was hypothesized that:

1. Based on past Canadian research (e.g., Marcus et al., 2012; Wang et al.2007) , accurate recognition rates for depression would be relatively strong (ranging from 70 to 80%), while accurate recognition rates related to substance abuse disorder, social anxiety disorder, and bulimia nervosa would be lower than those for depression.
2. Women would have higher rates of MHL than men across all disorders (see Cotton et al., 2006; Wang et al., 2007; Wright & Jorm, 2009).
3. With regard to treatment options, informal sources of help (e.g., speaking with family and friends) would be more strongly endorsed compared to formal sources of help (e.g., seeing a professional; Marcus et al., 2012; Reavley & Jorm, 2011a).

Hypotheses were not developed for questions relating to attitudes towards mental health and mental illness, knowledge of causes of mental illness, and beliefs about prevention as these questions were exploratory in nature.

Method

Participants

Participants were $N = 561$ Canadian EAs, defined as individuals between the ages of 18 through 29 years (72.0% women; $M_{age} = 23.81$, $SD = 3.41$). Participants were deemed to be Canadian based on an evaluation of four criteria: the participant indicated that he or she was living in a Canadian city, that he or she was born in Canada, that one of his or her parents was born in Canada, or that he or she was *currently* attending a Canadian school if any of the other criteria were not met ($n = 1$). Current (60.4%) and past post-secondary education students (37.6%) participated, as well as those EAs who had never attended post-secondary education (2.0%). Table 1 provides demographic data for the sample, including information regarding

parents' levels of education, ethnicity, immigrant generational status (Wintre, Sugar, Yaffe, & Costin, 2000), and household income.

Sampling. To ensure participation from a broad segment of EAs, a combination of sampling methods was used resulting in a community subsample (n = 444, 79.1%) and a university subsample (n = 117, 20.9%). Data were collected during the months of July to October 2012. It was decided a priori to combine the community and university subsamples to produce a larger sample. The rationale for combining the subsamples was based on the fact that (a) subsamples were collected during the same time period, (b) subsamples were collected using the same methodology (i.e., online survey methodology) and using the same survey, and (c) although the sources of sampling differed (i.e., community versus university subsamples), the inclusion criteria were equivalent for the subsamples (i.e., being a Canadian 18 to 29 year old).

Based on previous findings in the literature suggesting that rates of MHL differ by gender, age, and level of education, preliminary analyses were conducted to determine whether the subsamples differed according to these characteristics (Cotton et al., 2006; Lauber, Ajdacic-Gross, Fritschi, Stulz, & Rössler, 2005; Marcus et al., 2012; Reavley, McCann, & Jorm, 2012). The gender breakdown in the university versus community subsamples did not significantly differ, $\chi^2(1) = 2.44$, $p > .05$. The mean age of the community (M_{age} = 24.50, SD = 3.21) and university (M_{age} = 21.20, SD = 2.83) subsamples differed significantly, $t(199.89) = 10.84$, $p < .001$, Cohen's d = 0.86. However, this was expected given that the university subsample was comprised of students taking a first-year university course who would, by definition, be younger than the broader community subsample (M_{age} difference = 3.30 years). Level of education significantly differed between the community and university subsamples, $\chi^2(3) = 105.38$, $p < .001$. Differences in level of education were also expected given the criteria for inclusion in the

university subsample; that is, the university subsample was comprised of university students enrolled in the PSYC 1010 course, generally a course for first-year students. Although the original intention of including both community-based and university samples was to test for differences in MHL related to level of education, too few participants (2%) reported that they had not attended any form of post-secondary education to allow for a meaningful comparison with those EAs whose highest level of education was high school. Table 1 provides demographic data for each subsample.

A total of 818 individuals accessed the community and URPP survey links. Potential participants who accessed the survey link, but who did not consent or did not respond to any questions after consenting were removed from the data set (n = 157). Potential participants who were not defined as Canadian were removed from the data set (n = 45). Potential participants who did not meet the age inclusion criterion were removed from the data set (n = 5). Within the URPP subsample, duplicate cases were removed based on the participants' student number being provided twice (n = 8); the less complete case was removed. Respondents who did not view any of the vignettes or who did not respond to any follow-up questions after reading a vignette were removed from the data set (n = 42). The final sample was comprised of 561 participants who responded to at least one follow-up question after reading the vignette, and the rate of complete cases (i.e., all survey questions answered) was 84.1% (n = 472).

Recruitment through flyers and handouts. Numerous recruitment strategies were utilized to access the community subsample. Flyers were selectively posted throughout the Greater Toronto Area in locations in which emerging adults frequent (e.g., coffee shops, tattoo shops, health stores, community hockey arenas, main streets with neighbourhood noticeboards, one Adult Learning Centre, churches, community centres). Flyers were also posted around the

campus of a university integrated within the city and on campus at a university located in a suburb of Toronto. Permission was obtained from the appropriate representative of each location prior to posting flyers. See Appendices A and B for a copy of the recruitment flyer and handout, respectively.

Online recruitment. Because the study was accessible via an online survey link (Lauber et al., 2005; Lawlor et al., 2008), online recruiting methods were utilized (sample postings may be found in Appendix C). The online recruiting methods included emailing the survey link through the principal investigator's social network, Facebook postings through the principal investigator's social network, as well as re-posts through "friends'" networks. A Facebook page dedicated to the study was created. Study information was posted on Canadian Facebook pages related to sports (e.g., Canadian Soccer League, Canada Hockey, Football Canada, Volleyball Canada, etc.) to target young men as it was observed early during the data collection process that young men were participating less frequently than young women. Information was posted on LinkedIn via various mental health groups (e.g., Counselling & Psychotherapy interest group) and university alumni groups (e.g., University of Toronto Alumni, York University Alumni). Study information was posted through the Canadian Psychological Association's research portal. The Mental Health Commission of Canada, the Canadian Mental Health Association, the Canadian Centre on Substance Abuse, and the Mood Disorders Society of Canada disseminated the study link through social media outlets such as Facebook and Twitter. Several Canadian trades' organizations (e.g., Ontario College of Trades, Conestoga College, Mohawk College, Trades Consortium of British Columbia, Apprenticeship Manitoba Facebook page, Government of New Brunswick – the Department of Post-Secondary Education, Training and Labour, etc.)

were also contacted directly through email or indirectly via their Facebook page in an attempt to access EAs who pursue education through the trades and apprenticeship programs.

University sample recruitment. To access the university subsample, the study was made available to students enrolled in PSYC 1010 in the Summer term through the Undergraduate Research Participant Pool (URPP). The sole eligibility criterion was that the participant had to be between 18 and 29 years of age.

Study Design

The current study consisted of four MHL conditions: depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa (for females only). Participants were randomly assigned to one of seven vignettes: male depression (n = 79), female depression (n = 82), male substance abuse disorder (n = 80), female substance abuse disorder (n = 75), male social anxiety disorder (n = 79), female social anxiety disorder (n = 85), or female bulimia nervosa (n = 81). Participant gender was counterbalanced with the gender of the character described in the vignette. Table 2 provides a breakdown of the gender distribution by vignette.

Procedure

Participants were asked to access the survey electronically, either by clicking on the electronic survey link included in the online posting, scanning the Quick Response code (a mobile phone readable barcode) using their smartphone, or entering the link from the torn off portion of the flyer into their web browser. Table 3 presents frequency data on the study access points. The majority of participants (58.1%) accessed the study link through a Facebook posting or on the Facebook study page. The online survey was hosted by Qualtrics, survey software known for its advanced features and capabilities. Online surveys have become increasingly common and accepted as a method of gathering data (e.g., Fenner et al., 2012). For example,

two previous MHL studies used online survey methodology (Lauber et al., 2005; Lawlor et al., 2008).

Ethical Considerations

Consent. All participants completed an informed consent process (see Appendices D.1 and D.2 for non-URPP and URPP participants, respectively. After completing the informed consent process, respondents were directed to the survey.

Debriefing. Debriefing information relevant to non-URPP and URPP participants was displayed at the conclusion of the online survey (see Appendices E.1 and E.2, respectively). The debriefing information for URPP participants contained contact information for the Counselling & Disability Services at York University in addition to the list of mental health services in the Greater Toronto Area provided to the non-URPP participants.

Incentives. Non-URPP participants who completed the survey portion of the study were entered into a draw to win one of two $100 gift cards. URPP participants received the standard PSYC 1010 course credit for participating in the survey. Participants who completed the interview portion of the study received a $15 gift card to thank them for their time.

Materials

The survey was based on questions stemming from a vignette read by the participant (see Appendix F). The vignettes and survey questions were largely taken from Jorm's (1997; 2000) established MHL methodology and Marcus and colleagues' (2012) study in order to facilitate comparison of results across studies. The vignettes describing depression and social anxiety disorder were based on Jorm's protocol for assessing MHL related to these disorders and described the same symptoms (e.g., Jorm, 1997; Jorm et al., 2007; Reavley & Jorm, 2011b). Some of the wording in the vignettes was adapted to be developmentally appropriate (e.g.,

reference to functioning at school rather than at work). Wright and Jorm (2009) assessed the validity of the depression and social anxiety vignettes by surveying a group of mental health professionals consisting of psychiatrists and psychologists and asking them to provide a diagnosis based on their reading of the vignette. With regard to the young adult vignettes, psychiatrists provided the intended category of diagnosis (i.e., mood disorder or anxiety disorder) 88.2% of the time and 95.9% of the time related to depression and social anxiety, respectively. Psychologists provided the intended category of diagnosis 95.1% of the time and 94.1% of the time with regard to depression and social anxiety, respectively. The vignette describing substance abuse was developed by the author using the same process as Jorm and describes a fictional 21-year-old (John/Jenny) who met criteria for substance abuse disorder as outlined in the DSM-IV-TR (APA, 2000). The substance abuse vignette focuses on alcohol use due to the large variability of other substance use seen in this age group (Schulenberg & Zarrett, 2006). The vignette describing bulimia nervosa was adapted based on Mond and colleagues' studies (2007; 2010). No validity data currently exists related to the substance abuse disorder and bulimia nervosa vignettes.

For the depression, social anxiety disorder, and substance abuse conditions, participants read a vignette describing either John or Jenny. Half of the participants were provided a vignette describing a character matched to his or her gender, and the other half were given a vignette describing a character of the opposite gender. This allowed examination of any differences related to either participant gender or vignette character gender. Due to the extremely low prevalence of bulimia nervosa in men (Swanson et al., 2011), for the bulimia nervosa vignette, the character was always female regardless of the participant's gender. The character in each of the vignettes is described as being aged 21 years. Once the participant had read the vignette, he

or she answered a series of questions regarding recognition of the disorder in the vignette, what they would do to help a friend who was experiencing a similar problem, beliefs about prevention, beliefs about interventions, attitudes towards mental health and mental illness, exposure to mental disorders, and their own sociodemographic characteristics.

Domains of Inquiry in Online Survey

Problem and disorder recognition.

Problem recognition and problem severity. After reading the vignette, participants were asked whether John or Jenny was experiencing a problem (response categories were *Yes*/*No*). Participants were also asked to rate the problem severity using a 5-point Likert scale for which response options ranged from 1 (*No problem*) to 5 (*Extreme problem*).

Disorder recognition. Participants were asked to identify the problem described in the vignette by typing out their response in a text box. The following instructions were provided to participants: "What would you say, if anything, is wrong with [John/Jenny]? Please be as specific as possible in your response." Appendix G presents the coding scheme used in the current study to identify correct and incorrect disorder recognition. The coding decisions regarding incorrect responses were strict to remain consistent with the coding scheme in other studies (see Jorm et al., 1997 and Wright and Jorm (2009) for descriptions) and to avoid inflating the disorder recognition rates, both of which were intended to ensure that recognition rates were comparable across studies. The responses were independently coded by the principal investigator. To assess the reliability of the coding scheme, a second coder (a clinical psychology graduate student) independently coded the disorder recognition responses. Interrater reliability across disorders was found to be $\kappa = .84$ and the intraclass correlation coefficient (ICC; absolute agreement, average measure ICC) was .91. The incongruent coding decisions

were then discussed until consensus on all of the responses was achieved. Missing data were excluded from the analyses to avoid skewing the results related to the incorrect category.

Help-seeking and treatment.

Need for help and help-seeking actions. Participants were asked to rate the vignette character's need for help on a scale ranging from 1 (*Does not need help*) to 5 (*Definitely in need of help*). Participants were then asked to rate the likelihood that they would take various courses of potentially helpful actions (e.g., *Speak to [John/Jenny] and explain your concern to [him/her]*). Next, participants were asked to self-report on the first, second, and third steps they believed the vignette character should take to get help. Participants also ranked the top two most helpful courses of action for the vignette character (e.g., talk over with friends/family, see a psychiatrist, follow a stress management program). Finally, participants were asked to indicate the level of helpfulness of various help-seeking and treatment options.

Barriers to help-seeking. Participants were asked about potential barriers to help-seeking. More specifically, they were asked to choose the primary reason John or Jenny may not have sought help from a list of seven possible barriers (e.g., ashamed or uncomfortable asking for help, the cost of seeking treatment).

Prognosis. Participants were asked about their understanding of John or Jenny's chances of recovery if professional help was or was not received. Response categories included, for example, "Full recovery with no further problems" and "No improvement."

Knowledge of mental illness.

General knowledge. Participants answered several questions to assess their broad mental health knowledge and attitudes. More specifically, participants were asked to estimate the prevalence of mental health disorders in Canada. The prevalence rate of mental health disorders

in Canada is 1 in 5; however, a response of "1 in 10" was also accepted as correct to facilitate comparison with other Canadian studies (e.g., Marcus et al., 2012). Participants were also asked to identify the most commonly experienced mental illness in Canada (i.e., anxiety disorders). Participants' agreement with the statement "Mental health problems are a leading cause of work disability in Canada" was assessed. Finally, participants' perceptions were also assessed (response options included *Yes*, *No*, *Don't Know*) as to whether individuals with specific mental health problems (i.e., depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa) would be discriminated against by others in the community.

Epidemiological knowledge. Participants' knowledge of the likelihood of different groups of people experiencing mental health problems was assessed by comparing two groups of people. For example, statements included, "Do you think that women would be more likely or less likely than men to suffer these sorts of problems? Participants had to choose between the following response categories: *more likely*, *less likely*, *no differences*, *depends*, or *don't know*.

Knowledge of causes of mental illness. Participants were asked to indicate using a Likert scale how likely 10 reasons were to be causes of mental illness (1 = *Very unlikely* to 7 = *Very likely*).

Attitudes towards mental illness. Participants' attitudes were assessed with regard to how they perceive individuals who have a mental illness (e.g., "A problem like John's is a sign of personal weakness.") and their general understanding of the nature of mental illness (e.g., "John's problem is not a real medical illness.").

Positive mental health. Participants were asked to rate the helpfulness of several actions that may promote positive mental health (e.g., good physical exercise habits, good eating habits, being spiritual or religious). Response categories included *helpful*, *neither*, *harmful*, *depends*, or

don't know. Participants were also asked to self-report on the top three strategies used in their own lives to maintain positive mental health.

Statistical Analysis

A power analysis completed using Stata 11.0 was carried out to determine an approximate minimum sample size in order to be able to detect gender differences in participants within both the male and female vignettes. A series of power analyses was conducted using various alpha levels, probabilities, and variance estimates. The power analysis accounted for several independent variables that, taken together, were hypothesized to explain approximately 30% of the variance in the dependent variable in the context of the power analysis. The most conservative power analysis with an alpha level of .001 (adjusted for family-wise error rate) and power set at .80 indicated that a minimum of 239 participants would be necessary.

Descriptive data were analyzed using percent frequencies, *t*-tests (i.e., Likert-style items), and chi-square analyses for categorical data. When unequal variances were identified in a particular analysis, as indicated by, for example, Levene's test for equality of variances, the appropriate statistical results were reported (e.g., unequal variance *t*-test). For chi-square analyses, standardized residuals were examined to understand the significant differences within the distribution. A critical value of +/- 1.96, corresponding to an alpha level of .05, was used to test the statistical significance of the standardized residuals. To prevent making Type I errors, for 2x2 chi-square analyses, Yates' Continuity Correction statistic was used. A family-wise alpha level of .05 determined statistical significance of the results, but was adjusted accordingly to guard against inflated Type 1 error rates when a series of questions were used to assess a similar construct. The percentages reported in the results are based on valid responses and do

not account for missing data. The only exception to this rule is in the reporting of the demographics and study access points data which account for missing data.

Results

Problem and Disorder Recognition

Problem recognition. After reading the vignette, participants answered whether John or Jenny was experiencing a problem (see Table 4 for data on rates of a problem being recognized in the vignette). Participants indicated at high rates that John or Jenny was experiencing a problem (over 95% agreement across the depression, substance abuse disorder, and bulimia nervosa vignettes). However, the rates of indicating that a problem existed within the vignette character were lower for social anxiety disorder (male social anxiety disorder = 87.3%; female social anxiety disorder = 87.1%).

Problem severity. Participants rated the severity of the problem of the character in the vignette. Table 5 presents descriptive data on the problem severity ratings by vignette and broken down by participant gender. A two-way ANOVA was conducted that examined the effects of gender and disorder on problem severity ratings for male vignettes. Main effects of gender [$F(1, 231) = 5.14$, $p = .024$, $\eta^2_p = .02$] and disorder [$F(2, 231) = 18.84$, $p < .001$, $\eta^2_p = .14$] on problem severity ratings were found. Women's problem severity ratings ($M = 4.05$, $SE = 0.06$) were higher than men's ratings within the male vignettes ($M = 3.78$, $SE = 0.10$). Problem severity ratings differed significantly across all disorders within the male vignettes (see Table 5). No statistically significant interaction effect was found. A separate two-way ANOVA was conducted that examined the effects of gender and disorder on problem severity ratings for female vignettes. No main effect of gender was found [$F(1, 313) = 1.47$, $p > .05$]. However, a main effect of disorder [$F(3, 313) = 39.91$, $p < .001$, $\eta^2_p = .28$] on problem severity ratings was

found. While problem severity ratings did not significantly differ between substance abuse and bulimia, all other problem severity ratings significantly differed from one another within the female vignettes (see Table 5). No statistically significant interaction effect was found. No statistically significant age differences in problem severity ratings were identified.

Disorder recognition: Overall recognition rates. The rates for identifying the disorders were considerably different than recognizing that the character had a "problem." Disorder recognition rates were also significantly different across the disorders, $\chi^2(3) = 25.04$, $p < .001$; Cramer's $V = .13$, depression (83.2%), substance abuse disorder (69.8%), social anxiety disorder (57.1%), and bulimia nervosa (68.8%). According to an examination of standardized residuals, participants were significantly more likely to identify depression correctly ($z = 2.0$, $p < .05$) than other disorders. Participants were also significantly more likely to incorrectly identify anxiety ($z = 2.9$, $p < .05$) relative to other disorders. Table 6 presents data on recognition rates broken down by gender. When the gender of the vignette character is ignored, there were gender differences in recognition rates of depression ($\chi^2(1) = 10.84$, $p = .001$; Cohen's $d = .55$) and bulimia nervosa ($\chi^2(1) = 5.79$, $p = .02$; Cohen's $d = .57$), such that women had higher recognition rates than men.

Disorder recognition: Gender-specific rates in relation to the vignette character. A significant gender difference was observed in relation to the male depression vignette ($\chi^2(1) = 4.00$, $p = .04$; Cohen's $d = .47$) and the female depression vignette ($\chi^2(1) = 5.35$, $p = .02$; Cohen's $d = .54$), such that women had higher recognition rates than men. Table 6 presents data on disorder recognition broken down according to the gender-specific vignettes.

Disorder recognition: Age differences in mental health literacy. Age categories were chosen based on the categorization used by Arnett and Schwab (2012) in The Clark University

Poll of Emerging Adults (i.e., 18 to 21 year olds, 22 to 25 year olds, and 26 to 29 year olds). Age differences in correct identification of the disorders overall and by gender of character in the vignette were assessed. A significant age difference in recognition rates was found in relation to social anxiety disorder ($\chi^2(2) = 10.13$, $p = .006$). An examination of the standardized residuals did not indicate a particular age group that contributed to the significant age difference in recognition rates, although there was a trend toward significance with the 18 to 21 year olds being less likely to correctly identify social anxiety disorder ($z = 1.9$). When age differences in correct recognition of disorders were broken down by gender of character in the vignette, a similar pattern was observed. In particular, age differences were found in the correct recognition of female social anxiety, $\chi^2(2) = 9.31$, $p = .01$. No other statistically significant age differences were found in recognition rates within the disorders investigated in the current study.

Help-seeking and Treatment

Need for help. Table 7 presents descriptive data on the ratings of need for help by vignette and broken down by participant gender. A two-way ANOVA was conducted to examine the effects of gender and disorder on need for help ratings for the male vignettes. A main effect of gender was found [$F(1, 222) = 9.13$, $p = .003$, $\eta^2_p = .04$], such that women's need for help ratings ($M = 4.24$, $SE = 0.07$) were significantly higher than men's ratings ($M = 3.83$, $SE = 0.12$). A main effect of disorder on need for help ratings was not found, nor was as interaction effect found. An additional two-way ANOVA was conducted to examine the effects of gender and disorder on need for help ratings among the female vignettes. A significant interaction effect between gender and disorder on need for help ratings was found [$F(3, 305) = 3.45$, $p = .02$, $\eta^2_p = .03$]. Women's need for help ratings were higher than men's ratings with regard to depression, social anxiety disorder, and bulimia, but were lower with regard to substance abuse disorder in

the female vignettes (see Table 7). No significant age differences in need for help ratings were identified.

Courses of action to help. Participants were asked how likely they would be to take several courses of action to help John or Jenny. An initial examination of the data revealed a nearly identical pattern in courses of action. Thus, it was decided to present the data combined for male versus female vignettes and instead broken down by disorder category (i.e., depression, substance use disorder, social anxiety disorder, and bulimia nervosa). Differences in the likelihood of taking each specific action across the disorders were assessed using a series of one-way ANOVAs (Bonferroni and Tamhane's T2 corrections were applied, as appropriate; see Table 8). Significant differences in participants' likelihood of speaking directly to the individual with the problem were observed, $F(3, 261.35) = 5.08$, $p = .002$, $\eta^2 = .04$, such that participants' likelihood of speaking directly with the individual was significantly lower in the social anxiety disorder condition ($M = 3.36$, 95% CI [3.23, 3.49]) compared to the depression ($M = 3.63$, 95% CI [3.53, 3.72]), $p = .007$) and substance abuse disorder ($M = 3.67$, 95% CI [3.57, 3.77]), $p = .001$) conditions. Similarly, significant differences in participants' likelihood of speaking to a mutual friend about their concern were observed, $F(3, 254.09) = 14.19$, $p < .001$, $\eta^2 = .09$, such that participants' likelihood of speaking with a mutual friend was significantly lower in the social anxiety condition ($M = 2.92$, 95% CI [2.76, 3.07]) than in the depression ($M = 3.39$, 95% CI [3.27, 3.52], $p < .001$), substance abuse disorder ($M = 3.54$, 95% CI [3.43, 3.65], $p < .001$), and bulimia ($M = 3.44$, 95% CI [3.26, 3.61], $p < .001$) conditions. A similar pattern was observed in relation to participants' likelihood of gathering treatment options for their friend, $F(3, 533) = 7.51$, $p < .001$, $\eta^2 = .04$, such that participants' likeliness to gather information on potential treatment options for the problem their friend was experiencing was significantly lower in the

social anxiety disorder condition (M = 2.88, 95% CI [2.72, 3.03]) than in the substance abuse disorder (M = 3.25, 95% CI [3.12, 3.38], p = .001) and the bulimia nervosa (M = 3.35, 95% CI [3.19, 3.50], p = .001) conditions.

Help-seeking actions. Participants were asked to describe their recommendation regarding the vignette character's first step in seeking help. Table 9 presents frequency data on the courses of helpful actions broken down by disorder. Participants overwhelmingly indicated that the vignette character must first recognize that he or she is experiencing a problem. The second most frequently reported course of action was to speak with friends or family. There were significant differences in the distribution of reported courses of action across disorders, $\chi^2(21) = 81.17$, $p < .001$. An examination of the standardized residuals indicated that participants were more likely to suggest speaking with family and friends ($z = 2.3$, $p < .05$) and seeking help from a doctor ($z = 2.5$, $p < .05$) as first steps in obtaining help for individuals experiencing depression. For individuals experiencing substance abuse disorder, participants were more likely to report that recognizing the problem ($z = 2.4$, $p < .05$) and trying to work on the problem on one's own ($z = 2.1$, $p < .05$) would be first steps in getting help, whereas they were less likely to suggest seeking help from a doctor ($z = -2.7$, $p < .05$) and educating oneself about the problem ($z = -2.2$, $p < .05$). For individuals experiencing bulimia nervosa, participants were less likely to suggest that the individual should try to work on the problem on her own ($z = -2.5$, $p < .05$).

Participants also ranked their top two choices as to how the vignette character could best be helped. Frequency data broken down by disorder are presented in Table 10. Participants indicated that the vignette character must first recognize the problem. Recognizing the problem had the greatest frequency across all disorders as a first choice in helpful actions. Talking over with friends and family was the second most frequently ranked category. Participants were also

asked to rate each action's helpfulness (see Table 11). Within the non-professional help-seeking category, participants rated recognizing the problem, talking it over with friends/family, and joining a support group as most helpful across all disorders. In terms of professional help-seeking options, seeing a counsellor, a doctor, a psychologist, or a psychiatrist were rated by participants as most helpful across all disorders.

Barriers to help-seeking. The question regarding potential barriers to help-seeking was asked separately of participants in the male versus female vignette conditions. There were significant differences in participants' perceptions of barriers to help-seeking across the disorders when a male was the vignette character, $\chi^2(16) = 29.47$, $p = .02$, as well as when a female was the vignette character, $\chi^2(21) = 40.62$, $p = .006$ (see Table 12). No gender differences (with regard to the participants' gender) were observed in participants' perceptions of barriers to help-seeking among men, $\chi^2(8) = 7.47$, $p = .49$, or among women, $\chi^2(7) = 10.95$, $p = .14$. In general, lack of recognition of a mental health problem was one of the most frequently cited barriers to help-seeking behaviour among women who are experiencing substance abuse disorder and bulimia and for men who are experiencing depression and substance abuse disorder. Being ashamed or uncomfortable asking for help was the most common barrier cited related to social anxiety disorder in both men and women and in women who are experiencing depression.

Prognosis. Participants were asked to indicate their perception of prognosis if the vignette character received and did not receive professional help (see Table 13). Interestingly, many participants thought that full recovery from all disorders was possible when professional help was received, but that problems would probably re-occur. Approximately 50% of participants correctly believed that the vignette character's prognosis would get worse if professional help was not received; this finding was consistent across disorders. Interestingly,

over 20% of participants within each disorder believed that some form of recovery was possible when professional help was not received (depression = 30.2%; substance abuse disorder = 26.3%; social anxiety disorder = 22.0%; bulimia nervosa = 21.7%).

Knowledge of Mental Illness

General knowledge. Women were better than men at estimating the prevalence of mental health disorders in Canada, with 53.5% of men and 63.6% of women providing correct estimates, $\chi^2(1) = 4.43$, $p = .04$. Significant age differences were observed in the rates of estimating the prevalence of mental health disorders in Canada, $\chi^2(2) = 7.29$, $p = .03$, although based on the standardized residuals, it was unclear which age group contributed to this significant difference.

In terms of knowledge of the most common mental disorder in Canada, 20.6% of responding participants ($n = 486$) correctly identified anxiety disorders. Women and men were similarly poor at identifying anxiety as the most common form of mental disorder in Canada (both had correct identification rates of 20.6%). Depression is the second most common mental disorder in Canada (Health Canada, 2002). However, 70.8% of responding participants indicated that they believed depression was the most common mental disorder in Canada. No age differences were found in identifying the most common mental disorder in Canada.

The majority of participants (57.9% of $n = 486$) *agreed* or *strongly agreed* that mental health problems are a leading cause of work disability in Canada ($M = 3.57$, $SD = 1.02$). No significant gender differences in agreement with this statement were found, $t(484) = -1.11$, $p = .27$).

Significant differences were observed across the disorders with regard to emerging adults' perceptions of whether or not individuals would be discriminated against by others in the

community, $\chi^2(6) = .21.50$, $p = .001$. Specifically, based on an examination of the standardized residuals, EAs in the current study were significantly more likely to believe that individuals experiencing substance abuse disorder would be discriminated against by others in the community compared to individuals experiencing the other disorders, $z = 2.5$, $p < .05$.

Epidemiological knowledge. Participants' knowledge of the epidemiological patterns of mental illness was assessed (see Table 14). No gender differences were observed in participants' knowledge of the pattern of mental health problems in specific groups of the population. About one-third (35.8%) of participants believed that women and men are equally likely to experience mental health problems, whereas approximately 40% of participants believed that women are more likely than men to experience mental health problems. Over half of participants (53.7%) correctly believed that young people under the age of 25 years would be more likely to experience mental health problems. About 40% of participants believed that poor people would be more likely to experience mental health problems, and approximately half of participants (51.2%) believed that unemployed people would be more likely to experience mental health problems.

Knowledge of causes of mental illness. In general, participants had a relatively accurate understanding of possible causes of mental illness, including traumatic events, problems from childhood, genetic causes, and substance abuse (see Table 15). Similarly, participants did not strongly endorse viruses, allergies, fate, and lack of willpower as being possible causes of mental illness. In examining gender differences in participants' understanding of possible causes of mental illness, a Bonferroni correction was applied such that the alpha level was set to .005. There were significant gender differences in participants' ratings of problems from childhood, inherited or genetic causes, and brain disease or a chemical imbalance, such that women more

strongly endorsed these reasons as potential causes of mental illness compared to men. Men more strongly endorsed "lack of willpower" as being a possible cause of mental illness than women.

Attitudes Towards Mental Illness

Participants' attitudes towards mental illness were assessed separately for those participants who viewed a vignette about John versus Jenny. However, a nearly identical pattern of means was observed across the statements. Thus, it was decided to take the mean of each attitudinal statement and test for participant gender differences in relation to each statement. A Bonferroni correction was applied such that the alpha level was set to .005. In general, people's attitudes indicate an understanding that mental illnesses are real illnesses and not a sign of personal weakness (see Table 16), with men's ratings toward mental illness being less favourable than women's ratings across all statements. There were statistically significant gender differences with regard to the statements that the "person could snap out of the problem" ($t(188.31) = 3.92$, $p < .001$), "mental health problems are a sign of personal weakness" ($t(197.81) = 3.73$, $p < .001$), and "mental health problems are not real medical illnesses" ($t(193.05) = 4.70$, $p < .001$), such that men were more likely than women to agree with these statements.

Positive Mental Health

Table 17 presents frequency data related to the positive mental health behaviours rated by participants. Over 80% of participants rated each of the positive mental health behaviours as being helpful, with the exception of "being spiritual or religious" (48.1%) and "abstaining from alcohol and drugs" (62.1%) which were rated less frequently as being helpful. The top three most frequently cited positive mental health behaviours were having supportive and good relationships with friends and family, good physical exercise habits, and taking time for

relaxation. No gender differences were found in the helpfulness ratings of the positive mental health actions. Participants were also asked to self-report on their personal strategies for maintaining positive mental health (see Table 18). The three most frequently reported behaviours for achieving positive mental health were engaging in some form of physical activity (22.7%), having supportive relationships (21.1%), and getting enough sleep and relaxation (13.9%). The "other" category (3.6%) included behaviours such as engaging in creative activities, having hobbies, and being self-aware.

Discussion

The purpose of Study 1 was to investigate EAs' MHL related to four disorders: depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa. MHL included disorder recognition rates as well as help-seeking attitudes and behaviours, general and specific mental health knowledge, attitudes towards mental illness, and positive mental health attitudes and behaviours. In general, the recognition rates found in the current study ranged from moderate to strong. However, as expected, there were significant gender differences in recognition rates. The importance of recognizing that one has a mental health problem was identified as an important contributing factor in the help-seeking process and in terms of accessing treatment. In addition to lack of recognition that a problem exists, stigma was also identified as a barrier to help-seeking. In the current sample of EAs, knowledge of and attitudes towards mental illness and individuals who have a mental illness were generally positive. However, there were significant gender differences in both domains such that men's knowledge was not as strong as women's knowledge and their attitudes were less favourable. Results from the current study suggest that EAs' ability to recognize certain mental illnesses is adequate, but that there is room for improvement, especially with regard to recognition of the symptoms of

substance abuse disorder, social anxiety disorder, and bulimia nervosa. Similarly, the results provide an empirical basis for further improvement of specific domains of MHL (i.e., knowledge of prognosis and treatment options) in EAs.

Disorder Recognition Rates

Overall, depression recognition rates (83.2%) were found to be similar to previous rates identified in the literature, which have ranged from approximately 75 to 80% (Marcus et al., 2012; Reavley & Jorm, 2011b; Wang et al., 2007). As hypothesized, overall recognition rates related to substance abuse disorder (69.8%), social anxiety disorder (57.1%), and bulimia nervosa (68.8%) were moderate and significantly weaker than the recognition rates related to depression. As this is the first known study to investigate recognition rates related to substance abuse disorder and bulimia nervosa, the moderate recognition rates are informative in terms of directions for future research and in terms of the focus of MHL efforts. In particular, MHL efforts could target EAs' knowledge of substance abuse disorder, including the symptoms associated with this disorder and how they may be exhibited within this developmental stage.

As hypothesized, there were also significant gender differences in recognition rates related to depression and bulimia nervosa such that women were better than men at recognizing these disorders. Several explanations for these gender differences are possible. First, depression and bulimia nervosa are more prevalent in women than in men (Kessler et al., 2005; Swanson et al., 2011). Therefore, it is possible that the women in the current study were more likely than the men to have previously been exposed to these disorders in some manner. Second, and relatedly, based on post-hoc analyses, women in the current sample had significantly higher levels than men in terms of previous exposure to mental health information through education, training, volunteer work, and knowledge of organizations dealing with mental health. A third explanation

may be related to the skewed gender breakdown of the current sample (i.e., 72% women vs. 28% men). It may be that with a larger number of men in the sample, the gender difference in recognition rates would no longer have been statistically significant. This hypothesis is partially supported given that the effect sizes related to gender differences in recognition rates ranged from small to medium. Notwithstanding the reasons for the gender differences, given the difficulty in accessing young men to participate in the current study, it remains important for MHL efforts to target men's knowledge of both depression and bulimia nervosa. With regard to social anxiety disorder, the recognition rates are higher than those found in previous studies. For example, Reavley and Jorm (2011b) found that the recognition rate related to social phobia in their Australian sample of individuals aged 15 and over was 9.2%. Although the recognition rate related to social anxiety disorder was higher in the current study, these findings highlight the continued importance of improving MHL in relation to social anxiety disorder in both women and men and differentiating it from shyness or a lack of confidence (Wright & Jorm, 2009).

Within the MHL literature, it is postulated that accurate labeling of disorders is important because it is associated with more optimal help-seeking behaviours in line with the particular mental health problem being experienced by the individual (Wright et al., 2007). Wright and Jorm (2009) also discuss the notion that the use of lay terms (e.g., being shy rather than experiencing social anxiety) may lead the individual to believe that the problem is within the normal realm of experience and prevent seeking help from a professional. Future research could investigate the prospective relation between labeling (both accurate and inaccurate) and actual help-seeking behaviours to better understand the importance of accurate labeling of disorders compared to the general belief that a problem exists.

Help-Seeking and Helpful Actions

Participants indicated that recognizing the problem was the best first choice in terms of help-seeking for the vignette character across all disorders, underscoring the need for improvements in MHL. EAs must be able to recognize the signs and symptoms of mental health problems in order to understand that one is experiencing a problem. Furthermore, as hypothesized, the second most frequently ranked category was talking with friends and family. This finding is consistent with previous MHL research that has found young people prefer to seek help from informal sources of support (e.g., Marcus et al., 2012; Wright et al., 2005). As would be expected within this developmental stage, participants' responses suggest that they would be more likely to speak with friends rather than the individual's parents if they were concerned about a friend experiencing a mental health problem (see Table 8). Taken together, these findings further highlight the need for MHL improvements at the population-level as EAs will seek the support of friends and family as one of the first steps in seeking help for a mental health problem.

The current results indicate that, in general, participants are less likely to speak directly to the individual experiencing the problem, speak to a mutual friend, and gather information on potential treatment options for the problem when the vignette character is experiencing social anxiety disorder relative to depression, substance abuse disorder, and bulimia nervosa. This pattern may be related to the fact that EAs in the current study did not perceive social anxiety disorder to be as severe of a problem as the other disorders investigated. Relatedly, EAs' ratings of need for help were lower in the male and female social anxiety disorder conditions. This pattern of findings is concerning given that anxiety disorders are the most commonly experienced class of disorder in Canada (Health Canada, 2002), and social anxiety disorder is the

third most prevalent disorder within EAs (Kessler et al., 2005). Based on these findings, further research seems to be warranted into EAs' understanding of the signs, symptoms, prognosis, and treatment options for social anxiety disorder. Indeed, it will be important for future research to identify the reasons underlying EAs' perceptions of social anxiety disorder as one that may not be as severe as other mental disorders. Furthermore, these findings are important in terms of improving MHL related to social anxiety disorder. Certainly, the findings suggest that social anxiety disorder is not well understood or identified by EAs and that MHL efforts could target this particular disorder as one method of increasing help-seeking behaviour. Given that social anxiety disorder often first emerges during adolescence and is a relatively stable disorder (Bruce et al., 2005; Kessler et al., 2005; Kessler et al., 2007), the current results provide a strong rationale for incorporating MHL related to social anxiety disorder into the middle school and high school curricula to ensure that young people are equipped with adequate knowledge regarding this disorder and to facilitate help-seeking behaviour.

Knowledge of Mental Illness

Although EA women were better than men at identifying the rates of mental illness in the Canadian population, men and women were similarly poor at identifying the most common mental illness in Canada (i.e., anxiety; Health Canada, 2002). EAs in the current sample had relatively accurate knowledge regarding the epidemiology of mental illness in the population, for example, correctly identifying that young people under the age of 25 years would be more likely to experience mental health problems than other age groups. Participants also had a relatively good understanding of possible causes of mental illness (e.g., traumatic events, genetic causes, and substance abuse), although men more strongly endorsed "lack of willpower" as being a possible cause of mental illness than women. This pattern of findings is consistent with previous

findings in the literature suggesting that men are more likely to attribute mental illness to personal weakness than are women (Reavley & Jorm, 2011c).

Attitudes Towards Individuals with Mental Illness

In the current study, participants' non-stigmatizing self-reported attitudes towards individuals with mental illness are relatively consistent with previous findings in the literature. For example, Reavley and Jorm's (2011c) findings suggest that a large proportion of Australians had generally non-stigmatizing self-reported attitudes towards individuals with mental illness. In the current sample of EAs, men's attitudes towards mental illness and those with mental health problems were generally positive, though their attitudes were less favourable than women's on all attitudinal statements (although not all differences reached statistical significance). Thus, the current results are positive, suggesting that both men and women have generally positive attitudes towards those who have a mental illness, though men may have less of a developed understanding of the causes, development, and effects of mental illness relative to women. Reavley and Jorm did not investigate gender differences with regard to their participants. Interestingly, Reavley and Jorm found that stigmatizing attitudes varied according to the disorder with higher levels of stigmatizing attitudes being related to more severe disorders such as schizophrenia. Post-hoc analyses indicated that this was true with regard to several attitudinal statements in the current study. Specifically, participants had more stigmatizing attitudes with regard to individuals with substance abuse disorder in terms of perceiving the disorder as a sign of personal weakness, perceiving the individual as dangerous, avoiding the individual, perceiving the individual as being unpredictable, not being open to employing the individual, and not voting for the individual if he or she was a politician. Given these differences in stigmatizing attitudes across disorders, future research could examine how to reduce the stigma associated with

particular disorders such as substance abuse as well as how to correct the misconceptions associated with such disorders. Furthermore, it will be important for MHL programs to include accurate information related to specific disorders that may contribute to a reduction in stigma associated with the particular disorder (Reavley & Jorm, 2011c).

Positive Mental Health

EAs in the current sample demonstrated good understanding of various methods of achieving positive mental health. For example, participants indicated that having supportive relationships, engaging in physical activity, and taking time for relaxation were the top three most "helpful" positive mental health behaviours. Similarly, participants self-reported numerous positive behaviours for achieving positive mental health. Engaging in physical activity (22.7%), having supportive relationships (21.1%), and getting enough sleep and relaxation (13.9%) were the three most frequently reported behaviours by the EAs in the current sample. Although there is some evidence to support the helpfulness of engaging in these behaviours to achieve or maintain positive mental health (e.g., Ströhle et al., 2007), certain disorders may not be entirely preventable given the role of genetics in the development of mental disorders.

Some of the less frequently reported positive mental health behaviours included participating in social activities (3.6%), seeking professional help when necessary (2.3%), and avoiding harmful substances (1.1%). Thus, the current findings suggest that EAs are engaging in healthy behaviours to achieve positive mental health. Interestingly, EAs did not frequently endorse seeking professional help when necessary as a method of achieving positive mental health. This is similar to the findings in Marcus and colleagues' (2012) study in which it was found that young adults were less likely to endorse using professional care (e.g., family doctor) for the treatment of mental health problems compared to older adults. Future research could

examine the reasons why EAs do not consider seeking professional help when necessary as a method for achieving positive mental health. For example, perhaps EAs do not consider medical doctors as an appropriate first step to take when experiencing a mental health problem. Indeed, the findings in the current study suggest that EAs do not strongly endorse seeing a medical doctor as a first or second step in getting help for a mental health problem (see Table 10). This supports previous findings in the literature suggesting that EAs do not necessarily perceive their medical doctor as an individual to consult when experiencing a mental health problem, despite visiting their doctor for other reasons (Mauerhofer, Berchtold, Michaud, & Suris, 2009). Similarly, a relatively recent report found that less than 40% of Canadians with a self-identified mental disorder had consulted with some type of health care provider in the past year (Lesage et al., 2006). Another explanation for this finding may be that help-seeking is affected by factors such as accessibility, availability, and the stigma surrounding mental health problems (Lesage et al., 2006). This explanation is also supported by the findings in the current study; that is, seeking help from a counsellor was not frequently endorsed as a method of accessing help for mental health problems. For example, only 33.3% of EAs in the current study, the largest proportion observed, thought that, for the treatment of a substance abuse problem, seeing a counsellor would be the second most helpful action to take. The theory of planned behaviour (Azjen, 1991), which posits that intentions to perform particular behaviours (i.e., seek help) are influenced by attitudes, subjective norms, and perceived behavioural control, may also be pertinent to understanding the complexity of help-seeking behaviour. For example, EAs' own attitudes towards and the stigma (subjective norms) related to mental health problems and seeking help for mental health problems may be two explanatory factors in EAs' intentions to

seek help. Certainly, help-seeking is a complex process, and an important area for future research will be to understand the pathways to mental health services taken by EAs.

In terms of "avoiding harmful substances" as a method of achieving positive mental health, a very small percentage (1.1%) of EAs in the current study reported actively using this strategy. Thus, it is unclear based on their responses to this question whether EAs understand that the use of certain substances is associated with poor mental health (Vida et al., 2009). This is somewhat in-line with the moderate recognition rates related to substance abuse disorder found in the current sample. Conversely, in the current sample, EAs indicated strong agreement that alcohol or drug abuse is a likely cause of mental illness (see Table 15). Furthermore, over 60% of participants in the current sample indicated that avoiding the use of alcohol and drugs is helpful for achieving positive mental health (see Table 17). Taken together, it may be the case that a proportion of EAs in the current sample believed that the particular substances they use will not be harmful for their mental health or that the use of substances will not harm them despite being harmful in general. Thus, although it is promising that participants in the current sample did not explicitly report engaging in the use of substances to achieve positive mental health, it would be beneficial for future research to investigate EAs' understanding of the association between substance use and mental health, as well as the nuances of their understanding of substance abuse disorder itself (e.g., at what point does the use of substances become problematic?). An investigation of EAs' beliefs about the relation between substance use and mental health would be informative for tailoring substance use and mental health prevention and intervention efforts aimed at young people and for improving their MHL related to substance abuse disorder.

In terms of MHL research, it is key that people's knowledge and attitudes related to positive mental health (e.g., methods for achieving positive mental health, what it means to have positive mental health) become integrated within their personal MHL frameworks and are adopted within the MHL literature as a whole. While Jorm (2012) has proposed that MHL include knowledge of effective self-help strategies for milder problems, it is proposed that MHL be extended to include knowledge of how to achieve positive mental health regardless of whether one has a mental health problem. For example, Jorm and Griffiths (2006) proposed that evidence-based self-help strategies be disseminated at the population level as a method to prevent the development of severe mental health problems. It is proposed that such a strategy be implemented within a positive mental health promotion framework. In other words, evidence-based behaviours for achieving positive mental health (e.g., exercise and relaxation training; Jorm & Griffiths, 2006) should be implemented at the population level. Further, it would be interesting for future research to determine whether knowledge, attitudes, and behaviours related to positive mental health are associated with MHL. More specifically, it would be valuable to investigate whether individuals who engage in positive mental health behaviours have higher levels of MHL compared to those individuals who do not engage in positive mental health behaviours and determine the correlates of each domain. Future research on how to improve positive mental health knowledge, attitudes, and behaviours at the population level is also warranted. For example, one approach might be to incorporate MHL training into school curricula and post-secondary education orientation programs. In fact, some school boards have started this practice with initial success in terms of improving teachers' MHL (Sun Life Financial Chair in Adolescent Mental Health, 2013). At the post-secondary level, MHL training could be

integrated into student organizations and sports teams in order to ensure that as many students as possible at all stages of their education (i.e., not only first-year students) receive the information.

Strengths, Limitations, and Future Directions

Study 1 has several strengths including a relatively large sample size, the use of novel sampling (i.e., social media) and data collection (i.e., an online survey) methods, and the inclusion of substance abuse disorder and bulimia nervosa as vignettes to study MHL. Despite numerous strengths, the present study has several limitations. A self-selection bias may have affected the sampling and, therefore, the representativeness of the sample. Because the study recruitment materials specifically stated that the study was about mental health, individuals who had some previous first- or second-hand experience with mental health problems may have been more likely to participate in the study. Similarly, individuals who had low levels of MHL and negative attitudes related to mental health may have been less likely to participate in the study. However, the breadth of sampling techniques in the present study is a definite improvement over the convenience samples of first-year university students often used in psychological research. Future research should strive to utilize population-based data sets to avoid self-selection biases related to sampling and ensure the representativeness of the findings (e.g., Marcus at el., 2012, Wang et al., 2007).

Despite targeting sports-related Facebook pages and adapting the wording of the study recruitment social media postings to underscore the importance of understanding mental health knowledge in young men, the current sample was predominantly comprised of young women (72% women). The composition of the sample speaks to the challenges of engaging young men in mental health research. It is essential to continue to research MHL in young men to understand their unique perspectives and experiences and to determine how to improve their

MHL. Future research should include a priori sampling strategies to ensure that an adequate number of male participants are included. Furthermore, MHL programs should attempt to engage young men and ensure that the information is tailored in such a way that it is accessible to them.

The current sample was highly educated. This sample characteristic may be explained by the fact that more Canadian EAs have access to post-secondary education than ever before (Arnett, 2011; Canadian Education Statistics Council, 2012). However, past MHL research has shown that, even within highly educated individuals, there is variability in MHL according to disorder (Lauber et al., 2005; Reavley et al., 2012). Because the current study used online survey methodology, highly disadvantaged individuals who may not have access to the internet would have been less likely to participate in the study. Similarly, the use of social media tools to distribute the link to the online survey would have excluded EAs who do not use these forms of social media, which is a limitation inherent in this approach to data collection (Fenner et al., 2012). Interestingly, there is mixed evidence regarding the utility of online mental health information in terms of facilitating actual help-seeking behaviour among male and female EAs (Kauer, Mangan, & Sanci, 2014). Thus, future research would benefit from sampling specific populations of EAs, most notably those who do not attend post-secondary education (i.e., those with lower education levels), those living in rural and inner-city locations, and those who do not regularly use the internet to determine their level of MHL. Based on well-established evidence, it is known that these groups of EAs, who are known to be harder to access for research purposes, are at risk for mental health problems and would likely benefit from receiving MHL training (Arnett, 2000; Arnett & Schwab, 2012).

Although it was decided a priori to combine the community and university samples, post-hoc analyses indicated that there was a significant difference in the recognition rates of social anxiety disorder between the two samples such that the university sample (26.5% correct) had lower recognition rates than the community sample (66.4% correct), $\chi^2 = 17.24(1)$, $p < .001$. No statistically significant differences between the two samples were found related to recognition of depression, substance abuse disorder, or bulimia nervosa. Knowing that the university sample was significantly younger than the community sample, age may be one explanation for this difference between the two samples. This hypothesis is supported by the finding that younger EAs (i.e., 18 to 21 year olds) seemed to be more likely than 22 to 25 year olds and 26 to 29 year olds to incorrectly recognize social anxiety disorder.

The current study was focused on the specific developmental stage of emerging adulthood. Although there were some significant age differences identified in the current study (e.g., recognition rates of social anxiety disorder appear to be lower in 18 to 21 year olds), it may be fruitful for future research to investigate changes in MHL in other age groups such as adolescence and adulthood to better understand the progression of MHL over time, both developmentally and in terms of generational cohorts. Indeed, past research has shown that MHL can be improved with the implementation of population-wide mental health promotion programs (Jorm, 2012). Future research could take a developmental approach to studying MHL and sample pre-adolescents and adolescents with the goal of promoting MHL as early as possible. For example, school-based programs offer the advantage of accessing youth on a large-scale basis in a cost-effective manner (Sun Life Financial Chair in Adolescent Mental Health, 2013). Integrating MHL into educational curricula would enable all individuals, regardless of their socioeconomic status, to have access to the knowledge. As has been developed in Australia

(Jorm, Christensen, & Griffiths, 2006), longitudinal Canadian research on MHL would also be beneficial to track changes in MHL at the population level allowing researchers and policymakers to determine the efficacy of efforts to improve MHL. For example, a national population-based data set tracking MHL could be created to target specific areas for improvement within the MHL domain (e.g., MHL related to specific disorders and in specified groups of individuals). Based on the findings in the current study, it would be important for such an initiative to target male EAs generally and their knowledge related to depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa more specifically. Female EAs' knowledge of substance abuse disorder and social anxiety disorder would also be key targets.

This is the first known study to investigate MHL in relation to substance abuse disorder and to investigate recognition rates related to bulimia nervosa in a sample of male and female EAs. The reliability of the coding for substance abuse disorder was in the acceptable range and less reliable than the interrater reliability coding for the other disorders. Thus, future research should attempt to replicate the findings, especially with regard to substance abuse disorder and bulimia nervosa.

Although participants were randomly assigned to one of the seven vignettes, follow-up questions were presented in the same order for all participants. Within certain domains of questioning (e.g., the provision of help and help-seeking behaviours), it is possible that participants' answers to earlier questions may have influenced their responses to later questions. It may be helpful for future research to present related questions in a randomized order to control for any potential bias introduced as a result of the ordering of questions. Along a similar vein, participants' responses on certain questions in the survey (e.g., attitudes towards mental illness) may have been influenced by a self-presentation bias. It would be interesting for future research

to consider methods (e.g., priming measures, implicit association tests, naturalistic experiments) that could limit the impact of self-presentation biases or reveal attitudes that participants have difficulty articulating.

Implications

Given the low to moderate recognition rates with regard to social anxiety disorder, substance abuse disorder, and bulimia nervosa, there is a need for ongoing population-wide MHL efforts. Women were better than men at recognizing depression and bulimia nervosa, but both men and women had difficulty recognizing substance abuse and social anxiety disorders. Future research could investigate this pattern of gender differences (i.e., what contributes to the gender difference) in order to most effectively improve MHL in both men and women. For example, perhaps societal attitudes play a role in shaping EAs' understanding of problematic substance abuse and such misperceptions need to be corrected, especially when considered in relation to the developmental stage of emerging adulthood when substance use is known to increase (Arnett, 2000). Marcus and colleagues (2012) also found lower rates of recognition with regard to anxiety more generally, and Reavley and Jorm (2011b) found very low recognition rates related to social phobia. Thus, it will be important for MHL researchers and practitioners to bear this in mind when publishing information on the causes, prognosis, and treatment for social anxiety disorder to ensure that EAs have accurate information about this disorder. For example, it would be helpful to determine whether EAs understand the difference between shyness or lack of confidence and social anxiety disorder and to increase their knowledge about the signs and symptoms of this particular disorder.

Given that EAs indicated lack of recognition of a problem was a potential barrier to help-seeking, it follows that improving MHL is one way to facilitate help-seeking. Indeed, EAs must

be familiar with the signs and symptoms of mental health problems in order to recognize that a problem exists in a family member or friend or perhaps to self-identify that one is experiencing a problem. Preliminary research examining the relation between MHL and help-seeking behaviour has shown promising results (see Smith & Shocet, 2011). However, future research could investigate the prospective relation between MHL and help-seeking to determine the key components of MHL that relate to whether an individual seeks help when experiencing a mental health problem.

In terms of the clinical implications of these findings, it would be helpful for prevention efforts to underscore the positive behaviours that are known to be protective factors during emerging adulthood (e.g., Ströhle et al., 2007). EAs reported using several methods of achieving positive mental health (e.g., supportive relationships, physical activity, and adequate sleep). These findings could be used to inform prevention and intervention efforts aimed at EAs within post-secondary education institutions and clinicians working directly with EAs. For example, EAs may be open to receiving information about normative positive mental health behaviours. Further, for the less frequently reported positive mental health behaviours, it would be beneficial for EAs to learn about their usefulness for achieving positive mental health. For example, mental health prevention programs could expose EAs to the idea that seeing a medical or mental health professional is an effective method of obtaining help for a mental health problem and that it should be one of the first steps taken in the help-seeking process.

To improve MHL at the population level, it will be important for researchers and practitioners alike to use creative methods of engaging youth. For example, Li and colleagues (2013) developed a web-based interactive game for improving MHL in young people. The initial evaluation of the game suggests that it was effective in enhancing the MHL of youth,

although the findings need to be replicated using a larger sample and with longer post-test follow-up intervals to ensure MHL is maintained (Li, Chau, Wong, Lai, & Yip, 2013). Jorm and Griffiths (2006) have also written about the importance of the dissemination of informal but evidence-based self-help methods at the population level as a form of prevention. For example, in their review, they identified physical activity, bibliotherapy, and relaxation training as potential early intervention tools for the treatment of subclinical depression and anxiety.

With respect to intervention, the current results suggest that EAs' knowledge regarding what constitutes substance abuse and social anxiety disorders is particularly lacking. It follows that this lack of knowledge has the potential to impede help-seeking behaviour given that the EAs in the current study indicated that the first step in seeking help is the recognition that one is experiencing a problem. Thus, it is crucial that EAs are taught about the symptoms of these disorders to improve recognition and facilitate help-seeking behaviour (Smith & Shocet, 2011). One systematic review has been conducted on the effectiveness of programs targeting MHL in youth (Kelly, Jorm, & Wright, 2007). The review identified 12 studies that had conducted evaluations of MHL intervention programs and found small to modest gains in various components of MHL. Evidently, more research is needed in order to evaluate the fundamental assumption that improving MHL leads to improved utilization of mental health services.

Conclusion

MHL is a key component in improving mental health in the general population. In particular, improving MHL may be related to prevention, early intervention, and treatment of mental health problems (Jorm, 2012; Smith & Shocet, 2011). In support of this goal, a report released in 2006 by the Canadian government contained recommendations regarding a national focus on improving MHL at the population level (Kirby & Keon, 2006; Wang et al., 2007).

Furthermore, the Canadian government is supporting efforts to address this need through MHFA training offered through Mental Health First Aid Canada, a program based on a similar approach in Australia (Mental Health Commission of Canada, 2013). Evaluation studies of MHFA programs are underway, and Kitchener and Jorm (2006) have found initial evidence to support its effectiveness with regard to increasing the trainee's knowledge and improving their attitudes. However, the effects on recipients of MHFA have yet to be evaluated. Indeed, it will be important for such programs to be monitored and their outcomes evaluated to determine their effectiveness in improving MHL rates and identifying subgroups of the population that would benefit from such training as well as specific disorders on which to focus their efforts. For example, the current study's findings suggest that focusing on substance abuse and social anxiety disorders may be particularly important in terms of the public's knowledge of these disorders, treatment options, and attitudes towards individuals who experience these disorders.

Study 2: Emerging Adults' Mental Health First Aid Experiences: A Qualitative Analysis

Along with the growing importance of improving mental health literacy (MHL) in emerging adults (EA), it is equally important to facilitate EAs' ability to apply their MHL to real-life situations. A key component in providing support to an individual who is experiencing a mental health problem involves the application of one's MHL in the form of mental health first aid (MHFA). Given the prevalence of mental health problems in the general population, it is important to understand EAs' MHFA experiences better as it is likely that EAs will have to provide MHFA at some point in time (Jorm, 2000). MHFA has been defined as the non-professional help provided to an individual who is experiencing a mental health problem or who is in crisis until the individual receives professional help or they are no longer in crisis (Jorm et al., 2007).

Little is known about MHFA in non-hypothetical situations (Jorm, 2012). Jorm and colleagues (2005) conducted a qualitative study of adults who had previously taken a MHFA course and found that participants were able to use the knowledge they learned in the course to support someone with a mental health problem. However, the current study is one of only a handful of studies investigating EAs' actual mental health first aid experiences. Thus, studying EAs' actual MHFA experiences may offer important insights into the subtleties of their MHL and provide useful information regarding how to develop further their MHFA skills. For example, previous research on MHFA has revealed that young people prefer to seek help from informal sources of support (Jorm et al., 2007; Marcus et al., 2012). Given the prevalence of mental health problems in the general Canadian population (20%) and in EAs in particular (18% in Canadian youth ages 15 to 24), it is likely that a large proportion of EAs will have a friend or family member who will experience a mental health problem requiring some form of support

(Kirby & Keon, 2004). Thus, it is crucial that we facilitate the development of EAs' MHFA skills. Furthermore, from an early intervention perspective, it is important to seek professional help as early as possible in the course of a mental health problem as there is ample evidence indicating that early intervention is related to better outcomes (Jorm, 2000). There is limited research on actual MHFA actions taken by EAs to support a family member or friend who was experiencing a mental health problem (e.g., listened/talked with person, spent time/socialized with person, encouraged or facilitated professional help-seeking; Yap et al., 2011). Thus, Study 2 sought to address this gap in the literature by investigating EAs' actual MHFA experiences.

The purpose of the qualitative component of the study was to understand better the subtleties of EAs' MHFA experiences in a small sample. Qualitative analytic methods allow for an in-depth exploration of a particular phenomenon using a largely open-ended format of questioning which is in contrast to the typically closed-ended questions used in quantitative methods (Braun & Clarke, 2006). A primary benefit of qualitative analysis is that it permits the investigator to describe variation in a particular phenomenon through the specific method of analysis chosen. In the current study, the data format used was textual (i.e., transcriptions of semi-structured interviews). Broadly, the qualitative component of the study involved an exploration of EAs' experiences related to MHFA. Specifically, the semi-structured interview tapped into EAs' recognition of a mental health problem in a friend or family member and what actions they took to help the friend or family member with the mental health problem. The interview also asked participants retrospectively about the experience and if they would change the actions they had taken.

Method

Participants

Participants in the qualitative component of the study had indicated in the online survey (Study 1) that they had known a family member or friend who had experienced a mental health problem (n = 289; 51.5% of total participants), agreed to being contacted regarding participation in a semi-structured interview (n = 106; 18.9% of total participants), and provided their email address (n = 73; 13% of total participants). Of those who had provided their contact information, potential participants (n = 26) were emailed at random and asked to participate in the qualitative component of the study (Appendix H contains the recruitment email sent to potential participants). Interview scheduling took place on a first-come, first-served basis. The first interview was conducted with an EA who had received MHFA as opposed to having been the provider of MHFA. Thus, this interview was excluded from the analyses on the basis that receiving MHFA was not the experience of interest in the current study. A total of 10 participants (5 women and 5 men) between the ages of 18 and 29 were interviewed for the qualitative component of the study which focused on being a provider of MHFA. Participants spoke about their experience providing MHFA to friends (n = 5), parents (n = 3), a romantic partner (n = 1), and an aunt (n = 1). Examples of mental health problems identified in the family member or friend include depression, substance abuse, anxiety, and bulimia nervosa. Table 19 outlines key characteristics of the interview participants and the family member or friend who received mental health first aid.

Measure

The semi-structured interview protocol was developed based on Yap and colleagues' (2011) previous MHFA research. Domains of inquiry included the participant's experience

related to knowing a family member or friend who had a mental health problem or crisis including symptoms that were observed, when the participant realized there was a problem, their perception of the problem in their friend or family member, what actions the participant took to help their friend or family member, whether or not there was a crisis situation, their level of confidence in providing MHFA, whether the MHFA was helpful to the friend or family member, and advice for others who have a friend or family member struggling with a mental health problem (see Appendix I for the interview script). Early in the data collection process (i.e., Interview #1), the semi-structured interview evolved to include a question in which the participant was asked to reflect on their experience participating in the interview. At the end of the interview, participants were asked if they had additional insights to share with the researcher that would further contextualize the nature of their MHFA experience (i.e., "Is there anything else that you think would provide more context or be helpful for my purpose or my learning?"). Many participants shared insightful and meaningful information in response to this closing question.

Procedure

Three participants completed an in-person semi-structured interview, and seven participants completed the interview over the phone. Interviews were recorded with permission and were transcribed to facilitate qualitative analysis of the content (see Appendix J for the consent form). After completion of the interview, participants received a list of resources containing names and contact information for mental health services in the Greater Toronto Area (see Appendix K).

Qualitative Analyses

Transcriptions of the interview data were the basis for the qualitative analyses. Each interview transcript was coded in its entirety by the principal investigator as it was deemed important to gain a holistic understanding of the participant's MHFA experience. The data were imported into qualitative data analysis software called Dedoose (Dedoose Version 5.0.11, Los Angeles, CA, 2014), which facilitates tracking of code development and key excerpts. An inductive approach was taken in the current research whereby code and theme development was strongly linked to the data and was not driven by theory or previous research findings (Braun & Clarke, 2006).

An important component of qualitative research is the idea of bracketing, in which previous knowledge of the research literature and personal biases are put aside in order to remain as objective as possible throughout the research process (Tufford & Newman, 2012). In other words, bracketing ensures that the emergent understanding is not influenced by previous knowledge. Several methods of bracketing have been identified including writing memos, conducting interviews with an individual who is external to the research process, and reflexive journaling that begins prior to defining the research question. In the current study, the method of bracketing used was "memoing" in the form of handwritten notes which documented the principal investigator's observations resulting from the interviews, evolution of the semi-structured interview methodology, and emotional reactions to the interviewing process.

A hybrid approach to the qualitative analysis was used which included thematic analysis methods and a less rigorous version of consensual qualitative research (CQR) methods. According to Braun and Clarke's (2006) guidelines for thematic analysis, there are six phases of thematic analysis: 1) familiarizing yourself with your data, 2) generating initial codes, 3)

searching for themes, 4) reviewing themes, including the iterative process of checking that the themes identified adequately capture the identified codes as well as reflect the meaning extracted from the transcripts, 5) defining and naming themes, and 6) producing the report.

Reliability and Validity of Coding

Oftentimes, qualitative research involves an investigation into the reliability and validity of code development. For example, a key component of consensual qualitative research (CQR) involves a team of researchers who conduct analyses as well as auditors to review and provide feedback on the analyses (Hill, Thompson, & Williams, 1997). A less rigorous version of CQR was used in the current study. Approximately one-third of the interview data (the first three out of 10 interviews) were coded by an independent rater who was a second year clinical psychology Master's student. The principal investigator and the independent rater met to discuss the coding process. The meaning units identified by both the principal investigator and the independent rater were remarkably similar and differed primarily in terms of the code name rather than the identification of a meaning unit. Additional discussion centred on resolving any coding discrepancies and the identification of more nuanced code names in cases where there was a discrepancy in the code name. Analysis of the remaining seven interviews was carried out by the principal investigator. Saturation (e.g., Tufford & Newman, 2012), the point at which no new meaning units emerged from the data, occurred in the eighth interview. Following coding of the transcripts in their entirety and the consensus meeting with the independent rater, the principal investigator engaged in the theme development phases of the thematic analysis.

Results

In the current study, code development was data-driven. The initial coding process led to the development of a total of 85 distinct codes and sub-codes (see Table 20 for a list of codes and

descriptions). Appendix L provides a visual display of the code frequency in the form of a code cloud. The codes and sub-codes represent interesting aspects of the data. Following identification of the codes and sub-codes, the theme development phase took place. The theme development phase involved searching for codes and sub-codes within the data that hung together such that a specific theme would capture an important aspect of the experience of being a provider of MHFA. Throughout the theme development phase, the transcriptions and code descriptions were re-read in an iterative fashion to determine whether the theme represented a pattern identified in the data. This process ensured that the themes were representative of the codes and meaning extracted from the transcripts. Sub-themes were clustered such that each final overarching theme represented distinct aspects of the experience of providing MHFA. Sub-themes and themes were named and described to capture the meaning or 'essence' underlying the phenomenon. Five overarching themes were identified in the current study: 1) progression of recognition of a mental health problem; 2) the importance of mental health literacy; 3) the helping experience; 4) stigma; and 5) lessons learned. The themes and sub-themes identified through the qualitative analyses are described in more detail below along with illustrative quotes.

Progression of Recognition of a Mental Health Problem

This theme captures an experience described by all participants that involved a gradual recognition of the existence of a mental health problem in their family member or friend. Some participants described "sensing that the person was different" to capture the idea that the person acted differently than others or that there was some problem, but before realizing the true nature of the problem. For example, one interview participant stated:

I had gotten a phone call from her, and I had always known there was something slightly wrong, but I couldn't quite put my finger on exactly what it was. She did an excellent job of hiding it, probably better than any other girl that I've known that has this issue, and I've known a few who have this issue. [Interview #3 – bulimia; Male participant; Female recipient]

Another participant noted:

I only became aware of it when I get to know him. And now I can see it in interactions he has with other people. [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

A third participant shared:

It's hard to remember because I was so young, but I think there was some sort of period where I hadn't fully acknowledged or acknowledged that it was true, or a real problem myself. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

Many participants described a point in time at which they were certain that their family member or friend was experiencing a mental health problem. This evolution in their perspective was often related to the observation of signs and symptoms in their family member or friend as well as other individuals in their social network becoming concerned.

…it's extremely difficult to tell sometimes when people are doing it more socially and people who are an alcoholic [sic]. *Other than just being a guy who had general anger problems, really realizing it was a deeper issue probably six months ago. It went from noticing he was an alcoholic to realizing in general he was not ok.* [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

We tried, obviously, when a crisis point hit, it was a wake-up call for us to realize as well that there was something that had to be done about it. My sisters and I have attempted to focus on it outside of a crisis as well because it might be more effective. But she won't even discuss it unless it's a rock bottom moment, she wouldn't even acknowledge that it's a thing. So it's been ongoing over the last few years. Since the alcoholism developed, that was really when we all sort of started noticing it and tried to take action, but… [Interview #6 – substance abuse, depression; Female participant; Female recipient]

… He would do some things, not OCD, but some rituals. Like if he was drinking from a can, he'd always make sure he'd wash it off. Like when he was smoking, cigarettes, ya just little things that you could kind of see they were kind of off I guess, I would describe it. I wouldn't think he was diagnosed with anything before he shared that with me necessarily. Kind of looking back now, it makes sense. Since he told me, it's become more noticeable. I think the symptoms may have gotten worse. [Interview #9 – anxiety, panic disorder, substance abuse; Male participant; Male recipient]

The Importance of Mental Health Literacy

Within the broader theme of "The Importance of Mental Health Literacy," several sub-themes were identified in the data: (1) Knowledge of Signs and Symptoms, (2) Knowledge of Causes of Mental Illness, (3) Knowledge of Course of Mental Illness, (4) Formal Treatment and Informal Support, (5) The Development of Mental Health Literacy, and (6) Personal Experience with a Mental Health Problem Leads to Increased Understanding.

Knowledge of signs and symptoms. A major component of MHL is one's knowledge of signs and symptoms of mental health problems. Indeed, this sub-theme captures the participants' references to observing various signs and symptoms in their family member or friend. The signs and symptoms identified by participants included emotional signs and symptoms (e.g., unhappiness, withdrawing), behavioural signs and symptoms (e.g., denial, secretive behaviour, unhealthy coping strategies such as use of substances, employment difficulties), and interpersonal difficulties (e.g., unhealthy relationships, inability of the person to fulfil their expected role in the participant's life such as being a good parent or friend). For example, participants noted the following signs and symptoms in their family members and friends:

… he wasn't himself, because he's a really outgoing guy, always willing to go out. And it became repetitive that he wouldn't go out or see anyone. That's when we started to question things. And when he didn't go back to work and had no motivation, that's when everyone started being really worried. [Interview #8 – depression; Male participant; Male recipient]

Uhh, not going any day of the week without getting drunk and usually coupling that with other drugs. Quitting his job and going on long benders …umm just irregular behaviour, extreme polarized stints of behaviour. [Interview #2 – substance abuse; Male participant; Male recipient]

So it was pretty obvious with the way she slept all of the time, she just drank a lot and uhhh …was just kind of was quiet around people sometimes. Umm, she wasn't being active, so she wasn't going for runs as much…when she got back into running, things were better. She was just very, I guess, dopey. Kind of sleeping, like she fell asleep and the oven would still be on and she would sleep through all that. She wasn't clean. So she left garbage in the apartment all of the

time. And drank a lot. [Interview #4 – depression, substance abuse; Female participant; Female recipient]

I'd say I'd first, and obviously I'm not a psychologist, but the first time I realized it was an out of control problem and something that was beginning to impact people, probably towards the end of 2011 when mutual friends of ours who were closer with me than they were with him, approached me to ask what was going on with him because he was consuming dangerous amounts of toxins. [Interview #2 – substance abuse; Male participant; Male recipient]

…his role in my life has been smaller, I think, than the average father. [Interview #1 – depression; Female participant; Male recipient]

Knowledge of causes of mental illness. Another important component of MHL is knowledge of possible causes of mental illness. This sub-theme captures the participants' expressed understanding of historical or genetic factors that may have played a role in their family member or friend's mental health problem.

If they're suffering from depression, it might be their brain chemistry or a situational factor. Understand what the root cause of it is beyond what it appears to be. [Interview #6 – Substance abuse, depression; Female participant; Female recipient]

His Dad used to beat him with a belt and assault him all the time and not be supportive. So I think, in his case, a lot of the self-esteem issues came from when he was a child and built from there. He did drugs when he was younger. I don't think he was ever really supported by anyone to any real degree. So I think most of his issues built from there [from a young age]. [Interview #1 – depression; Female participant; Male recipient]

I don't really think any aspect of a mental health problem is isolated. I don't think anyone is just an alcoholic or just depressed. They all feed into each other. Depression is sometimes linked to poor self-esteem. Everything is interlinked. It's not one issue to solve, it's a lot of things, and they have to be looked at simultaneously. It's usually a lot of contributing factors. People think it's a one-step problem, and if you can identify the problem, you can identify the solution. But I don't think it's that easy. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

I think parents have to be more involved in their kids' lives and accepting mental health things as not being weaknesses but a condition just like diabetes or whatever. Look at it as an illness not like a weakness or a fault or something. [Interview #1 – depression; Female participant; Male recipient]

In contrast, some participants were also noted to have an inaccurate understanding of the causes and effects of mental illness as well as uncertainty regarding whether certain problems are considered mental disorders.

Put it this way, I screen women a lot differently now before I date them. I would never date someone else, and if my wife or girlfriend became bulimic, I would stop that habit before it ever started, you know. [Interview #3 – bulimia; Male participant; Female recipient]

She's a wonderful woman, and she's just been thrown a lot of shit in her life. And just doesn't have that sort of natural inner strength to handle it, I guess. So it's not like she's, she's not a bad person, she really is a good person and she means well. She is just so easily overwhelmed by things that other people could probably fight past, but she can't because it's too much. So I guess it's more that she gets sort of overwhelmed by life all of the time. She wasn't a bad mother, she meant well. [Interview #5 – depression; Female participant; Female recipient]

She, you can tell me this, I guess, bulimia, you can become very aggressive and very defensive, and she'd become violent. [Interview #3 – bulimia; Male participant; Female recipient]

I don't know if this is considered a mental health problem, but ADHD. [Interview #1 – depression; Female participant; Male recipient]

Oh, and I thought of another condition, actually, alcoholism – is that one? [Interview #1 – depression; Female participant; Male recipient]

Knowledge of course of mental illness. This sub-theme encompasses participants' differing perspectives on the course of mental health problems. For example, one participant indicated that his friend's substance abuse problem would likely be something that would not improve.

Ya, I think anytime you get to the extreme, it's probably a most of your life problem going forward. I don't know, I think he has now progressed himself into an environment where it's more socially acceptable, being a bartender. So he drinks while he's working. [Interview #2 – substance abuse; Male participant; Male recipient]

Another participant believed that his friend could recover from his mental health problem, but that it would take time and be a process of recovery.

He still has his job, he still has friends. He has to rebuild his life and it's going to take a while. [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

Formal treatment and informal support. This sub-theme encapsulates all participants' reference regarding how best to support their family member or friend. Most participants were proponents of formal treatment provided by professionals, although participants' views on medication were mixed. Related to formal treatment options, several participants underscored the delicate nature of the conversation in which you suggest that the individual seek professional help. All participants referred to the informal methods of support they provided to their family member or friend. The following quotes illustrate participants' belief in the usefulness of formal treatment options.

Other than that, just do everything you can to make sure that they seek out the services they need. Like if they need to see a talk therapist, absolutely, go see one. Or if they're religious, go see the pastor, talk to the pastor, they may know something that's good, you know, something that's a possible solution. [Interview #5 – depression; Female participant; Female recipient]

And I advocate for therapy. For I mean, myself personally, I advocate for therapy for every single person ever no matter what they've been through because my belief is that everyone has some sort of baggage related to something in their past, so I don't see that it can hurt. But definitely if somebody is diagnosed with something, I think therapy is a must. [Interview #1 – depression; Female participant; Male recipient]

I think that when someone is really depressed, it depends on what your relationship is with them. I think if you're close to that person, I really do believe in the power of strangers, as in professionals you don't know, and them having that completely trained perspective but also the fact that they don't already have a relationship or dynamic with them. It's hard to take on a different perspective other than just listening. [Interview #7 - Depression, anxiety, agoraphobia, PTSD, panic disorder; Female participant; Female recipient]

Medication is one. Maybe talking to someone where he is not judged. Because, friends are friends, but he might be afraid that he's being judged so he cannot tell exactly how he feels to us or to family members even. [Interview #8 – depression; Male participant; Male recipient]

Interestingly, not all participants were proponents of formal methods of treatment such as medication. For example, one participant expressed a particularly strong view against the use of medication in the treatment of her mother's depression. The following quote also illustrates the

participant's misconceptions related to medication, mental illness, and the treatment of specific mental illnesses.

Make sure that they think very long and hard before they start to take medication. It often does more harm than good, in my opinion. If you have an emotional problem, I'm not talking about schizophrenia or something really extreme where you're dangerous if you're unmedicated. If you're depressed, there are other things you can do and you don't need to turn yourself into a zombie sometimes. You just need to feel the emotions, have a really good long cathartic cry and then talk to someone about it and that will do a world of good. [Interview #5 – depression; Female participant; Female recipient]

Participants highlighted the delicate process related to suggesting that their family member or friend seek professional help.

People were hoping that he would get better on his own or just by you offering your help by a friend, or best friend, or family member that he would get better. But when you see that's not going anywhere, then that's when you tell them to seek medical advice. If you push them into seeing a doctor, they might not feel comfortable or they might feel insulted. [Interview #8 – depression; Male participant; Male recipient]

With that being said, you know, I guess timing is of the essence. If nothing else, bringing it up early, umm this sounds sort of calculated and cold, but if nothing else, bringing it up earlier on is sort of the due diligence that you owe to somebody that you care about and saying that there is a problem and you're on a slippery slope and maybe they can mend their problems before it gets to a point where it's damaging to other people around them. [Interview #2 – substance abuse; Male participant; Male recipient]

All participants spoke to some extent about the informal methods of support they provided to their family member or friend. Although not all of the informal methods were necessarily helpful to the individual, the underlying intention was to provide support to the family member or friend.

Umm, I mean, obviously, we try to like, if he's saying something that's really hurtful, we try to draw his attention to that. We try to get him to cut back on drinking or whatever, like unhealthy habits. We try to get him to pursue, like, more positive trains of thought. So, if he's like stuck on like, bitching about his boss or something, for example, we'll try to say like "we understand what you're saying or what you're going through," try to direct him into something more healthy. [Interview #1 – depression; Female participant; Male recipient]

Eating habits. Dietary habits. Like actually going to the grocery store. Like, xxxx, I'm going to the grocery store. She tended to go to like Hasty Market, so it was very quick, fast food type

things instead of actually making a meal. So we started eating a bit more together, which was good for her and myself. We would make more soups and salads and meat and things like that. [Interview #4 – depression, substance abuse; Female participant; Female recipient]

I guess, I talk to him on the phone sometimes, more often than I see him. He's usually pretty good when he talks on the phone, he's good at opening up and sharing what's going on. I guess just being there when he does want to talk about things. I guess I could be more honest and say what I see, like with the drinking. Just being there and offering encouragement, for when he goes out and seek help. Like when he did try to go to school. He's kind of an artsy guy, that's why he was in school for music. He's a pretty good painter, so when he posts something like that on facebook, I'll like it or make a comment. He plays guitar and drums, and I've always been impressed by that. Letting him know. Keep his confidence up. Keep him feeling good. [Interview #9 - anxiety, panic disorder, substance abuse; Male participant; Male recipient]

I guess there are a lot of things tied into the family feud that have played a part in making it really hard for her to cope with what she is going through already. Trying to remove her from the politics, trying to keep her sheltered. [Interview #7 - depression, anxiety, agoraphobia, PTSD, panic disorder; Female participant; Female recipient]

Just try to get him involved in stuff, and I'm more than willing to chat with him about stuff. And if he ever wants my advice, or just a sounding board, I'm around. [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

Development of mental health literacy. Several participants spoke about the development of their MHL and to what they attributed their MHL, a key sub-theme within the broader Importance of MHL theme. For example, one participant spoke about researching a particular mental health problem, and another participant spoke about his educational and volunteer experiences which helped to build his MHL.

You've gotta have the research done yourself. You also have to really understand what the root cause of the problem is. There's a reason why someone does what they do. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

I guess, I've taken psychology classes, and I'm volunteering at a Distress Centre, that was more recently. But I guess I've taken psychology classes and that kind of thing. I let him know that it would be a good idea to see someone, and he's always been open to seeing a psychologist. So just knowledge about mental illness in general from my own studies and the situations and saying what would be best. [Interview #9 – anxiety, panic disorder, substance abuse; Male participant; Male recipient]

Personal experience with a mental health problem leads to increased understanding. Finally, participants who had experienced a mental health problem themselves often had a deeper understanding and more knowledge of mental health problems. This sub-theme summarizes the connection between personal experience with a mental health problem and one's MHL.

Well the nice thing was, as I said, was that I was in the same situation. As much as we maybe fed off each other in bad times, we also helped each other because we were in the same mentality. It was nice to have that because she made me a better person, and I think I made her a better person in the end. So as much as in those two years, I was a little bit crazy, living with her for two years, it was nice. [Interview #4 – depression, substance abuse; Female participant; Female recipient]

Umm, so it's only once I learned more about mental health problems and like, gone through therapy and seen like, the actual problems that I've personally experienced do I understand how small things can, like, really build problems for you like in your life and actually cause huge problems. So I think maybe I have a bit more sympathy now. Umm, and so I'm able to kind of be more understanding. Whereas I don't think my Mom has ever had that understanding. [Interview #1 – depression; Female participant; Male recipient]

The Helping Experience

Participants spoke about various aspects of the helping experience; thus, several sub-themes were identified in the data within the broader theme of "The Helping Experience": (1) Openness to Receiving Help, (2) Confidence in Mental Health First Aid Skills, (3) Intention to Continue Providing Mental Health First Aid or Informal Support, (4) Perceived Helpfulness of Mental Health First Aid Actions, (5) Intervention/Tipping Point, and (6) Ultimatums. Many of the illustrative quotes related to The Helping Experience also underscore the emotional reactions associated with providing MHFA to a family member or friend (e.g., frustration, discomfort, anger, regret, blame, disappointment, and a sense of hopelessness or giving up).

Openness to receiving help. This sub-theme summarizes an experience had by several participants who realized that the individual receiving the MHFA has to be open to seeking treatment and the frustration that may accompany helping someone who does not want help.

…like you can lead the horse to water, sort of thing. You can only do so much about it, and then at some point, she has to help herself. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

Unless someone wants help, aside from putting them in the trunk of your car (and I'm obviously joking around) and dropping them off somewhere, it doesn't do anything. For this type of individual that has internalized so much. [Interview #3 – bulimia; Male participant; Female recipient]

She has forced him to go to therapy a couple of times that I know of, there could have been a lot more that I'm just not aware of. But it's never stuck. He's gone for, like, one or two sessions and then not gone again because he felt, like, the therapists were assholes or they didn't get him or something. He's really like, he seems to be anti-therapy. [Interview #1 – depression; Female participant; Male recipient]

People who have a mental health problem, when they are sort of confronted with that concept, have a million excuses already, have a million answers to every question because they've been. My mom has been lying to herself for so long that it's very easy for them to generate, they don't feel like lies to them, to you. They'll tell you all sorts of things why it's not a problem and it's not really as big of a problem as you're making it. They're already so well-acquainted with it. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

I definitely will continue to try, but I'm not hopeful that… like eventually if you keep trying and trying and you never get anywhere because he doesn't want help, then I think eventually you'll stop. [Interview #1 – depression; Female participant; Male recipient]

First off, it's not necessarily a problem that I can take ownership on. So it's not something I can change, it's not something that I can make him want to change, in realizing that, you know, my disappointment with this smart, and otherwise ambitious person, bringing himself down. It's not changing, it's him who wants to change who won't change, I know that. I've proven that, even after I went out of my way and spent my time trying to change it. [Interview #2 – substance abuse; Male participant; Male recipient]

And for my best friend, it's very hard for him. They have to support the family and they're the young ones… they want to take care of the family, and so when he's not working, he doesn't have an income so it affects my best friend because he has to take more of the load. It's stressful on him. It's almost like a chain reaction. He has more stress, he cannot live his life. So it's hard for everyone. It's hard for the person who is going through it, but it's hard for the people who are close to them. I was worried for xxxx, but I was also worried for my best friend. He shouldn't have to go through that. [Interview #8 – depression; Male participant; Male recipient]

Confidence in mental health first aid skills. Participants were asked directly about their level of confidence in providing MHFA to their family member or friend. Some participants were confident in their helping abilities whereas other participants lacked confidence

in their ability to support their family member or friend. The following quotes illustrate the various degrees of confidence in providing MHFA.

I'd say pretty confident. I mean, I know I can't fix her, but for what I am able to do, I think I do a good job, and I think I am helping her in my own small way just by being a friend. [Interview #5 – depression; Female participant; Female recipient]

Not confident. Because I feel like maybe I could be successful if he would be wanting to accept help, but I feel like he's not so. Like I could try until I'm blue in the face, but it wouldn't do anything. [Interview #1 – depression; Female participant; Male recipient]

I don't think it was not helpful when I talk to her, I know that she definitely feels better after talking to me. It's almost kind of embarrassing because she says, I'm so glad you called, over and over, and it makes me feel bad about not calling more often. It makes me feel guilty and wonder what more I could do. I don't think I'm confident to help just anyone. [Interview #7 - depression, anxiety, agoraphobia, PTSD, panic disorder; Female participant; Female recipient]

I think those are pretty separate questions. I think my ability to help him has been a 1 or 2 out of 10, and I think my ability to support him is a little bit higher, but given my distaste for what he does to himself on a daily basis, as I mentioned, I removed myself from those situations, and in doing so obviously less of a degree of support. I don't know what the number would be, maybe like a 5 or 6. [Interview #2 – depression; Male participant; Male recipient]

Intention to continue providing mental health first aid or informal support. Another aspect of the helping experience was the participant's intention to continue helping the individual. Most participants indicated that they would continue to support their family member or friend in some capacity. However, other participants shared that they were uncertain about next steps in helping their family member or friend.

What I'm trying to do now is set specific boundaries regarding what is and what's not ok. It was totally ok for him to spend a week at my house but I don't want to give the impression that can happen every time. [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

I really think... it's hard… Because it's been going on so long, you get to a point where you feel like, I feel like a broken record, I've said the same thing so many times. We feel like we've explored every avenue we know of for getting her help. Unless we physically took her to and from meetings and saw that she attended every week, it would take major, something major. I don't know if you can institutionalize people to go to rehab, but they still have to go willingly. She still has a job and still has to support a family. Our options that are left are so extreme, we would never be able to get her to do it. I don't know if there is anything else. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

I think I've done almost as much as I can. I've spoken with lots of people who have been through it or been through similar experiences with drugs that I would consider a lot more dangerous. [Interview #2 – substance abuse; Male participant; Male recipient]

Perceived helpfulness of mental health first aid actions. Participants were asked about whether or not they believed the first aid actions they took were helpful or not. In general, participants' perceptions were mixed in that some believed the first aid actions were helpful, some differentiated helpfulness from supportiveness, and others did not believe that their actions were helpful.

The good ones were, like talking to her, and listening to her problems, and checking to make sure she was not suicidal and not thinking about harming herself, and that sort of stuff. Discouraging her from taking medication was helpful in the sense that it was a positive recommendation but she chose not to follow it. But definitely the times when I ignored her have not been helpful to her in any way. [Interview #5 – depression; Female participant; Female recipient]

No, not really. They were supportive. I think that maybe in that way they were helpful, like support for a friend. But as far as helpful in specifically helping him with the mental issues, I don't know if they had any real effect. [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

Not really. I mean, I think in a sense, I'm sure that at the time, it helped her to understand that we were serious about helping her and that's really the most I think anyone can do. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

We'd actually lived together for a period of time and I tried to help manage, be supportive, it really did nothing. [Interview #3 – bulimia; Male participant; Female recipient]

Intervention/Tipping point. Participants were asked directly if they had been involved in a crisis situation in which they felt they had to intervene to support their family member or friend or which led to a tipping point in their provision of MHFA. The following quotes illustrate the varied helping experiences each participant had with regard to the progression of their provision of MHFA.

And that was the point I had to confront him because his personal decisions were beginning to impact my business and social network on a level that I never would have imagined. So it was

definitely a tipping point and from there I actually had to intervene and sit him down and have a very serious discussion about the substance abuse. [Interview #2 – substance abuse; Male participant; Male recipient]

Ya, absolutely. Unfortunately, because the problem has not been resolved, we've had numerous different sort of mini crises. I know that sounds terrible, but we don't react as strongly to them now because we go through it a lot. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

There have been a lot of times. There have been a lot of situations where, and I would say, the person who has the most influence here … is my mom… and her husband. … My mom talks to her all of the time, and has tried to provide advice. At this point, she has stepped back and realized that all she can do is listen because my aunt breaks down really easily. … When you said turning point, I don't think it's ever that something turns around, it's a lot of things that we keep on realizing that it's more serious and more serious. [Interview #7 - depression, anxiety, agoraphobia, PTSD, panic disorder; Female participant; Female recipient]

Not me directly. I remember one night, I was over there with his sister. She doesn't live at home. I guess when she came back, she noticed these things too. And she wasn't as, supportive is the wrong word, but she noticed the problems and she was more forceful with him and for him to get help and for him to pull up his socks, in a way. I was there that night, and she confronted him when I was there. And ya, he didn't take it too well. I wouldn't call that a crisis situation though. [Interview #9 – anxiety, panic disorder, substance abuse; Male participant; Male recipient]

…But I don't think there's been, like, an actual intervention, like full-blown. I mean, now as he's getting worse, the family says stuff to him instead of just like, you know, letting it go. But I don't think there's ever been like a big turning point or anything. [Interview #1 – depression; Female participant; Male recipient]

Ultimatums. Several participants spoke about giving ultimatums to their family member or friend during the provision of MHFA and as part of their helping experience. The illustrative quotes demonstrate the frustration that providers of MHFA may potentially experience.

That's towards the end of the relationship when I started feeling, ultimatums, you know, if you don't stop drinking, if you don't get help, I can't be here anymore. [Interview #3 – bulimia; Male participant; Female recipient]

We have discussed the possibility of being more active in the relationship. My sisters and I have discussed cutting her off, to give her the impression of like "if you don't fix this, you won't have contact with your children anymore." But that kind of threat, a) no one could really adhere to and we wouldn't be able follow through on, and b) it just seems like, she's been so self-punishing, that punishing her further won't accomplish anything. It seems counterproductive. [Interview #6 – substance abuse, depression; Female participant; Female recipient]

Stigma

There were several aspects of the effects of stigma at both the individual and societal levels. One participant felt that he had to protect his girlfriend's privacy with regard to the mental health problem she was experiencing. This perceived stigma led to the participant's silence or secrecy. Another participant spoke about the stigma she recognized that her mother experienced.

I found online was the easiest because I didn't want to expose her to other people. I felt that, you know, if a lot of people knew, they might look differently at her, and I was just trying to protect her so I would go online and print out as much information as I possibly could. [Interview #3 – bulimia; Male participant; Female recipient]

I think something needs to be done about the stigma. My mom was embarrassed and didn't want anyone to know that she's depressed because it was stupid to her. She thought people would think she's weak. [Interview #5 – depression; Female participant; Female recipient]

Another aspect of stigma that was identified was the notion that it is not "manly" to experience an internalizing type of mental health problem such as anxiety or depression.

It's seen as a weakness in men. That sort of "man up mentality." Like it's masculine to suffer. It shouldn't be generated anywhere for anyone to suffer anything. [Interview #5 – depression; Male participant; Male recipient]

Maybe not firmly as in because we didn't want to push him too much but we definitely talked to him and told him to "man up." [Interview #8 – depression; Male participant; Male recipient]

Finally, one participant described the unspoken pressure that men experience in social situations involving alcohol. That is, the unwritten expectation this particular participant felt which suggests young men should drink socially. In addition, the participant highlighted the discomfort he felt in considering how to support his friend and pointed out that his friend would be more likely to accept help if the concern was expressed by a female rather than a male friend.

Because I think coming from a significant other, it might have a different impact than if it's coming from like a best friend or a friend or even just like on a man-to-man basis where there's a lot of, I guess, social stigma involved with the drinking and bonding and whatever it may be. [Interview #2 – substance abuse; Male participant; Male recipient]

Lessons Learned

Many participants described a shift in their understanding of mental health problems as a result of providing MHFA to their family member or friend. In addition, participants spoke either directly or indirectly about the lessons they learned which included, for example, wishing they had been more involved in supporting the individual, addressing the problem directly, bringing up their concerns earlier, and involving others in their social network.

For me, I think it's been a real learning experience with some of the issues and how difficult it is for people to deal with that kind of stuff. [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

I was 21 years old, I thought I could do anything. That's probably the most honest answer you'll ever get. But looking back now, if I could do it all over again, what I would have done. Looking back now, knowing what I know now, it was also because I was so invested in the relationship. But I think what would have been the best thing to do, and it probably would have ended the relationship, would have been to have a counsellor and just her parents there. [Interview #3 – bulimia; Male participant; Female recipient]

Ya, I think I would have done a lot differently. I think I would have tried harder to develop a relationship with him instead of just, kind of, avoiding. Umm, I would have tried to not just get angry and react when he would do something inappropriate or that I didn't like. And I think I would try to approach the problem, umm, I don't know, with like, more of a "trying to fix the problem" instead of just like reacting or ignoring which has been a lot of my reaction when I was younger. I think maybe I would be more active in suggesting solutions and maybe get more involved. Like therapy, I think I would be a bigger advocate for therapy. [Interview #1 – depression; Female participant; Male recipient]

Maybe, with the drinking in particular, maybe not, when I would go over there, we would usually have drinks, so maybe I kind of supported that lifestyle for him. So maybe trying to do other activities when I'm over there, like let's go mini putting or something like that. So when we're together, we don't always have to drink. We do other things too, like we play videogames or darts and have some beers. So I guess trying to do other activities that don't involve drinking which seems like a problem. [Interview #9 – anxiety, panic disorder, substance abuse; Male participant; Male recipient]

Like I said though, maybe encouraging him to seek help earlier. [Interview #8 – depression; Male participant; Male recipient]

In addition, participants offered advice to others who are supporting a family member or friend who has a mental health problem. Their advice included, for example, having patience, educating yourself on mental health problems, not ignoring the signs and symptoms, and recognizing your limitations as a non-professional.

I think one of the most important things is patience and educating yourself. Like if you find out that someone that you care about has a specific problem, researching and learning about how that's going to affect their behaviour. And that way, maybe when that person acts a certain way you can be a bit more understanding and patient and actually help them. [Interview #1 – depression; Female participant; Male recipient]

You can't force anything. And don't start to treat someone really differently, like don't start to change your behaviour towards someone because they'll be less likely to talk to you about their problems. Don't blame anything on them. Don't bring up issues that you think are causes of, what they have done or haven't done. And also, remind them of all of the things that they have changed but that you remember that you really like about them. Like in my aunt's case, she has a nostalgia for teaching so it's important for her to not forget that she was that person. The whole "you are depressed" versus "you have depression" type thing. [Interview #7 - Depression, anxiety, agoraphobia, PTSD, panic disorder; Female participant; Female recipient]

If that person is adversely affecting your life, then learn about, try to figure out ways to talk to people who have dealt with that kind of stuff before. I guess seek information. Just try to be as open and honest with the person as possible. If you think someone has a problem, try to find a way to raise it, to bring it up. Communication and try to learn more about it. Don't be afraid to bring it up. [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

Not particularly. I guess as much advice and support as I can give on something, I think in a lot of cases, any friend or person who offers advice, when you speak to a professional who has the ability to tell you what's going on and provide help. It's an authority, they're more likely to listen. Whatever I say is supportive and I can reinforce the things he needs to hear, but in the end, it'll be listening to authority and people he trusts, or just him changing himself, which is just a totally different ballgame. [Interview #10 – anxiety, substance abuse; Male participant; Male recipient]

First Aid Actions

Participants were asked directly if they had taken several first aid actions to support their family member or friend. The list of first aid actions was based on Yap and Jorm's (2011) study. All participants (100%) indicated that they had listened to their family member or friend's problems in an understanding way, 90% of participants reported they had kept the individual

busy to keep his or her mind off problems, and 80% of participants noted that they had suggested the individual seek professional help and encouraged the individual to become more physically active. Table 21 provides more information on the frequency of first aid actions taken by participants to support their family member or friend.

Discussion

The present study used qualitative analytic methods to investigate the MHFA experiences of EAs. Five major themes were identified in the data including 1) progression of recognition of a mental health problem; 2) the importance of mental health literacy; 3) the helping experience; 4) stigma; and 5) lessons learned.

The first theme, "Progression of Recognition of a Mental Health Problem," was evident across all interviews and captured the idea that participants' recognition of a mental health problem in their family member or friend was a gradual process. Often, the participant would first sense that the person was different prior to becoming certain that the individual was experiencing a mental health problem. The progression was often related to observing signs and symptoms in their family member or friend over a period of time, as well as others in the social network expressing concern about the family member or friend. The idea that a potential MHFA provider will often experience a gradual recognition of a problem in their family member or friend has important implications. In particular, if one has existing knowledge of mental health problems (i.e., MHL), it may be more likely that the potential MHFA provider will intervene earlier on, in effect speeding up the recognition process. For example, one participant commented on the fact that he now more readily recognizes the signs of bulimia nervosa as a result of having had a girlfriend with bulimia and providing MHFA to her. By extension, if an

individual provides MHFA earlier on in the course of a family member or friend's mental health problem, it could increase the likelihood that the individual will receive professional help sooner.

A second theme identified in the qualitative analyses was "The Importance of Mental Health Literacy." This theme encompassed several sub-themes including knowledge of signs and symptoms of mental health problems, knowledge of causes of mental health problems, knowledge of the course of mental health problems, formal treatment options and informal support, beliefs about formal treatment, the importance of the conversation in which you suggest that the family member or friend should access professional help, the development of MHL, and personal experiences with mental health problems leading to increased understanding of the family member or friend's experience. All participants had some knowledge of signs and symptoms of the particular mental health problem experienced by their family member or friend, though there were variations in participants' knowledge of the causes and course of mental health problems. It was interesting that some of the participants had an inaccurate understanding of mental health problems (e.g., one participant believed that individuals who have bulimia nervosa are aggressive and violent) and were uncertain about whether a disorder such as attention-deficit hyperactivity disorder (ADHD) and "alcoholism" were mental disorders. These findings suggest, even when EAs have provided MHFA to someone or have had a mental health problem of their own, they may nevertheless have inaccurate mental health knowledge. Thus, it is important for MHL and MHFA training programs alike to provide accurate information and correct common misperceptions about mental health problems. In general, the fact that MHL was identified as a theme in the qualitative analyses speaks to the importance of fostering the development of EAs' MHL as a key component in MHFA.

An important sub-theme that was identified was the idea that suggesting a family member or friend seek professional treatment is a difficult conversation to have and may be met with resistance. This finding underscores the importance of MHFA training programs involving a component that provides guidance on how to have such conversations, what to expect, what to avoid, and how to manage their own reactions to being a provider of MHFA. For example, Ross and colleagues' (2012) found that the mental health experts who participated in their Delphi consensus study identified "approaching the friend" as a domain with numerous key messages to include in MHFA training for adolescents to support their peers (e.g., "The young person should choose the right moment to talk to their friend - e.g. when they both have enough time to talk and in a comfortable place where they can't be overheard by others," p. 234).

Participants' helping experiences were varied and were often dependent on the nature of their relationship with the family member or friend. While some participants were confident in their ability to provide MHFA, other participants did not have confidence in their MHFA skills. Numerous participants also spoke about the frustration associated with trying to support someone who was not open to receiving help. Indeed, the identification of "The Helping Experience" theme underscored the many emotional reactions that someone providing MHFA may have. These findings highlight the importance of increasing EAs' confidence in their MHFA skills while also making them aware of the common emotional reactions they may experience while providing MHFA. Developers of MHFA training programs may wish to consider the importance of discussing the emotions experienced by providers of MHFA. By normalizing the potential emotional responses they may have, MHFA providers' confidence may also be improved.

In terms of participants' understanding that the recipient of the MHFA had to be open to receiving help, this finding may be understood in reference to the theory of planned behaviour

(Azjen, 1991). Specifically, openness to receiving help maps on to the attitudinal component of the theory of planned behaviour and refers to the individual's favourable or unfavourable evaluation of the behaviour in question (in this case, the behaviour in question is seeking help). One's attitude towards the behaviour has been found to be predictive of intention to engage in the behaviour of interest. It may be fruitful for future MHFA research to include an attitudinal measure of openness to receiving help to better understand the pathways to mental health care that recipients of MHFA do or do not take.

Several participants spoke about various forms of "Stigma" they or their family member or friend had experienced. For example, one form of stigma identified in the analyses was related to the idea that experiencing an internalizing mental health problem (e.g., anxiety or depression) was not "manly" or that having depression was seen as a "weakness." Another participant indicated that he and his social network told his friend to "man up." With regard to the consumption of alcohol, one participant experienced an unwritten expectation suggesting that young men are expected to drink in many social situations which can be difficult for someone with substance abuse issues and often blurs the lines between typical and atypical alcohol consumption. This particular participant also spoke about the discomfort he felt in having to speak with his friend about his substance abuse because of the fact they are both young men. Indeed, he commented that it may have been easier for a girlfriend to speak with the individual about his substance abuse in that it would be better received coming from a "nurturing" female rather than his male friend. Having identified stigma as a major theme in the MHFA experiences of EAs, it is clear that there remains a major role for MHL and MHFA training programs to reduce stigma and correct inaccurate mental health knowledge in the public. The importance of

reducing stigma and its implications has been well-documented and includes greater willingness to access help and therefore earlier intervention (Corrigan, 2004).

The fifth theme was "Lessons Learned" which captured the shift in understanding of mental health problems reported by some participants as well as reflections on what courses of action they might have taken thinking retrospectively about their experience (e.g., wishing they had been more involved in supporting the individual, addressing the problem directly or sooner), and advice for others who are supporting a family member or friend with a mental health problem (e.g., having patience, educating yourself, being aware of signs and symptoms, and recognizing your limitations with regard to providing MHFA). The various lessons learned map directly on to what is known about MHFA in the literature. For example, addressing the problem early and directly, seeking information, listening to and supporting the person, and encouraging professional help-seeking have all been identified as key MHFA actions (Jorm et al., 2007). In addition, the shift in understanding identified by some participants reflects the experiential aspect of MHFA; that is, their experience in being a provider of MHFA influenced their knowledge so that they are different than before. It would be interesting for future research to investigate whether past MHFA provision is related to an increased likelihood of providing MHFA in the future. Such information would be valuable in terms of building capacity when deciding which groups will receive MHFA training.

Strengths, Limitations, and Future Directions

This is one of the first studies to investigate EAs' actual MHFA experiences and is an improvement on previous research methodology which involved asking EAs to hypothetically describe how they would support a friend or family member who was experiencing a mental health problem. In utilizing qualitative analyses, the current study provides an in-depth and

nuanced examination of EAs' experiences in providing MHFA. Given the difficulty in engaging men in health-related research, another strength of the current study lies in the fact that half of the interview participants were men. The themes and sub-themes developed in the current MHFA study incorporate both male and female perspectives on providing MHFA. Further, EA men can offer important insights into their experiences of providing MHFA to their family members and friends. For example, one male participant spoke about the stigma and associated discomfort he felt in approaching his friend about his substance abuse. Addressing the potential discomfort one may feel in providing MHFA directly in training programs and providing suggestions on how to manage such emotions could be beneficial, especially when training men to provide MHFA.

Despite the study's strengths, there are several limitations that should be noted. First, and perhaps most importantly, the current sample was not randomly selected. Indeed, a self-selection bias may have been at play during the recruitment process in that the participants in the current sample may have been more willing to speak about their MHFA experience by extension of their participation in the broader study about mental health. Thus, the sample cannot be considered to be representative of the general EA population. It will be important for future research to investigate MHFA experiences in a representative sample of EAs in which there is a broad range of MHFA skills and experiences. Future research could investigate EAs' experiences using a larger sample with the goal of quantifying with which disorders EAs are least comfortable applying their MHFA skills. A larger sample size with a focus on a variety of disorders would permit identification of specific targets for MHFA skill development initiatives. In addition, having a range of recipients of MHFA (e.g., friends, romantic partners, parents, siblings) would enrich our understanding of the intricacies of supporting various types of individuals. For

example, there are likely different skills involved in supporting a parent as opposed to a friend due to the interpersonal dynamic that exists within various relationships. Interestingly, Jorm and colleagues (2007) investigated the concordance between children (who were both adolescents and EAs) and parents' beliefs about MHFA and found that there was significant agreement in terms of their beliefs regarding how to help someone who was experiencing a mental health problem (e.g., suggest that the individual seek professional help, speak to the individual firmly about getting their act together, rally their friends to cheer them up). Improving our understanding of how to adapt MHFA skill development could further refine how to teach these skills to EAs in various contexts such as post-secondary education settings, support groups, workplaces, and so on.

Implications

The current research has several important clinical implications related to tailoring the development of MHFA training programs. In terms of MHFA training, an important component seems to be increasing MHL and deepening EAs' understanding of what to expect when providing MHFA to someone. For example, providing information on what signs and symptoms to look for, the idea that recognition of a mental health problem may be a gradual process, how to handle crisis situations, the usefulness of giving someone an ultimatum, and the feelings associated with providing MHFA to a loved one were key themes identified in the current study. Although not formally evaluated in the present study, it is reasonable to hypothesize based on the current results that greater understanding of the individual's mental health problem may lead to increases in the provision of MHFA and specific courses of action to help the individual. A recent Delphi consensus study on MHFA provision in adolescents identified key messages on how young people can help their peers (e.g., recognizing warning signs, approaching the friend,

encouraging help-seeking from appropriate places, and self-care for the adolescent providing the MHFA; Ross et al., 2012). These key messages were remarkably similar to the themes identified in the current study and could be used to extend the MHFA course to EAs. Thus, it seems as though the qualitative study of actual MHFA experiences in various populations may be helpful in the development and refinement of MHFA training programs. In studying actual MHFA experiences, training programs can be tailored so that they are developmentally appropriate and include relevant information as identified by the particular population.

Many participants seemed to differentiate between helping and supporting their family member or friend which may have been related to their level of confidence in providing MHFA. For example, participants seemed to make a distinction between supportive behaviour (i.e., informal sources of support such as listening to the individual in an understanding way which was endorsed by 100% of participants) and concrete, identifiable actions such as asking if their family member or friend was feeling suicidal (30% of participants reported taking this action). It is promising that 80% of the interview participants suggested that the individual seek professional help though it is not known if the participants facilitated this professional help-seeking or followed up on this suggestion. Interestingly, half of the interview participants talked to their family member or friend about getting his or her act together which suggests that some participants may not fully understand the nature of mental health problems (i.e., they are not related to lack of willpower). In general, these results indicate that EAs would likely benefit from formalized MHFA training to improve their level of confidence in providing help and engaging in actions that are known to be important in supporting someone with a mental health problem.

Many EAs attend some form of post-secondary education (Arnett, 2011). Thus, a logical application of the current results would be in informing the development, implementation, and evaluation of MHFA programs within various post-secondary education contexts (e.g., colleges, universities, and trade schools). A recent randomized control trial evaluated the effectiveness of providing MHFA training to resident advisors across multiple post-secondary education institutions (Lipson, Speer, Brunwasser, Hahn, & Eisenberg, 2014). The results suggest that, although trainees' self-perceived knowledge of mental health problems and confidence in their ability to help someone experiencing a mental health problem increased, there were no apparent effects on utilization of mental health care. Based on the current results, as well as those from Lipson and colleagues, it appears as though the processes of providing MHFA and help-seeking behaviour on the part of the recipient of MHFA are complex. Further research is needed to determine the factors associated with actual help-seeking behaviour once an EA has received MHFA. The theme "openness to receiving help" identified in the current study suggests that the recipient of the MHFA may have to be willing to receive or seek help. Further, findings from Study 1 suggest that a potential barrier to help-seeking is a lack of recognition of a mental health problem. Taken together, recognition of a problem and openness to receiving help may be two prerequisites of help-seeking behaviour for recipients of MHFA.

Conclusion

In conclusion, the current qualitative study on EAs' MHFA involved an in-depth examination of EAs' experiences in providing MHFA to a family member or friend. This is one of the first studies to investigate EAs' actual MHFA experiences in such detail. Using qualitative research methods, five key themes were identified, including 1) the idea that recognition of a mental health problem is a process; 2) the importance of MHL; 3) the helping

experience is varied and creates strong emotional reactions in the MHFA provider; 4) the issue of stigma; and 5) lessons learned. Results from the MHFA study have important implications for the development and tailoring of MHFA training programs to EAs. In particular, the findings suggest that EAs would benefit from learning what to expect when providing MHFA including the emotional reactions associated with providing MHFA to a family member or friend. By providing such normalizing information to EAs, their level of confidence may increase thereby also increasing the likelihood that they continue to provide MHFA until the person is receiving appropriate support.

General Discussion

The overarching goals of this research project were to investigate EAs' rates of MHL in terms of four specific disorders, namely, depression, social anxiety disorder, substance abuse disorder, and bulimia nervosa, and to qualitatively explore EAs' actual MHFA experiences. The current study contributes to the MHL and MHFA literature. Using novel methodology to sample and collect data, the present study addresses previous gaps related to our understanding of MHL related to specific disorders (i.e., substance abuse disorder and bulimia nervosa) and provides one of the first investigations of EAs' actual, rather than hypothetical, MHFA experiences.

Taken together, findings from both Study 1 and Study 2 support the continued utility of providing MHL and MHFA training to EAs. More specifically, Study 1 results indicate that EAs have relatively good recognition rates in terms of depression (83.2%) and weaker recognition rates related to substance abuse disorder (69.8%), social anxiety disorder (57.1%), and bulimia nervosa (68.8%). Furthermore, there were significant gender differences in recognition rates such that women were better at recognizing depression and bulimia nervosa than men (ignoring the gender of the vignette character). EAs identified lack of recognition of a mental health problem and feeling ashamed or uncomfortable as the two primary barriers in seeking help among both men and women and across disorders. Results from Study 2 suggest that recognition of a mental health problem in a family member or friend on the part of a MHFA provider is often a gradual process. In addition, the themes identified in the qualitative interviews underscore the importance of MHL and captured the experiential nature of providing MHFA to a family member or friend; that is, that there were lessons learned from their helping experience. Finally, another important theme identified in the qualitative analyses is the notion that stigma exists related to mental health problems being seen as a weakness, particularly for men.

Future Research

The current study had many strengths including the novel aspects of quantitative data collection (i.e., the use of social media, advertising the study in locations frequented by EAs), the development and inclusion of a vignette to assess MHL related to substance abuse disorder and the investigation of bulimia nervosa which has been infrequently studied in the MHL literature, and the inclusion of one of the first in-depth qualitative investigations of actual MHFA experiences in EAs. However, there are several avenues for future research that would be beneficial to build on the current study and contribute to the MHL and MHFA literature.

Given the lower rates of MHL found in EA men, as well as their qualitatively different MHFA experiences, it will be important for future research to continue to investigate how to improve their MHL and to understand better how to adapt MHFA training programs to be readily accessible and relevant to young men. Conducting focus groups with men regarding how they would like to receive MHL and MHFA training would be a valuable area of investigation for future research. For example, researchers may wish to consider conducting a consumer preference modeling study to identify male EAs' preferences for receiving information related to mental health and how to help a family member or friend who is experiencing a mental health problem (see Cunningham et al., 2013).

Results from Study 1 and Study 2 suggest that individuals continue to experience stigma in relation to mental health problems and that this stigma may interfere with their willingness to access help (Rickwood, Deane, Wilson, & Ciarrochi, 2005). It will be important for future research to track changes in stigma in the general population and to identify the most effective methods of reducing stigma (Reavley & Jorm, 2011c). Based on results from Study 1, it may be that stigma reduction would best be achieved by focusing on improving MHL and correcting

misperceptions related to specific disorders and targeting specific groups of the population (e.g., young men).

With regard to MHFA specifically, it would be valuable for future research to investigate actual MHFA experiences from a developmental perspective. For example, Yap and colleagues (2012) found that age is an important factor in predicting intention to suggest or facilitate professional help-seeking or to endorse these actions in a hypothetical MHFA situation. Younger respondents were also more likely to endorse potentially unhelpful actions (e.g., talking to the individual firmly, keeping the individual busy) as hypothetical methods of providing MHFA. Thus, future research could replicate the methodology used by Yap and colleagues (2012) to investigate MHFA experiences in a sample consisting of individuals from a variety of ages. It would also be useful to determine whether MHFA experiences vary depending on the role of the individual in the participant's life (i.e., peer, romantic partner, parent, etc.). Such information could be used to tailor MHFA training programs to be most relevant to the provider and recipient of the MHFA.

Implications

It will be important for schools, clinicians, and policy makers to be made aware that EAs continue to need MHL and MHFA training, especially with regard to substance abuse disorder, social anxiety disorder, and bulimia nervosa. This lack of MHL was most notable in EA men who also held more negative attitudes towards individuals with mental illness than women. At the same time, male EAs contributed invaluable insights into their MHFA experiences related to supporting their friends and romantic partners who had a mental health problem. The findings suggest that taking a developmental perspective to improving MHL and providing MHFA training may be most appropriate. More specifically, given the moderate rates of MHL in the

current sample, it may be beneficial for school and policy makers to advocate for MHL and MHFA training at the school level to ensure that all children and youth are provided with this important knowledge. In addition, stigma reduction campaigns may be one way to reduce the stigma associated with mental illness and improve help-seeking behaviour as well as the provision of MHFA to those in need (Yap, Reavley, Mackinnon, & Jorm, 2013). However, the evaluation of such campaigns will be important to ensure their effectiveness.

Conclusion

In closing, the current research has contributed to the MHL literature by identifying disorder recognition rates related to depression, substance abuse disorder, social anxiety disorder, and bulimia nervosa and, in doing so, has underscored the need for ongoing efforts to improve MHL in EAs and, in particular, in EA men. The novel use of an online survey for data collection has also added to the methodological possibilities for studying MHL. Several important themes were identified in Study 2 emphasizing the importance of MHL, the need for stigma reduction, and the experiential aspect of being a provider of MHFA (e.g., the range of emotions that are associated with supporting someone with a mental health problem). There are several important areas for future research including how to most effectively improve MHL related to a range of disorders in young people, the development and implementation of stigma reduction campaigns, and further tailoring MHFA training programs to the needs of EAs. Given the defining characteristics of emerging adulthood, further research is necessary to determine the nature of the relationships among EAs' MHL and their actual help-seeking behaviours, including pathways to care.

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Table 1

Demographic Data Overall and by Community and URPP Subsample

Demographic Characteristic	Total *N* = 561 *n* (%)	Community *n* = 444 (79.1%) *n* (%)	URPP *n* = 117 (20.9%) *n* (%)	$\chi(df)$	*p*
Gender				2.089(1)	.148
Men	157 (28.0)	131 (29.5)	26 (22.2)		
Women	404 (72.0)	313 (70.5)	91 (77.8)		
Age				100.772(2)	< .001
18-21	170 (30.3)	91 (20.5)	79 (67.5)		
22-25	187 (33.3)	162 (36.5)	25 (21.4)		
26-29	200 (35.7)	188 (42.3)	12 (10.3)		
Level of Education				105.382(3)	< .001
Some or completed high school	197 (35.1)	110 (24.8)	87 (74.4)		
College/Trade certificate/Apprenticeship	92 (16.4)	79 (17.8)	13 (11.1)		
Undergraduate degree/Post-graduate diploma	188 (33.5)	171 (38.5)	17 (14.5)		
Professional or graduate school	84 (15.0)	84 (18.9)	0 (0.0)		
Mother's Level of Education				7.738(3)	.052
Some or completed high school	164 (29.2)	125 (28.2)	39 (33.3)		
College/Trade certificate/Apprenticeship	123 (21.9)	97 (21.8)	26 (22.2)		
Undergraduate degree/Post-graduate diploma	151 (26.9)	122 (27.5)	29 (24.8)		
Professional or graduate school	99 (17.6)	89 (20.0)	10 (8.5)		
Father's Level of Education				1.299(3)	.729
Some or completed high school	154 (27.5)	122 (27.5)	32 (27.4)		
College/Trade certificate/Apprenticeship	114 (20.3)	87 (19.6)	27 (23.1)		
Undergraduate degree/Post-graduate diploma	138 (24.6)	113 (25.5)	25 (21.4)		
Professional or graduate school	119 (21.2)	96 (21.6)	23 (19.7)		

(continued)

Demographic Characteristic	Total *N* = 561 *n* (%)	Community *n* = 444 (79.1%) *n* (%)	URPP *n* = 117 (20.9%) *n* (%)	$\chi(df)$	*p*
Ethnicity				140.756(7)	< .001
White/Canadian	319 (56.9)	297 (66.9)	22 (18.8)		
European	76 (13.5)	64 (14.4)	12 (10.3)		
South Asian	49 (8.7)	18 (4.1)	31 (26.5)		
Asian	34 (6.1)	20 (4.5)	14 (12.0)		
Black	26 (4.6)	11 (2.5)	15 (12.8)		
Mixed Race	16 (2.9)	13 (2.9)	3 (2.6)		
Latin American	8 (1.4)	5 (1.1)	3 (2.6)		
Other	27 (4.8)	13 (2.9)	14 (12.0)		
Member of a Visible Minority				45.62(1)	< .001
Yes	133 (23.7)	77 (17.3)	56 (47.9)		
No	426 (75.9)	365 (82.2)	61 (52.1)		
Generational Status-Canadian				114.313(3)	< .001
GS-C0	103 (18.4)	53 (11.9)	50 (42.7)		
GS-C1	131 (23.4)	83 (18.7)	48 (41.0)		
GS-C2	75 (13.4)	66 (14.9)	9 (7.7)		
GS-C3	251 (44.7)	241 (54.3)	10 (8.5)		
Household Income				16.163(3)	.001
Below average income	150 (26.7)	114 (25.7)	36 (30.8)		
Average income	252 (44.9)	187 (42.2)	65 (55.6)		
Above average income	135 (24.1)	120 (27.1)	15 (12.8)		
Well-above average income	23 (4.1)	22 (5.0)	1 (0.9)		

Note. Percentages may not add to 100 due to missing data. Chi-square analyses were used to test for significant differences between the community and URPP subsamples. GS-C0 = immigrant status; GS-C1 = first generation, participant born in Canada, but parents born outside of Canada; GS-C2 = first/second generation, participant and one parent born in Canada; GS-C3 = at least second generation, participant and both parents born in Canada.

Table 2

Frequency of Vignette Presentation by Participant Gender

	Total	Participant Gender	
		Men	Women
Disorder	*n* (%)	*n* (%)	*n* (%)
Male Depression	79 (14.1)	24 (30.4)	55 (69.6)
Female Depression	82 (14.6)	22 (26.8)	60 (73.2)
Male Substance Abuse Disorder	80 (14.3)	20 (25.0)	60 (75.0)
Female Substance Abuse Disorder	75 (13.4)	17 (22.7)	58 (77.3)
Male Social Anxiety Disorder	79 (14.1)	21 (26.6)	58 (73.4)
Female Society Anxiety Disorder	85 (15.1)	27 (31.8)	58 (68.2)
Female Bulimia Nervosa	81 (14.4)	26 (32.1)	55 (67.9)

Table 3

Frequency of Study Access Points

Study Access Point	%
Facebook group or post	58.1
URPP	20.9
Email	11.2
Twitter post	3.4
Flyer/Handout	3.2
LinkedIn post	2.1
Other	0.9
Missing	0.2

Note. $n = 561$.

Table 4

Frequency of Problem Recognized in Vignette

Vignette	Yes % (*n*)	No % (*n*)
Male Depression	98.7 (78)	1.3 (1)
Female Depression	96.3 (78)	3.7 (3)
Male Substance Abuse Disorder	97.5 (78)	2.5 (2)
Female Substance Abuse Disorder	98.6 (73)	1.4 (1)
Male Social Anxiety Disorder	87.3 (69)	12.7 (10)
Female Society Anxiety Disorder	87.1 (74)	12.9 (11)
Female Bulimia Nervosa	98.8 (80)	1.2 (1)

Table 5

Severity of Problem Ratings Overall and by Gender

			Participant Gender			
		Total	Men		Women	
Vignette	*n*	*M* (*SD*)	*n*	*M* (*SD*)	*n*	*M* (*SD*)
Male Depression	79	3.97 (.768)	24	4.04 (.464)	55	3.95 (.870)
Female Depression	81	4.00 (.725)	22	3.91 (.684)	59	4.03 (.742)
Male Substance Abuse Disorder	79	4.41 (.743)	20	4.15 (.813)	59	4.49 (.704)
Female Substance Abuse Disorder	74	4.62 (.566)	16	4.81 (.403)	58	4.57 (.596)
Male Social Anxiety Disorder	79	3.56 (.957)	21	3.14 (1.014)	58	3.71 (.899)
Female Society Anxiety Disorder	85	3.61 (.803)	27	3.33 (.784)	58	3.74 (.785)
Female Bulimia Nervosa	81	4.54 (.571)	26	4.46 (.508)	55	4.58 (.599)

Note. Range for problem severity ratings = 1 (*No problem*) to 5 (*Extreme problem*).

Table 6

Rates of Disorder Recognition as a Function of Participant Gender

	Total		Participant Gender					
			Men		Women			
	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect		
Disorder	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	χ(*df*)	*p*
Depression	129 (83.2)	26 (16.8)	30 (66.7)	15 (33.3)	99 (90.0)	11 (10.0)	10.839(1)	.001
Male Depression	63 (81.8)	14 (18.2)	16 (66.7)	8 (33.3)	47 (88.7)	6 (11.3)	4.003(1)	.045
Female Depression	66 (84.6)	12 (15.4)	14 (66.7)	7 (33.3)	52 (91.2)	5 (8.8)	5.350(1)	.021
Substance Abuse Disorder	104 (69.8)	45 (30.2)	19 (55.9)	15 (44.1)	85 (73.9)	30 (26.1)	3.237(1)	.072
Male Substance Abuse Disorder	55 (72.4)	21 (27.6)	10 (55.6)	8 (44.4)	45 (77.6)	13 (22.4)	2.323(1)	.127
Female Substance Abuse Disorder	49 (67.1)	24 (32.9)	9 (56.2)	7 (43.8)	40 (70.2)	17 (29.8)	0.557(1)	.455
Social Anxiety Disorder	88 (57.1)	66 (42.9)	22 (50.0)	22 (50.0)	66 (60.0)	44 (40.0)	0.907(1)	.341
Male Social Anxiety Disorder	42 (56.8)	32 (43.2)	10 (52.6)	9 (47.4)	32 (58.2)	23 (41.8)	0.023(1)	.879
Female Society Anxiety Disorder	46 (57.5)	34 (42.5)	12 (48.0)	13 (52.0)	34 (61.8)	21 (38.2)	0.837(1)	.360
Female Bulimia Nervosa	53 (68.8)	24 (31.2)	12 (46.2)	14 (53.8)	41 (80.4)	10 (19.6)	7.881(1)	.005

Note. Percentages are based on valid respondents only (that is, missing data were not included in the calculation of percentages). Chi-square analyses presented in the table are related to gender differences in disorder recognition rates.

Table 7

Need for Help Ratings Overall and by Gender

			Participant Gender			
		Total	Men		Women	
Vignette	*n*	Mean (*SD*)	*n*	Mean (*SD*)	*n*	Mean (*SD*)
Male Depression	77	4.29 (.841)	24	4.25 (.847)	53	4.30 (.845)
Female Depression	80	4.10 (.894)	22	3.77 (1.02)	58	4.22 (.817)
Male Substance Abuse Disorder	75	4.51 (.860)	19	4.05 (1.224)	56	4.66 (.640)
Female Substance Abuse Disorder	73	4.56 (.745)	16	4.81 (.544)	57	4.49 (.782)
Male Social Anxiety Disorder	76	3.62 (1.070)	20	3.20 (1.196)	56	3.77 (.991)
Female Society Anxiety Disorder	82	3.80 (1.094)	26	3.38 (1.169)	56	4.00 (1.009)
Female Bulimia Nervosa	78	4.67 (.596)	26	4.58 (.643)	52	4.71 (.572)

Note. Range for need for help ratings = 1 (*Does not need help*) to 5 (*Definitely in need of help*).

Table 8

Means and Standard Deviations for the Likelihood of Engaging in Helpful Actions by Disorder

	Disorder					
Course of Action	Depression (n = 156) M (SD)	Substance Abuse (n = 148) M (SD)	Social Anxiety (n = 155) M (SD)	Bulimia Nervosa (n = 78) M (SD)	F(3, 533)	p
Speak directly to [John/Jenny] and explain your concern to [him/her].	3.63 (0.60)	3.67 (0.62)	3.36 (0.81)	3.60 (0.57)	5.08[a]	.002
Speak with [John's/Jenny's] parents and explain your concern to them.	2.44 (0.83)	2.47 (0.81)	2.23 (0.93)	2.36 (0.84)	2.36[b]	.071
Speak with one of [John's/Jenny's] friends whom you also know and discuss your concern.	3.39 (0.78)	3.54 (0.66)	2.92 (0.99)	3.44 (0.78)	14.19[c]	< .001
Gather information on the problem that you believe [John/Jenny] is experiencing in order to increase your knowledge of how to help.	3.29 (0.75)	3.33 (0.85)	3.17 (0.88)	3.46 (0.75)	2.41	.066
Gather information for [John/Jenny] on possible treatment options for the problem that you believe [John/Jenny] is experiencing.	3.02 (0.87)	3.25 (0.82)	2.88 (0.96)	3.35 (0.70)	7.51	< .001

Note. Scale ranged from 1 (*Would not take this action*) to 4 (*Very likely to take this action*).
[a]df = 3, 261.35. [b]based on n = 154 for social anxiety disorder condition; df = 3, 532. [c]df = 3, 254.09.

Table 9

Frequency of Self-Reported Helpful Actions by Disorder

	Disorder			
Action	Depression (*n* = 147) %	Substance Abuse (*n* = 139) %	Social Anxiety (*n* = 141) %	Bulimia Nervosa (*n* = 70) %
Non-professional help	70.1	82.0	69.5	75.7
Must first recognize the problem	25.2	45.3	24.8	45.7
Talk over with friends/family	35.4	19.4	22.7	24.3
Search the Internet/read books	2.7	0.0	7.1	4.3
Deal with problem on own	6.8	17.3	14.9	1.4
Professional help	29.9	18.0	30.5	24.3
See a mental health professional	15.0	12.9	18.4	14.3
See a doctor (GP)	15.0	2.2	9.2	8.6
Other	0.0	2.9	0.0	1.4
Does not have a problem	0.0	0.0	2.8	0.0

Table 10

Frequency of Most Helpful Actions by Disorder

	Disorder							
	Depression (n = 147)		Substance Abuse (n = 138)		Social Anxiety (n = 141)		Bulimia Nervosa (n = 68)	
Action	First %	Second %	First %	Second %	First %	Second %	First %	Second %
Non-professional help	72.8	42.9	84.8	48.6	78.0	43.3	80.9	36.8
Must first recognize the problem	46.3	2.0	68.1	0.0	47.5	2.1	63.2	0.0
Talk over with friends/family	20.4	26.5	14.5	21.7	25.5	18.4	16.2	19.1
Join a support group	2.0	4.8	1.4	18.8	2.1	12.1	0.0	11.8
Search the Internet/read books	2.0	7.5	0.0	4.3	1.4	5.7	1.5	5.9
Deal with problem on own	1.4	0.7	0.7	3.0	1.4	2.8	0.0	0.0
Follow stress management program	0.7	1.4	0.0	0.0	0.0	1.4	0.0	0.0
Ignore symptoms/feelings	0.0	0.0	0.0	0.7	0.0	0.7	0.0	0.0
Professional help	27.2	57.1	15.2	51.4	22.0	56.7	19.1	63.2
See a counsellor	8.8	21.1	7.3	33.3	6.4	28.4	5.9	17.6
See a doctor (GP)	11.6	19.7	3.0	8.0	3.6	8.5	5.9	26.5
See a psychologist	2.7	4.8	4.3	5.8	5.7	9.2	4.4	7.3
See a psychiatrist	3.4	8.8	0.0	2.2	5.0	8.5	2.9	5.9
See a(n) naturopath/herbalist	0.7	0.7	0.0	1.4	0.0	0.0	0.0	2.9
See a social worker	0.0	0.0	0.7	0.0	0.7	1.4	0.0	1.5
Take medication	0.0	2.0	0.0	0.0	0.0	0.7	0.0	0.0
Talk to religious leader	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Don't know	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0

Note. Participants were asked to rank their top two choices of helpful actions. Percentages may not add to 100 due to rounding.

Table 11

Frequency of Participants Indicating Action is Helpful

	Disorder			
	Depression (*n* = 146)	Substance Abuse (*n* = 138)	Social Anxiety (*n* = 143)	Bulimia Nervosa (*n* = 69)
Action	%	%	%	%
Non-professional help				
Must first recognize the problem	94.5	95.0[a]	93.7	98.6
Talk over with friends/family	65.8	59.4	62.9	63.8
Join a support group	64.4	77.5	65.7	76.8
Search the Internet/read books	43.2	49.6[a]	52.4	56.5
Deal with problem on own	8.2	11.7[a]	12.7[b]	7.2
Follow stress management program	48.6	52.2	40.6	39.1
Ignore symptoms/feelings	2.1	2.9	4.2	5.8
Professional help				
See a counsellor	80.8	92.0	81.8	92.8
See a doctor (GP)	65.8	58.7	42.0	84.1
See a psychologist	65.8	69.6	71.3	72.5
See a psychiatrist	61.6	58.0	55.9	66.7
See a(n) naturopath/herbalist	17.8	14.5	11.9	11.6
See a social worker	41.8	51.4	39.2	46.4
Take medication	13.7	4.4[a]	12.6	8.7
Talk to religious leader	21.9	20.4[a]	15.4	18.8

Note. [a]Based on *n* = 137. [b]Based on *n* = 142.

Table 12

Barriers to Help-Seeking Broken Down By Gender

	Disorder						
	Depression		Substance Abuse		Social Anxiety		Bulimia Nervosa
	Men (n = 69)	Women (n = 77)	Men (n = 66)	Women (n = 68)	Men (n = 65)	Women (n = 76)	Women (n = 68)
Barrier	%	%	%	%	%	%	%
May not recognize that [he/she] has a mental health problem	33.3	33.8	53.0	50.0	21.5	27.6	41.2
Ashamed or uncomfortable asking for help	29.0	36.4	25.8	14.7	40.0	32.9	33.8
Concern about the stigma of being diagnosed with a mental health problem	18.8	7.8	13.6	16.2	15.4	21.1	13.2
May not know what to do or where to turn	7.2	7.8	1.5	16.2	13.9	10.5	7.4
The cost of seeking treatment	1.5	1.3	1.5	0.0	3.1	5.3	1.5
There are other ways of dealing with mental health problems that are more effective than seeing a doctor	0.0	1.3	3.0	1.5	3.1	0.0	1.5
Not able to find help/no help available	2.9	3.9	0.0	1.5	1.5	0.0	0.0
Other	2.9	7.8	1.5	0.0	1.5	2.6	1.5
Don't know	4.4	0.0	0.0	0.0	0.0	0.0	0.0

Note. Percentages may not add to 100 due to rounding.

Table 13

Participants' Perceptions of Prognosis by Disorder

	Disorder			
	Depression (*n* = 146)	Substance Abuse (*n* = 137)	Social Anxiety (*n* = 142)	Bulimia Nervosa (*n* = 69)
	%	%	%	%
Perceived Prognosis	With Professional Help			
Full recovery with no further problems	18.5	31.4	21.1	36.2
Full recovery, but problems would probably re-occur	58.2	41.6	44.4	42.0
Partial recovery	9.6	7.3	14.8	7.3
Partial recovery, but problems would probably re-occur	4.1	12.4	12.7	7.3
No improvement	0.7	0.0	0.0	0.0
Get worse	0.0	0.0	0.0	0.0
Don't know	8.9	7.3	7.0	7.3
	Without Professional Help			
Full recovery with no further problems	1.4	2.2	2.1	0.0
Full recovery, but problems would probably re-occur	5.5	2.9	1.4	8.7
Partial recovery	5.5	2.2	3.6	0.0
Partial recovery, but problems would probably re-occur	17.8	19.0	14.9	13.0
No improvement	8.9	16.1	19.9	14.5
Get worse	50.7	48.2	50.4	58.0
Don't know	10.3	9.5	7.8	5.8

Note. Percentages may not add to 100 due to rounding. *n* = 141 for social anxiety disorder without professional help.

Table 14

Participants' Knowledge of the Epidemiology of Mental Illness

Statement	More Likely %	Less Likely %	No Difference %	Depends %	Don't know %
Do you think that women would be more likely or less likely than men to suffer these sorts of problems?[a]	39.9	9.6	35.8	10.8	3.9
Would young people, under 25 years of age, be more likely or less likely to suffer these sorts of problems?[b]	53.7	4.3	20.8	15.3	5.9
Would older people, those aged over 65, be more likely or less likely to suffer these sorts of problems?[a]	16.8	43.8	17.6	14.1	7.8
Would poor people be more likely or less likely to suffer these sorts of problems?[b]	40.6	8.4	26.7	17.8	6.5
Would unemployed people be more likely or less likely to suffer these sorts of problems?[b]	51.2	4.1	19.4	19.6	5.7
Would divorced or separated people be more likely or less likely to suffer these sorts of problems?[a]	49.5	2.9	19.2	20.9	7.6
Would single people, who have never been married or in a long-term relationship, be more likely or less likely to suffer these sorts of problems?[b]	27.1	7.8	31.0	25.9	8.2

Note. Percentages may not add to 100 due to rounding.
[a]n = 489. [b]*n* = 490.

Table 15

Knowledge of Causes of Mental Illness by Gender

Cause	Total	Participant Gender		
		Men	Women	
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*p*
Virus or other infection[a]	2.51 (1.63)	2.57 (1.60)	2.49 (1.64)	.643
Allergy or reaction[a]	2.16 (1.34)	2.08 (1.25)	2.19 (1.38)	.431
Day-to-day problems (e.g., stress or financial difficulties)	6.09 (1.11)	6.06 (0.91)	6.10 (1.18)	.691
Recent traumatic event	6.33 (0.92)	6.17 (0.90)	6.39 (0.92)	.020
Problems from childhood (e.g., coming from a broken home)	6.40 (0.90)	6.12 (1.12)	6.50 (078)	.001
Inherited or genetic	5.29 (1.42)	4.86 (1.50)	5.45 (1.36)	< .001
Brain disease or a chemical imbalance	5.54 (1.42)	5.19 (1.51)	5.67 (1.36)	.001
Lack of willpower	3.65 (1.94)	4.12 (1.91)	3.48 (1.92)	.001
Fate/God's will	2.11 (1.55)	2.10 (1.55)	2.12 (1.55)	.905
Alcohol or drug abuse	5.13 (1.52)	5.15 (1.41)	5.12 (1.56)	.809

Note. $n = 483$. Responses ranged from 1 (*Very unlikely*) to 7 (*Very likely*).
[a]$n = 482$.

Table 16

Attitudes Towards Mental Illness by Gender

Statement	Total	Participant Gender		
		Men	Women	
	M (*SD*)	Mean (SD)	Mean (SD)	*p*
Person could snap out of the problem[a]	1.86 (1.02)	2.19 (1.19)	1.74 (0.92)	< .001
Mental health problems are a sign of personal weakness[b]	1.80 (1.03)	2.11 (1.14)	1.69 (0.96)	< .001
Mental health problems are not real medical illnesses	1.86 (1.04)	2.25 (1.18)	1.71 (0.95)	< .001
People with such problems are dangerous[b]	2.05 (1.12)	2.23 (1.23)	1.98 (1.07)	.042
Avoid people with such problems	1.53 (0.80)	1.62 (0.87)	1.50 (0.77)	.139
People with such problems are unpredictable[a]	2.44 (1.14)	2.62 (1.16)	2.38 (1.12)	.042
If I had such a problem, I would not tell anyone	2.19 (1.04)	2.34 (0.98)	2.13 (1.06)	.052
I would not employ someone with such problems	2.39 (1.22)	2.54 (1.24)	2.34 (1.22)	.107
I would not vote for a politician with such problems	2.28 (1.27)	2.55 (1.36)	2.19 (1.22)	.007

Note. Men *n* = 130. Women *n* = 357. Responses ranged from 1 (*Strongly disagree*) to 5 (*Strongly agree*).
[a]Women *n* = 356. [b]Men *n* = 129.

Table 17

Frequency of Participants Endorsing Positive Mental Health Behaviours as Helpful

Behaviour	%
Having supportive and good relationships with friends and family	98.1
Good physical exercise habits[a]	97.3
Taking time for relaxation	97.1
Getting enough sleep	95.9
Good eating habits	95.7
Having skills for coping with life challenges	95.5
Being involved in activities for work or pleasure[a]	94.8
Asking for help or talking to family and friends in time of stress or trouble	93.6
Thinking positively about people and situations	88.9
Seeking medical attention from time to time for a check up	87.0
Getting enough sunshine	81.6
Abstaining from alcohol and drugs	62.1
Being spiritual or religious[a]	48.1

Note. $n = 485$. [a]$n = 484$.

Table 18

Top Self-Reported Positive Mental Health Behaviours

Behaviour	%
Physical activity	22.7
Supportive relationships	21.1
Sleep and relaxation	13.9
Positive life attitude	13.7
Healthy eating	6.1
Positive coping strategies	4.6
Religion/Spirituality	4.0
Social activities	3.6
Therapy or taking prescribed medication	3.4
Seek professional help	2.3
Avoid harmful substances	1.1
Other	3.6

Note. $n = 475$.

Table 19

Characteristics of Interview Participants and the Family Member or Friend Receiving Mental Health First Aid

Interview #	Method of Contact	Gender of Participant	Gender of Family Member/ Friend	Age of Family Member/ Friend	Role in Participant's Life	Mental Health Problem
1	In person	Female	Male	59	Parent (father)	Depression (plus substance abuse and ADHD)
2	Phone	Male	Male	27	Friend	Substance abuse (ADHD, depression)
3	Phone	Male	Female	27	Girlfriend	Bulimia nervosa
4	Phone	Female	Female	29	Friend	Depression
5	Phone	Female	Female	56	Parent (mother)	Depression
6	In person	Female	Female	58	Parent (mother)	Substance abuse, depression
7	Phone	Female	Female	51	Aunt	Depression, anxiety, agoraphobia, PTSD, panic disorder
8	In person	Male	Male	29	Friend	Depression
9	Phone	Male	Male	23	Friend	Anxiety, panic disorder, substance abuse
10	Phone	Male	Male	28	Friend	Anxiety, substance abuse

Note. ADHD = Attention Deficit Hyperactivity Disorder. PTSD = Post-Traumatic Stress Disorder.

Table 20

Inductively Developed Code and Sub-Code Names and Descriptions

Code or Sub-Code	Code Description
Self-esteem	Low self-esteem
Comorbid mental health problems	More than one mental health problem
No denying that a problem exists	Problem is obvious and no longer can be denied
Sensing vs. knowing	A gap in time between sensing that the person is different and knowing that there was a problem
Signs and symptoms	How the participant noticed there was something wrong; observable
Emotional signs and symptoms	Unhappiness, withdrawing
Employment difficulties	Difficulties getting or keeping job; low motivation for work; absenteeism
Behavioural symptoms	Sleeping more than normal, etc.
Observable	Awareness has to come from something observable
Others start to notice	Confirmatory - when other people in the network start to notice and/or become concerned
Addiction/Substance use	Abuse of alcohol, cigarettes, drugs, overeating/undereating
Social domain signs and symptoms	Difficulty relating/interacting with others; Unhealthy relationships
Hiding things, secretive behaviour, denial	
Having to force someone into treatment	Coercive language used towards family member/friend
Perception of lack of help	Family member/friend perceives a lack of help exists
Length of time trying to help	Help has been ongoing
Longstanding history of trying to help	
Realization led to increased helping behaviour	
Continue to help in the future	Participant stated intention to continue helping
Bring up your concerns early on	
Lack of understanding of problem	

(continued)

Table 20 (*continued*)

Code or Sub-Code	Code Description
Helpful actions were common sense	According to participant, actions were common sense
Confidence in helping ability	Level of confidence in helping ability
Not confident in ability to help	
Confident at the time	
Changing past actions	Wish they would have done things differently
Be more involved	
Address problem directly	
Involve others in the social network	
Desire for current knowledge	Wishing that they knew then what they know now
Suggest seeking help sooner	
Change reactions or behaviour	e.g., don't suggest drinking or avoid drinking with them
Progression of mental illness	The participant has observed or known about the progression of the mental illness over time
Sense that the person was different	Perception that the person acts differently than others or that there was some problem, but before realizing the true nature of the problem
Refusal of help/Avoidance of discussion	Refusing to be open to help or to change or to accept treatment; Avoidance of discussion of problem
Recognition of problem	Recognition of the problem on the part of the friend/family member
Recognition of problem from family member/friend's perspective	How they understand their behaviour, the underlying reasons for the problem
Impact on shared environment	Family member/friend's behaviour began to impact the shared environment
Perception that family member/friend is selfish	
Helping seems pointless	Unless person is willing, there is no point to try to help; pessimistic attitude; nothing is going to change

(continued)

Table 20 (*continued*)

Code or Sub-Code	Code Description
Intervention/Tipping Point	Involvement in an intervention or tipping point situation. Perhaps participant was involved or perhaps it was a family member. Perhaps there was no tipping point/crisis that occurred. Perhaps it was more of a defining event that led to action being taken.
Ultimatum	If you don't get help or stop the behaviour, I have to…
Readiness to change	Person isn't ready to change; person will seek help when they're ready to change; family member/friend has control over the problem
Stigma	Protecting person's privacy and letting others know about the problem; caregiver silence/secrecy
Stigma surrounding social situations involving alcohol	If one does not drink in social situations, you will be negatively perceived
Stigma related to gendered relationships	Man-to-man basis versus girlfriend to boyfriend when suggesting seek help
Participant's feelings towards helping the family member/friend	Frustration, feeling unsupported; uncomfortable for person who is supporting the individual; anger; sarcasm; regret; blame; disappointment; minimizing the problem; giving up; denial that there is a problem
Outcome of mental illness	Positive or negative outcome; External event changed course of mental illness; Can get better with passage of time; It will take a long time for the person to get better
Understanding of cause of mental illness	May have a good understanding of actual causes of mental illness; May have poor understanding of mental illness (e.g., that it's a habit)
Relieving the blame through understanding	Insight; understanding that the person isn't doing it on purpose; leads to sympathy and a shift in perspective
Importance of social context in mental illness	e.g., alcohol use in large quantities is considered by some to be normative in college/university students and certain cultures

(continued)

Table 20 (*continued*)

Code or Sub-Code	Code Description
Responsibility	Whose responsibility is it to support/help the person?; Placing responsibility onto the individual with the mental health problem
Therapy	Attempts at obtaining therapy for the individual; Suggested that the person seek therapy
Difficulties related to therapy	Disliked therapy, didn't feel it worked
Previous experience with therapy	Participant had previous experience with therapy and saw value in it
Advocate for therapy	Participant advocates for therapy
Therapy for all	Therapy should be accessible to everyone
Advice for others	Participant's advice for others who have a family member/friend with a mental health problem
Patience	Be patient with your family member/friend
Educate yourself	Educate yourself on the mental health problem
Ignoring	Do not ignore signs and symptoms
Avoid distraction techniques	
Avoid suggesting negative outlets	e.g., alcohol, partying
Encourage self-acceptance	
Address problem directly	Don't "beat around the bush" or avoid discussing it
Try to understand their perspective	
Don't blame the person	
History	History of difficult life/childhood/past experiences/trauma/family history of mental health problems/unhealthy relationships
Treatment	Medication, therapy necessary; Do not take medication; Treatment as a solution to a problem
Seek treatment early	Early intervention
Unhealthy forms of coping	e.g., smoking weed, self-medication

(continued)

Table 20 (*continued*)

Code or Sub-Code	Code Description
Informal support	Pointing things out to friend/family member like when they're rude, hurtful, negative; Involving other people (e.g., family members); Feeling like they did what they could as a non-expert; Physical activity; Being able to talk about her feelings; Social support
Learning about mental health problem	Online reading, going to a clinic, seeking out information, seek advice, educate, educational background
Provider help/coping/stress	Provider seeking therapy or their own support - may lead to improved understanding or coping; provider coping - e.g., ignoring, removing from situation, breaking ties
Effect of mental illness on role	Inability of person to fulfil their role or the expected role in the participant's life (e.g., parent, affected job, friendship, etc.) or a change in the quality of their relationship
Helpfulness of actions	Differentiated from being supportive
Actions were not helpful	
Actions were helpful	
Knowledge of mental health led to help/support/understanding	
Personal experience with mental health	Having been through something, they had better understanding and more knowledge
Knowledge of mental illness & treatment	Uncertainty regarding whether a certain problem is considered a mental health problem
Perception of mental illness as a condition not a weakness	
Gained knowledge because of situation	
Related to age	As you grow up, you start to be more familiar with the signs or have a better understanding
Keen awareness that they are not an expert	Belief in the authority of professionals

Table 21

Percentage of Participants Engaging in Specific Actions While Providing Mental Health First Aid to a Family Member or Friend

Action	% (n = 10)
Listened to [his/her] problems in an understanding way.	100
Talked to [him/her] firmly about getting [his/her] act together.	50
Suggested [s/he] seek professional help.	80
Made an appointment for [him/her] to see a GP with [his/her] knowledge.	20
Asked [him/her] whether [s/he] is feeling suicidal.	30
Suggested [s/he] have a few drinks to forget [his/her] troubles.	20
Brought together friends to cheer [him/her] up.	70
Ignored [him/her] until [s/he] gets over it.	20
Kept [him/her] busy to keep [his/her] mind off problems.	90
Encouraged [him/her] to become more physically active.	80
Other	50

Note. Action must have been taken by the participant as opposed to someone else in the family member or friend's life. Other actions taken by participants included "encourage person to find healthier outlets," "talking to another mutual friend/family member," "discouraged the person from taking medication and seek natural alternatives," "suggest that the person leave her relationship," and "shelter her from family problems."

Appendix A: Recruitment Flyer

YORK
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ARE YOU 18 TO 29 YEARS OLD?

We want to learn about your MENTAL HEALTH KNOWLEDGE!

Participate in our brief online survey!

Here's how you can take part:

- Check out the facebook page: **Emerging adults' mental health knowledge**
- Go to the following link in your web browser:
  http://goo.gl/JZ5z8
- Send an email to YorkMHLStudy@gmail.com to receive a link to the survey
- Scan the QR code below with your smartphone

http://goo.gl/JZ5z8 http://goo.gl/JZ5z8 http://goo.gl/JZ5z8 http://goo.gl/JZ5z8 http://goo.gl/JZ5z8 http://goo.gl/JZ5z8 http://goo.gl/JZ5z8 http://goo.gl/JZ5z8 http://goo.gl/JZ5z8 http://goo.gl/JZ5z8

Appendix B: Recruitment Handout

YORK UNIVERSITÉ UNIVERSITY

Are you 18 to 29 years of age?
If so, we want to hear from you! We want to learn about your mental health knowledge!!
Participate in our brief online survey! Here's how you can take part:

- Check out the facebook page: **Emerging adults' mental health knowledge**
- Go to the following link: **http://goo.gl/JZ5z8**
- Send an email to YorkMHLStudy@gmail.com to receive an electronic link to the survey
- Scan the QR code with your smartphone to be directed to the survey

****Spread the word about the study!!****
****Pass this on to your friends who are 18-29 years old!!****

Appendix C: Sample Facebook, LinkedIn, and Twitter Posts

Facebook Post

Are you an 18- to 29-year-old or do you know someone who is? A York University graduate student is looking for Canadian young adults who are 18 to 29 years of age to participate in a short online survey about mental health knowledge and attitudes. Click on the survey link to get started!

https://surveys.qualtrics.com/SE/?SID=SV_0dgDUlkEJMMJGPq

Check out the facebook page for more information about the study: Emerging adults' mental health knowledge

Please pass on this info to other 18-29 year olds who may be interested! Thanks!

Sports-Related Facebook Page Post

Physical and mental health are intertwined! We need to hear from the guys to get the male perspective on mental health!

Are you an 18 to 29 year old? I'm looking for CANADIAN young adults (18 to 29 years of age) to participate in a short online survey about mental health knowledge and attitudes. Click on the survey link to get started!

https://surveys.qualtrics.com/SE/?SID=SV_0dgDUlkEJMMJGPq

LinkedIn Post

Are you an 18- to 29-year-old or do you know someone who is? I'm looking for Canadian young adults who are 18 to 29 years of age to participate in a short online survey about mental health knowledge and attitudes. The survey takes about 20 minutes, and upon completion of the survey, you'll be eligible to win one of two $100 gift cards. This study is being conducted as part of my dissertation research. Please click on the survey link if you are interested in participating or learning more about the study:

http://goo.gl/JZ5z8

Twitter Post

18 to 29 years old? Fill out an online survey about your mental health knowledge: http://goo.gl/JZ5z8 Pass it on!

Appendix D.1: Survey Consent Form for Non-URPP Participants

Title of Research Project: Emerging adults' mental health literacy: A mixed-methods study

Principal Investigator:
Ashley Morgan, Doctoral Student
101 BSB, York University
416-736-2100

Supervised by:
Dr. Maxine Wintre
York University
416-736-2100 ext. 66144

Purpose of the Research: We want to understand what factors affect young adults' mental health knowledge. The purpose of the research is to describe young adults' mental health knowledge, their attitudes towards different mental health problems, and explore their mental health-related experiences.

Description of the Research: If you agree to participate in this study, you will answer some questions about your attitudes and mental health-related knowledge. Some demographic information is also collected. It will take about 20 minutes to do the survey.

Potential Harms: We know of no potential harms in doing this survey.

Potential Discomforts or Inconvenience: Doing the survey only takes approximately 20 minutes, but you might get bored near the end. You might find that some questions bring up thoughts that upset you. When you exit the survey, you will receive links to resources that can help you to learn about different mental health problems.

Potential Benefits: You will not benefit directly from this study, but you will be contributing to the advancement of knowledge in a very important area.

Confidentiality: We will not collect any information that could identify you. That means we will not be able to connect your answers to you. Confidentiality will be provided to the fullest extent possible by law.

The data produced from this study will be stored in a secure, locked location. Only members of the research team (listed above) will have access to the data. Following completion of the research study, the data will be securely stored for 5 years then destroyed as required by York University policy. What we learn may be published in a scientific magazine or delivered at a conference. Published study results will not reveal your identity.

Reimbursement: You will not receive any reimbursement for taking part in this study; however, as a token of our appreciation, there will be a draw for two gift cards (valued at $100 each), and

the winners may select to receive a gift card from Walmart, Chapters Indigo, or Best Buy. If you wish to be included in the draw, you will be invited to share your name and e-mail address at the end of the survey.
All identifying information will be kept in a separate file from the survey data so as to maintain your anonymity. No identifiable information about any participant will be given to anyone.

Participation: This is a voluntary study. You are free to not answer any questions and to stop participating at any time. If you want to stop at any time, just close the web browser and your file will be deleted.

Sponsorship: This study is not funded by any internal or external funding agency.

Conflict of Interest: The research team members have no conflict of interest to declare.

Questions About the Research? If you have questions about the research in general or about your role in the study, please feel free to contact Ashley Morgan (phone: (416) 736-2100; email: amorgan@yorku.ca) or Dr. Maxine Wintre (phone: (416) 736-2100; email: mwintre@yorku.ca). This research has been reviewed and approved by the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines.

If you have any questions about this process or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, York Research Tower, York University (telephone 416-736-5914 or e-mail ore@yorku.ca).

CONSENT:
If you click the I AGREE button below,
1. You agree you understand the study, who is doing it, and why.
2. You understand the possible harms and benefits of the study.
3. You understand you can quit this study at any time and it will not affect your status with any organization that is taking part in this study.
4. You are free now, and in the future, to ask questions about the study.
5. You understand that we cannot connect your answers to you.
6. No identifying information about you will be given to anyone or be published.

Do you agree to be in the study? Click one of the buttons.

- ○ I AGREE
- ○ I DO NOT AGREE

****

DRAW AT END OF SURVEY

1. If you would like to be entered into a draw for one of two $100 GIFT CARDS for Walmart, Chapters Indigo, or Best Buy (winner's choice), please

EITHER enter your first name and e-mail address below. (Your identifying information will be fully separated from the questionnaire data prior to any examination of responses to ensure ANONYMITY of the data.)

OR send an e-mail to "YorkMHLStudy@gmail.com" with the words "Gift Card Draw" in the subject line and your name and e-mail address in the body of the e-mail. Thank you!

Appendix D.2: Survey Consent Form for URPP Participants

Title of Research Project: Emerging adults' mental health literacy: A mixed-methods study

Principal Investigator:
Ashley Morgan, Doctoral Student
101 BSB, York University
416-736-2100

Supervised by:
Dr. Maxine Wintre
York University
416-736-2100 ext. 66144

Purpose of the Research: We want to understand which factors affect young adults' mental health knowledge. The purpose of the research is to describe young adults' mental health knowledge, their attitudes towards different mental health problems, and explore their mental health-related experiences.

Description of the Research: If you agree to participate in this study, you will answer some questions about your attitudes and mental health-related knowledge. Some demographic information is also collected. It will take about 20 minutes to do the survey.

Potential Harms: We know of no potential harms in doing this survey.

Potential Discomforts or Inconvenience: Doing the survey only takes approximately 20 minutes, but you might get bored near the end. You might find that some questions bring up thoughts that upset you. If you do become distressed, please contact the Counselling & Development Centre at York University (Ph: 416-736-5297; Location: N110 Bennett Centre for Student Services). When you exit the survey, you will receive links to resources that can help you to learn about different mental health problems.

Potential Benefits: Benefits of participating in the study are an added maximum of 0.66% to your PSYC 1010 grade, experience in psychology research, and helping your fellow students who are involved in this research study.

Confidentiality: We will not collect any information that could identify you. That means we will not be able to connect your answers to you. Confidentiality will be provided to the fullest extent possible by law.

The data produced from this study will be stored in a secure, locked location. Only members of the research team (listed above) will have access to the data. Following completion of the research study, the data will be securely stored for 5 years then destroyed as required by York University policy. What we learn may be published in a scientific magazine or delivered at a conference. Published study results will not reveal your identity.

All identifying information will be kept in a separate file from the survey data so as to maintain your anonymity. No identifiable information about any participant will be given to anyone.

Course Credit: You will not receive any reimbursement for taking part in this study; however, you will receive course credit for completion of the survey. You will receive one credit towards your PSYC 1010 mark for completion of the survey (i.e., 0.66% of your overall grade).

Participation: This is a voluntary study. You are free to not answer any questions and to stop participating at any time without academic penalty in PSYC 1010 (i.e., no impact on your mark). If you want to stop at any time, just close the web browser, and your file will be deleted.

IMPORTANT NOTE: In order to receive full credit, all questions must be completed. If you prefer not to answer a question, please choose the "Not Applicable" option for ALL the questions you prefer not to complete. This will ensure you have a response for each question; therefore you will obtain course credit. If you decide to withdraw from the study at any time without responding to the remaining questions, you will not receive any credit and all of your data collected will be immediately destroyed.

Sponsorship: This study is not funded by any internal or external funding agency.

Conflict of Interest: The research team members have no conflict of interest to declare.

Questions About the Research? If you have questions about the research in general or about your role in the study, please feel free to contact Ashley Morgan (phone: (416) 736-2100; email: amorgan@yorku.ca) or Dr. Maxine Wintre (phone: (416) 736-2100; email: mwintre@yorku.ca). This research has been reviewed and approved by the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines.

If you have any questions about this process or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, York Research Tower, York University (telephone 416-736-5914 or e-mail ore@yorku.ca).

CONSENT:
If you click the I AGREE button below,
1. You agree you understand the study, who is doing it, and why.
2. You understand the possible harms and benefits of the study.
3. You understand you can quit this study at any time and it will not affect your PSYC 1010 grade.
4. You are free now, and in the future, to ask questions about the study.
5. You understand that we cannot connect your answers to you.
6. No identifying information about you will be given to anyone or be published.

Do you agree to be in the study? Click one of the buttons.

I AGREE ○ I DO NOT AGREE

Appendix E.1: Debriefing Form for Non-URPP Participants

We would like to thank you for completing our survey study on young adults' mental health knowledge. The questions that you have answered will help us to identify the factors that affect people's knowledge of and attitudes towards mental health problems. Some of the questions in this survey may have made you feel uncomfortable or distressed. If you are or anyone you know is feeling psychologically distressed, there is help available. Below is contact information for some helpful services if you are feeling psychologically distressed.

Before we end this study, we would like to please ask that you not talk about this study with anyone. There are many others who have not yet participated in this study. If they hear from you or others what the study is about, it may influence their responses, and our results may not be accurate. We hope that you will cooperate with us in this regard. Questions related to this study and requests for a summary of study results can be sent to amorgan@yorku.ca. Thank you.

Counselling Services at York University:
If you are a York University student and have any questions or concerns, please contact the Counselling & Disability Services (CDS) at York University at 416-736-5297 or go to the centre directly at N110 in the Bennett Centre for Student Services.

Counselling Services in the GTA:

1. Toronto Psychological Services: 416-531-0727 www.toronto-ps.com
2. Distress Centre of Toronto: 416-408-4357 (HELP)
3. Help Line for All Youth HEYY: 416-423-4399 (HEYY)
4. The Freedom from Fear Foundation in Toronto is an organization established to help people with anxiety disorders. They have a network of support groups set up throughout Ontario: 416-761-6006
5. Drug & Alcohol Registry of Treatment (DART)/Treatment information line: 1-800-565-8603
6. The National Eating Disorder Information Centre has a national register of private therapists, medical programs, and information: 416-340-4156
7. Mood Disorders Association of Ontario: 416-486-8046 or call toll-free at 1-888-486-8236
8. Schizophrenia Society of Ontario: 1-800-449-6367
9. A.C.C.E.S. (Accessible Community Counselling and Employment Services)
   Toronto: 416-921-1800 Scarborough: 416-431-5326 Mississauga: 905-361-2522
10. Family Services Association of Toronto: 416-595-9230
11. For a list of more health, social, community, and/or government community resources/services, access www.211toronto.ca or dial 2-1-1 in Toronto 24 hours a day. This phone number is free, confidential, and the trained staff is multilingual.

Appendix E.2: Debriefing Form for URPP Participants

We would like to thank you for completing our survey study on young adults' mental health knowledge. The questions that you have answered will help us to identify the factors that affect people's knowledge of and attitudes towards mental health problems. Some of the questions in this survey may have made you feel uncomfortable or distressed. If you are or anyone you know is feeling psychologically distressed, there is help available. Below is contact information for some helpful services if you are feeling psychologically distressed.

Before we end this study, we would like to please ask that you not talk about this study with anyone. There are many others who have not yet participated in this study. If they hear from you or others what the study is about, it may influence their responses, and our results may not be accurate. We hope that you will cooperate with us in this regard. Questions related to this study and requests for a summary of study results can be sent to amorgan@yorku.ca. Thank you.

Counselling Services at York University:
If you have any questions or concerns, please contact the Counselling & Disability Services (CDS) at York University at 416-736-5297 or go to the centre directly at N110 in the Bennett Centre for Student Services.

Other Counselling Services in the GTA:

1. Toronto Psychological Services: 416-531-0727 www.toronto-ps.com
2. Distress Centre of Toronto: 416-408-4357 (HELP)
3. Help Line for All Youth HEYY: 416-423-4399 (HEYY)
4. The Freedom from Fear Foundation in Toronto is an organization established to help people with anxiety disorders. They have a network of support groups set up throughout Ontario: 416-761-6006
5. Drug & Alcohol Registry of Treatment (DART)/Treatment information line: 1-800-565-8603
6. The National Eating Disorder Information Centre has a national register of private therapists, medical programs, and information: 416-340-4156
7. Mood Disorders Association of Ontario: 416-486-8046 or call toll-free at 1-888-486-8236
8. Schizophrenia Society of Ontario: 1-800-449-6367
9. A.C.C.E.S. (Accessible Community Counselling and Employment Services)
   Toronto: 416-921-1800 Scarborough: 416-431-5326 Mississauga: 905-361-2522
10. Family Services Association of Toronto: 416-595-9230

For a list of more health, social, community, and/or government community resources/services, access www.211toronto.ca or dial 2-1-1 in Toronto 24 hours a day. This phone number is free, confidential, and the trained staff is multilingual.

Appendix F: Mental Health Literacy Survey

The first section includes demographic questions.

D1. What is your age? _____

D2. Are you?

Male Female

D3. What country were you born in?
- Canada
- Outside Canada? Specify: _____

D4. Where was your mother born?
- Canada
- Other country… Where was she born? _____

D5. Where was your father born?
- Canada
- Other country… Where was he born? _____

D6. What do you consider to be your dominant ethnic background (i.e., the ethnicity to which you most closely identify)?
- White
- Chinese
- South Asian (for example, East Indian, Sri Lankan, etc.)
- Black
- Filipino
- Latin American
- European (Italian, Greek, Portuguese, etc.)
- Southeast Asian (for example, Vietnamese, Cambodian, etc.)
- Arab
- West Asian (for example, Iranian, Afghan, etc.)
- Japanese
- Korean
- Pacific Islander
- Aboriginal (that is, North American Indian, Métis or Inuit)
- Mixed-race
- Another group (Specify) _____
- Prefer not to say

D7. Do you consider yourself to be a member of a visible minority? YES NO

D8. Financially, do you consider your current household's income to be:
- Below average income
- Average income
- Above average income
- Well above average income

D9. What is the highest level of education you have completed?
- Some high school
- Completed high school
- Trade certificate/apprenticeship
- Some university
- Undergraduate degree
- Post-grad diploma
- Professional school
- Graduate program

D9a. What is the highest level of education your mother has completed?
- Some high school
- Completed high school
- Trade certificate/apprenticeship
- Some university
- Undergraduate degree
- Post-grad diploma
- Professional school
- Graduate program
- Don't know

D9b. What is the highest level of education your father has completed?
- Some high school
- Completed high school
- Trade certificate/apprenticeship
- Some university
- Undergraduate degree
- Post-grad diploma
- Professional school
- Graduate program
- Don't know

[D10 for non-URPP respondents only]

D10. Are you currently a student?

YES NO

[If yes, respond to D10b-d]
[If no, respond to D10e]

D10b. What school are you currently attending? _____

D10c. What is your program of study? _____

D10d. Specify level and year of education for current program (for example, 2nd year undergraduate program):

_____

D10e. Have you attended a post-secondary education institution in the past (i.e., college, university, etc.)?

D10f. If yes, what school did you attend? _____

[D11 for URPP respondents only]

D11. What is your current year of study at York?

1st year
2nd year
3rd year
4th year
5th year or greater

D11b. What is your current program of study? _____

D12. Where did you hear about the study? _____

[on new survey page]

Instructions: You will now be shown a vignette (short paragraph) describing either John or Jenny. After reading the vignette, you will then be asked a series of questions about your attitudes and opinions on community health.

Please note that once you move to the next survey page, you will not be able to go back to a previous survey page to change your response. It is important to respond to all questions honestly so that we get an accurate understanding of young adults' attitudes and opinions on community health.

List of Vignettes

Presentation Rules:

- Rotate randomly between depression / substance abuse disorder / social anxiety disorder / bulimia nervosa .
- Half of the time, match gender of individual described in the vignette to gender of participant and for the other half of the time, the gender of the individual described in the vignette will be the opposite of the participant's gender.

a) Depression vignette

<John/Jenny> is a 21 year old who has been feeling unusually sad and miserable for the last few weeks. <He/She> is tired all the time and has trouble sleeping nearly every night. <John/Jenny> doesn't feel like eating and has lost weight. <He/She> can't keep his mind on <his/her> studies and <his/her> marks have dropped. <He/She> puts off making any decisions and even day-to-day tasks seem too much for <him/her>. <His/Her> parents and friends are very concerned about <him/her>.

b) Substance abuse vignette

<John/Jenny> is a 21-year-old university student. Since starting university one year ago, <John/Jenny> has been getting drunk 4-5 nights per week. <John/Jenny> has received 5 drinking tickets for public intoxication in the past year. <He/She> has also spent 2 nights in jail as a result of alcohol-related disorderly conduct. In the last few months, <John/Jenny> has often been too hungover to wake up in time to get to school. This semester, <he/she> failed 3 out of 4 of <his/her> midterms.

c) Social anxiety disorder vignette

<John/Jenny> is a 21 year old living at home with <his/her> parents. Since starting a new college program last year, <he/she> has become even more shy than usual and has made only one friend. <He/She> would really like to make more friends but is scared that <he'll/she'll> do or say something embarrassing when <he's/she's> around others. Although <John's/Jenny's> work is OK, <he/she> rarely says a word in class and becomes incredibly nervous, trembles, blushes and feels like <he/she> might vomit if <he/she> has to answer a question or speak in front of the class. At home, <John/Jenny> is quite talkative with <his/her> family, but becomes quiet if anyone <he/she> doesn't know well comes over. <He/She> never answers the phone and <he/she> refuses to attend social gatherings. <He/She> knows <his/her> fears are unreasonable but <he/she> can't seem to control them and this really upsets <him/her>.

d) Bulimia nervosa vignette

Jenny is a 21-year-old college student. Jenny's current weight is within the normal range. However, Jenny often comments to her friends that she is fat and hates her body shape. Jenny started working out 5 days a week at the gym and dieting, and she began to lose weight. She has found it difficult to maintain the weight loss and control her eating. She is often unable to stop eating, consuming, for example, a box of cookies or a large pizza in one sitting. To counteract the effect of her eating, Jenny takes laxative tablets, and for the last 5 months, she has frequently vomited after overeating. Because of her strict routines of eating and exercising, Jenny has become isolated from her friends.

This section includes questions about your understanding of the vignette that you read.

V.A. Does <John/Jenny> have a problem? YES NO

V.B. [**on new survey page**] Using the following scale, please rate the level of <John's/Jenny's> problem.

1	2	3	4	5
No problem	Potential to become a problem	Somewhat of a problem	Moderate problem	Extreme problem

V.C. [**on new survey page**] What would you say, if anything, is wrong with <John/Jenny>? Please be as specific as possible in your description.

_____

_____

V.D. [**on new survey page**] Please rate how in need <John/Jenny> is of receiving help for the problem.

1	2	3	4	5
Does not need help				Definitely in need of help

[**on new survey page**]
V.E. Imagine <John/Jenny> is someone you have known for a long time and care about. <John/Jenny> has not said anything to you, but you are concerned and want to help. Please indicate how likely you would be to take each of the following actions.

	Would not take this action	Not likely	Somewhat likely	Very likely
a) Speak directly to <John/Jenny> and explain your concern to <him/her>.	0	1	2	3
b) Speak with <John's/Jenny's> parents and explain your concern to them.	0	1	2	3
c) Speak with one of <John's/Jenny's> friends whom you also know and discuss your concern.	0	1	2	3
d) Gather information on the problem that you believe <John/Jenny> is experiencing in order to increase your knowledge of how to help.	0	1	2	3
e) Gather information for <John/Jenny> on possible treatment options for the problem that you believe <John/Jenny> is experiencing.	0	1	2	3

f) I would also take other action. Specify: _____

[**on new survey page**]
V.F. In your opinion, what would be the first step that <John/Jenny> should take to get help?

_____
_____

V.G. In your opinion, what would be the second step that <John/Jenny> should take to get help?

_____
_____

V.H. In your opinion, what would be the third step that <John/Jenny> should take to get help?

_____
_____

[**on new survey page**]
V.I.a. How do you think <John/Jenny> could *best* be helped? Please rank the top two choices that you think would be most helpful for <John/Jenny>.

- Talk over with friends/family
- See a doctor (GP)
- See a psychiatrist
- Take medication
- See a counsellor or have counselling
- See a social worker
- See a psychologist
- See a(n) naturopath/herbalist
- <John/Jenny> must first recognise the problem
- Ignore the symptoms or feelings and hope they go away
- Try to deal with problem on <his/her> own
- Follow a stress management program
- Join a support group of people experiencing similar problems
- Search the Internet or read books for more information about the problem and how to manage the symptoms
- Talk to clery/minister/priest/other religious leader
- Other (specify): _____
- Don't know

[**on new survey page**]
V.I.b. There are a number of different people, some professional, some not, who could possibly help <John/Jenny>. For each of the following, are the people likely to be helpful, harmful, or neither for <John/Jenny>?

	Helpful	Neither	Harmful	Depends	Don't know
a) Talk over with friends/family	1	2	3	4	5
b) See a doctor (GP)	1	2	3	4	5
c) See a psychiatrist	1	2	3	4	5
d) Take medication	1	2	3	4	5
e) See a counsellor or have counselling	1	2	3	4	5
f) See a social worker	1	2	3	4	5
g) See a psychologist	1	2	3	4	5
h) See a(n) naturopath/herbalist	1	2	3	4	5
i) <John/Jenny> must first recognise the problem	1	2	3	4	5
j) Ignore the symptoms or feelings and hope they go away	1	2	3	4	5
k) Try to deal with problem on <his/her> own	1	2	3	4	5
l) Follow a stress management program	1	2	3	4	5
m) Join a support group of people experiencing similar problems	1	2	3	4	5
n) Search the Internet or read books for more information about the problem and how to manage the symptoms	1	2	3	4	5
o) Talk to clery/minister/priest/other religious leader	1	2	3	4	5
p) Other (specify): _____	1	2	3	4	5

The next couple of questions ask what you think are <John's/Jenny's> chances of recovery.

V.J. What would be the likely result if <John/Jenny> had the sort of professional advice help you think is most appropriate?

- Full recovery with no further problems
- Full recovery, but problems would probably re-occur
- Partial recovery
- Partial recovery, but problems would probably re-occur
- No improvement
- Get worse
- Don't know

V.K. What would be the likely result if <John/Jenny> did not have any professional help?

- Full recovery with no further problems
- Full recovery, but problems would probably re-occur
- Partial recovery
- Partial recovery, but problems would probably re-occur
- No improvement
- Get worse
- Don't know

V.L. Do you think that <John/Jenny> would be discriminated against by others in the community if they knew about the problems <he/she> has had?

- Yes
- No
- Don't know

V.M. The next few questions seek your opinion about whether there are some people in the community who are more likely to have these problems and others who are perhaps less likely.

	Very likely	Less likely	No differences	Depends	Don't know
a) Do you think that women would be more likely or less likely than men to suffer these sorts of problems?	1	2	3	4	9
b) Would young people, under 25 years of age, be more likely or less likely to suffer these sorts of problems?	1	2	3	4	9
c) Would older people, those aged over 65, be more likely or less likely to suffer these sorts of problems?	1	2	3	4	9
d) Would poor people be more likely or less likely to suffer these sorts of problems?	1	2	3	4	9
e) Would unemployed people be more likely or less likely to suffer these sorts of problems?	1	2	3	4	9
f) Would divorced or separated people be more likely or less likely to suffer these sorts of problems?	1	2	3	4	9
g) Would single people, who have never been married or in a long-term relationship be more likely or less likely to suffer these sorts of problems?	1	2	3	4	9

This section includes questions about your understanding of <John's/Jenny's> problem.

V.N. If <John/Jenny> has a mental health problem, what do you think is the MAIN reason why <he/she> might NOT choose to seek help from a doctor or other mental health professional?

Please read through all of the response options before responding and choose the one that fits best with your understanding.

[Allow for only one response to be selected]

1) <He/She> may not recognize that <he/she> has a mental health problem
2) <He/She> may not know what to do or where to turn
3) There are other ways of dealing with mental health problems that are more effective than seeing a doctor
4) Not able to find help/no help available
5) The cost of seeking treatment
6) Ashamed or uncomfortable asking for help
7) Concern about the stigma of being diagnosed with a mental health problem
8) Something else (specify) _____
9) Don't know/Not sure

V.O. The next few questions contain statements about <John's/Jenny's> problems. Please indicate how strongly <u>you personally</u> **agree or disagree with each statement.**					
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
a) People with a problem like **<John's/Jenny's>** could snap out of it if they wanted.	1	2	3	4	5
b) A problem like **<John's/Jenny's>** is a sign of personal weakness.	1	2	3	4	5
c) **<John's/Jenny's>** problem is not a real medical illness.	1	2	3	4	5
d) People with a problem like **<John's/Jenny's>** are dangerous.	1	2	3	4	5
e) It is best to avoid people with a problem like **<John's/Jenny's>** so that you don't develop this problem.	1	2	3	4	5
f) People with a problem like **<John's/Jenny's>** are unpredictable.	1	2	3	4	5
g) If I had a problem like **<John's/Jenny's>** I would not tell anyone.	1	2	3	4	5
h) I would not employ someone if I knew they had a problem like **<John's/Jenny's>**.	1	2	3	4	5
i) I would not vote for a politician if I knew they had suffered a problem like **<John's/Jenny's>**.	1	2	3	4	5

There are many people in the community who suffer from problems like <John's/Jenny's>. The next few questions are about possible causes of this sort of problem developing in anybody.

V.P. How likely do you think each of the following is to be a reason for such problems?

	Very likely	Likely	Not likely	Depends	Don't know
a) Could a virus or other infection be a reason for these sorts of problems?	1	2	3	4	9
b) How likely is an allergy or reaction to be a cause?	1	2	3	4	9
c) Day-to-day problems such as stress, family arguments, difficulties at work or financial difficulties?	1	2	3	4	9
d) Some recent traumatic event such as the death of a close friend or relative, a fire threatening your home, a severe traffic accident, or being mugged?	1	2	3	4	9
e) Problems from childhood such as being badly treated or abused, losing one or both parents when young or coming from a broken home?	1	2	3	4	9
f) How likely is it that these sorts of problems are inherited or genetic?	1	2	3	4	9
g) Could brain disease or a chemical imbalance be a reason for these sorts of problems?	1	2	3	4	9
h) How likely is lack of willpower to be a cause?	1	2	3	4	9
i) How likely is fate/God's will to be a cause?	1	2	3	4	9
j) Is alcohol or drug abuse likely to be a reason?	1	2	3	4	9

This section includes questions regarding your previous exposure to problems like <John's/Jenny's>.

V.Q. Has anyone in your family or close circle of friends ever had problems similar to <John's/Jenny's>?

- YES
- NO
- DON'T KNOW

V.Q.b. If yes, have they received any professional help or treatment for these problems?

- YES
- NO
- DON'T KNOW

V.R. Have you ever had problems similar to <John's/Jenny's>?

- YES
- NO
- DON'T KNOW

V.R.b. If yes, have you received any professional help or treatment for these problems?

- YES – Specify type(s) of help (e.g., seeing a therapist, taking medication, etc.):
  _____
- NO
- DON'T KNOW

Section V.S. This section includes questions about your general knowledge of problems like <John's/Jenny's>.

V.S. Over a lifetime, how many Canadians will experience a mental health disorder?

a) One in 1000
b) One in 100
c) One in 50
d) One in 10
e) One in 5
f) Don't know/Not sure

V.T. What is the most commonly experienced mental illness in Canada?

a) Depression
b) Anxiety disorders
c) Schizophrenia
d) Other (specify): _____
e) Don't know/Not sure

V.U. Rate your agreement with the following statement:
Mental health problems are a leading cause of work disability in Canada.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

V.W. Do you think the following would be helpful, harmful, or neither for achieving good mental health?

	Helpful	Neither	Harmful	Depends	Don't know
1) Good physical exercise habits	1	2	3	4	5
2) Good eating habits	1	2	3	4	5
3) Being involved in activities for work or pleasure	1	2	3	4	5
4) Having supportive and good relationships with friends and family	1	2	3	4	5
5) Having supportive and good relationships with friends and family	1	2	3	4	5
6) Being spiritual or religious	1	2	3	4	5
7) Having skills for coping with life challenges	1	2	3	4	5
8) Thinking positively about people and situations	1	2	3	4	5
9) Asking for help or talking to family and friends in time of stress or trouble	1	2	3	4	5
10) Getting enough sunshine	1	2	3	4	5
11) Getting enough sleep	1	2	3	4	5
12) Taking time for relaxation	1	2	3	4	5
13) Seeking medical attention from time to time for a check up	1	2	3	4	5
14) Abstaining from alcohol and drugs	1	2	3	4	5
15) Other (specify): _____	1	2	3	4	5

V.W.b. The previous list asked about the best ways of achieving good mental health. What are the top three strategies that you use in your own life to prevent mental disorder?

1) _____

2) _____

3) _____

V.X. The next set of questions asks about your perceptions and attitudes towards mental illness and mental health.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
a) Medications like antidepressants can be helpful for people with mental health problems.	1	2	3	4	5
b) Medications for mental health problems can be harmful.	1	2	3	4	5
c) Medications for mental health problems treat only the symptoms and not the underlying cause of mental health problems.	1	2	3	4	5
d) Psychotherapy (i.e., talk therapy) can be helpful for people with mental health problems.	1	2	3	4	5
e) People can manage mental health problems on their own.	1	2	3	4	5
f) People with mental health problems have difficulty holding a full-time job.	1	2	3	4	5
g) People can recover completely from mental health problems.	1	2	3	4	5
h) People with mental health problems are often inaccurately portrayed in the media.	1	2	3	4	5
i) If I ever had a mental health problem, I would be uncomfortable telling people about it.	1	2	3	4	5
j) Mental health problems are widespread and should get proper attention but people are sometimes too embarrassed to talk about them.	1	2	3	4	5
k) Anyone can suffer from mental health problems.	1	2	3	4	5
l) Untreated mental health problems can result in suicide.	1	2	3	4	5

The remaining questions ask about your education and work-related experiences.

V.Y.a. Have you ever taken a course in psychology or another health-related subject matter?

- YES – Specify course(s): _____
- NO

V.Y.b. Have you ever taken any training related to mental health or mental health problems through your job or for another reason?

- YES – Specify type of training: _____
- NO

V.Y.c. Have you ever done volunteer work related to mental health or mental health problems?

- YES – Specify type of volunteer work: _____
- NO

V.Y.d. Have you heard of any organizations related to mental health or mental health problems?

- YES
- NO
- DON'T KNOW

V.Y.d.i. If yes, what is it/what are they called?

_____
_____
_____

Earlier you were asked if anyone in your family or close circle of friends had ever experienced a **problem** similar to <John's/Jenny's>. If you responded "yes," would you be willing to participate in a half-hour interview (either over the phone or in person) to talk about this experience in more detail?

- YES
- NO

If yes, please provide your first name, phone number, email address, and best time to reach you so that we may contact you. Remember that all identifying information (e.g., name, phone number, and email address) will be kept in a separate file from the survey data so as to maintain your anonymity.

First Name: _____

Email: _____

Phone Number: _____

Best time to call (provide day of week and time): _____

Appendix G: Coding Scheme for Correct and Incorrect identification of Disorders

Disorder	κ; ICC	Sample Correct and Incorrect Responses
Depression	.95; .98	**Responses coded as correct**: depression, depressive symptoms, mood disorder, (major) depressive episode **Responses coded as incorrect**: extreme sadness, suffering from a mental disorder, stress, anxiety, physical health related, not being able to take care of herself, problems in her mind, emotionally disturbed
Substance Abuse	.58; .74	**Responses coded as correct**: alcoholism, alcohol dependency, substance dependence, substance abuse, (alcohol) addiction, drinking/alcohol problem, abusing alcohol, any response that stated that the vignette character's alcohol consumption was linked to the alcohol use interfering with the character's functioning (e.g., "he drinks too much which is causing an aversive effect on his academic performance") **Responses coded as incorrect**: drinks too much [no reference to consequences or effects on the character's functioning], out of control / alcohol control issue [any response related to "control" unless above criteria were met], drinking [no reference to consequences or effects on the character's functioning], using alcohol to escape, does not know limits, using alcohol to fill a void, mixed up priorities, not knowing when enough is enough, not living up to responsibility, quantity of consumption
Social Anxiety	.93; .97	**Responses coded as correct**: social anxiety, (form of) anxiety, socially anxious, anxious in unknown situations, social phobia, anxiety in front of crowds **Responses coded as incorrect**: problem being around others, shy, not social in group gathering, fear of unfamiliar surroundings and people, fear of social situations, fear of rejection, fear of not being accepted, extreme introversion, needs to socialize more, nervous in social situations, social psychological problem, embarrassed, self-conscious, low confidence, low self-esteem, some sort of phobia/phobic disorder [social aspect unspecified], unable to interact with people, introvert, not sociable, antisocial, agoraphobia, socially awkward
Bulimia Nervosa	.94; .97	**Responses coded as correct**: eating disorder, eating disability [coded as correct because the terms "disability" and "disorder" are often used interchangeably by lay people], bulimia **Responses coded as incorrect**: negative body image, dieting, lack of confidence, insecure, low self-esteem, obsessive, issues with her body, issues with food, cannot control herself, negative self-perception

Note. ICC = intraclass correlation coefficient. The ICC accounted for the absolute agreement between coders.

Appendix H: Email to Potential Interview Participants

Hi there,

My name is Ashley Morgan, and I am the principal investigator on the research study about young adults' mental health knowledge in which you recently took part. Thank you for participating in this important research!

You had indicated that you might be willing to participate in a short interview (about 30 minutes max.) that would involve talking about your experience knowing a friend or family member who had a mental health problem. I will be conducting the interviews in the next month and was wondering if you are still interested in and available to participate. Ideally the interview would be held face-to-face, but if this is inconvenient based on geographic restrictions or your availability, we can certainly schedule a phone interview. If we met in person, the interview could be held either on campus at York University or at a public library chosen based on your geographic location. I am located in the Toronto area and am willing to drive within the GTA to meet with you.

If you could let me know your interest in participating in the interview portion of the study, that would be great. Also, in your reply, please indicate your preference for an in-person interview or a phone call and your general geographic location if you are able to meet in person (e.g., Toronto area, outside Toronto, outside Ontario).

Please note that you will receive a $15 gift card to Tim Hortons or Starbucks (your choice!) to thank you for your participation in the interview.

Thank you for your ongoing interest in my research; I truly appreciate it. Looking forward to hearing from you.

Sincerely,

Ashley Morgan

Appendix I: Mental Health First Aid Interview Script

Thank you for agreeing to meet with me and for taking the time to come in for this interview. The purpose of the interview is to hear about your involvement with a friend or family member who had experienced a problem similar to the problem you read about in the online survey.

The plan for the next 30 minutes is to talk about your experience in more detail. I'll start by asking some guiding questions to get a better sense of the type of experience you had, and we'll let the rest of the interview run its course naturally. How does that sound? Do you have any questions before we begin?

[*Yes*] → Respond to questions.

[*No*] → Great, then let's begin.

Let's start by talking about some general background information so I have an idea of your relationship with the individual.

Was the person you identified as having a problem similar to the problem described in the online survey a friend or family member?

Can we use the person's first name during our discussion?

If [*Yes*] → What is [his/her] name?

If [*No*] → What name can we use to refer to your [friend/family member]?

1. How old is [name]?

2. What is their gender? [if unclear based on name]

3. Is [name] a student or does [he/she] work?

3a. If [*student*] → Where does [s/he] go to school?
3a.i. What is [s/he] studying?

3b. If [*works*] → What is [name's] job?
3b.i. Is it full- or part-time work?
3b.ii. How long has [s/he] worked at that job?

4. What is the highest level of education that [name] has completed?

5. Can you tell me about your relationship with [name] in more detail? (Details such as length of friendship; specific familial relationship (e.g., sibling, cousin, parent, etc.); if not family member, describe your relation to [name's] family (parents, siblings); structure of [name's] family (single parent, divorced, etc.); if person is a family member, functioning of the family)

6. In the online survey, you indicated that you believed [name] was experiencing a problem. What problem would you say [name] was experiencing?

7. When did you first realize that [name] was experiencing a problem?

8. What were some of the signs that led you to believe [s/he] was experiencing a problem?

8b. Was there a "tipping point" or crisis during which you felt it was necessary to intervene? If so, please describe the situation and what happened.

9. What action(s) did you take in general, if any, to help [name]?

10. [If not answered during response to above question]

    When did you take [this/these] action(s)?

11. [If there was a long period of time between the realization that there was a problem and taking action (i.e., 1 month or more)]

    This may be a hard question to answer, but thinking back, why do you think there was a long period of time between when you first realized [name] was experiencing a problem and when you tried to help?

12. [After discussing what actions were taken, ask about the following specific actions.]

    Here's a list of some other possible actions. Did you do any of the following to help [name] with the problem?

- ○ Listened to [his/her] problems in an understanding way.
- ○ Talked to [him/her] firmly about getting [his/her] act together.
- ○ Suggested [s/he] seek professional help.
- ○ Made an appointment for [him/her] to see a GP with [his/her] knowledge.
- ○ Asked [him/her] whether [s/he] is feeling suicidal.
- ○ Suggested [s/he] have a few drinks to forget [his/her] troubles.
- ○ Brought together friends to cheer [him/her] up.
- ○ Ignored [him/her] until [s/he] gets over it.
- ○ Kept [him/her] busy to keep [his/her] mind off problems.
- ○ Encouraged [him/her] to become more physically active.
- ○ Other. Specify _____

13. Do you think the action(s) you took were helpful to [name]?

13b. In your opinion, how did you know what action(s) to take to help [name]?

13c. How confident were you in your ability to provide help to [name]?

14. Thinking back, is there something that you would have done differently to help [name]?

15. How is [name] doing today? Is [s/he] doing better or is [s/he] still struggling with the problem?

15a. [If doing better] → To what do you attribute [name's] improvement?

15b. [If still experiencing problem] → What, if any, action(s) do you plan to take to help [name]?

- What advice would you give to others who have a friend or family member struggling with a mental health problem? (How to help; Pitfalls to avoid; Key resources)

Appendix J: Consent Form for Interview Participants

Title of Research Project: Emerging adults' mental health literacy: A mixed-methods study

Principal Investigator:
Ashley Morgan, Doctoral Student
101 BSB, York University
416-736-2100

Supervised by:
Dr. Maxine Wintre
York University
416-736-2100 ext. 66144

Purpose of the Research: We want to understand which factors affect young adults' mental health knowledge. The purpose of the research is to describe young adults' mental health knowledge, their attitudes towards different mental health problems, and explore their mental health-related experiences.

Description of the Research: If you agree to participate in the interview portion of this study, you will answer some questions about your experience knowing a friend or family member who had a mental health problem. The interview will take approximately 30 minutes.

Potential Harms: We know of no potential harms in doing this survey.

Potential Discomforts: You might find that some questions bring up thoughts that upset you. At the end of the interview, you will receive a list of resources that can help if you or someone you know is experiencing psychological distress.

Potential Benefits: You will not benefit directly from this study, but you will be contributing to the advancement of knowledge in a very important area.

Confidentiality: All identifying information (e.g., name, phone number, or email address) will be kept in a separate file from the interview data so as to maintain your anonymity. That means we will not be able to connect your answers to you once the interview has ended. No identifiable information about any participant will be given to anyone. Confidentiality will be provided to the fullest extent possible by law.

The data produced from this study will be stored in a secure, locked location. Only members of the research team (listed above) will have access to the data. Following completion of the research study, the data will be securely stored for 5 years then destroyed as required by York University policy. What we learn may be published in a scientific magazine or delivered at a conference. Published study results will not reveal your identity.

Reimbursement: You will receive a $15 gift card to Tim Hortons or Starbucks (participant's choice) to thank you for your participation in the interview.
Participation: If you choose to take part in this study, you can end the interview at any time. You have the right to omit any question you choose. With your permission, I would like to record the interview for transcription purposes. The files will be kept in a password-protected computer in a locked office, and at the end of the project the research materials will be destroyed.

Sponsorship: This study is not funded by any internal or external funding agency.

Conflict of Interest: The research team members have no conflict of interest to declare.

Questions About the Research? If you have questions about the research in general or about your role in the study, please feel free to contact Ashley Morgan (phone: (416) 736-2100; email: amorgan@yorku.ca) or Dr. Maxine Wintre (phone: (416) 736-2100; email: mwintre@yorku.ca). This research has been reviewed and approved by the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines.

If you have any questions about this process or about your rights as a participant in the study, please contact the Sr. Manager & Policy Advisor for the Office of Research Ethics, 5th Floor, York Research Tower, York University (telephone 416-736-5914 or e-mail ore@yorku.ca).

CONSENT:
If you check the I AGREE box below,
1. You agree you understand the study, who is doing it, and why.
2. You understand the possible harms and benefits of the study.
3. You understand you can quit this study at any time and it will not affect your status with any organization that is taking part in this study.
4. You are free now, and in the future, to ask questions about the study.
5. You understand that we cannot connect your answers to you.
6. No identifying information about you will be given to anyone or be published.

Do you agree to be in the study? Check one.

☐ I AGREE

☐ I DO NOT AGREE

_____	_____	_____
Participant Name (please print)	Participant Signature	Date

_____	_____
Principal Investigator Signature	Date

Appendix K: Debriefing Form for Interview Participants

We would like to thank you for participating in the interview portion of our study on young adults' mental health knowledge. The questions that you have answered will help us to identify the factors that affect people's knowledge of and attitudes towards mental health problems. Some of the questions in this survey may have made you feel uncomfortable or distressed. If you are or anyone you know is feeling psychologically distressed, there is help available. Below is contact information for some helpful services if you are feeling psychologically distressed. Questions related to this study and requests for a summary of study results can be sent to amorgan@yorku.ca. Thank you.

Counselling Services at York University:
If you are a York University student and have any questions or concerns, please contact the Counselling & Disability Services (CDS) at York University at 416-736-5297 or go to the centre directly at N110 in the Bennett Centre for Student Services.

Counselling Services in the GTA:
1. Toronto Psychological Services: 416-531-0727 www.toronto-ps.com
2. Distress Centre of Toronto: 416-408-4357 (HELP)
3. Help Line for All Youth HEYY: 416-423-4399 (HEYY)
4. The Freedom from Fear Foundation in Toronto is an organization established to help people with anxiety disorders. They have a network of support groups set up throughout Ontario: 416-761-6006
5. Drug & Alcohol Registry of Treatment (DART)/Treatment information line: 1-800-565-8603
6. The National Eating Disorder Information Centre has a national register of private therapists, medical programs, and information: 416-340-4156
7. Mood Disorders Association of Ontario: 416-486-8046 or call toll-free at 1-888-486-8236
8. Schizophrenia Society of Ontario: 1-800-449-6367
9. A.C.C.E.S. (Accessible Community Counselling and Employment Services)
   Toronto: 416-921-1800 Scarborough: 416-431-5326 Mississauga: 905-361-2522
10. Family Services Association of Toronto: 416-595-9230
11. For a list of more health, social, community, and/or government community resources/services, access www.211toronto.ca or dial 2-1-1 in Toronto 24 hours a day. This phone number is free, confidential, and the trained staff is multilingual.

Appendix L: Visual Display of Codes Identified in Mental Health First Aid Interviews

How to interpret the code cloud: These are the codes identified in the qualitative interviews about emerging adults' mental health first aid experiences. The larger the text, the more frequently the code was identified in the analyses. The reverse is also true; the smaller the text, the less frequently the code was identified in the data.