

Running head: MENTAL HEALTH LITERACY AND ONTARIO YOUTH

Mental Health Literacy and Ontario Young People: Major Depressive Disorder, Bipolar
Disorder, and Generalized Anxiety Disorder

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Abstract

This study examined the mental health literacy of a group of young people, with particular interest to their ability to correctly label, identify symptoms, and recommend appropriate help sources for Major Depressive Disorder, Generalized Anxiety Disorder, and Bipolar Disorder. Respondents were 88 Ontario, Canada residents (26 males, 62 females) aged 18-24. Respondents provided mixed knowledge in ability to determine whether an individual was dealing with mental illness as well as mixed knowledge in labeling the mental disorders examined and identifying the symptoms of each disorder. Respondents were significantly more likely to correctly label Major Depressive Disorder opposed to Generalized Anxiety Disorder and Bipolar Disorder. As well, respondents were significantly more likely to label appropriate symptoms for Major Depressive Disorder opposed to Generalized Anxiety Disorder and Bipolar Disorder. Our findings suggest that young people have a greater mental health literacy for Major Depressive Disorder opposed to Generalized Anxiety Disorder and Bipolar Disorder. Results are discussed in light of prior adolescent and young adult mental health literacy and clinical implications.

Keywords: mental health, mental health literacy, major depressive disorder, bipolar disorder, generalized anxiety disorder, youth, Canada, Ontario

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Mental Health Literacy and Ontario Youth: Major Depressive Disorder, Bipolar disorder, and
Generalized Anxiety disorder

CHAPTER 1

Introduction and Literature Review

The ability to cope with everyday life stresses, work productively, and contribute to one's community are all characteristics of good mental health (World Health Organization, 2014). When irregular mood changes, thought processes, and irregular behaviour begin to disrupt an individual's daily life function, this is recognized as mental illness (Centre for Disease Control and Prevention, 2013). Mental illness is not discriminative and can affect individuals at any age and is not solely dependent on educational levels, socioeconomic status, or culture (Health Canada, 2002).

That being said, we also know that young people aged 18-24 tend to have higher rates of mood disorders and substance use disorders compared to older age groups throughout Canada (Pearson, Janz & Ali, 2013), the United States (Kessler et al., 1994) and developed and developing countries (Kessler et al., 2010). The high incidence of mental health issues among younger age groups means that young people are not only the most likely to experience a mental illness but they are also likely to know and respond to someone who is experiencing it (Gallagher, 2013; Kessler et al., 1994; Kessler et al, 2007; Kessler et al., 2010; Pearson et al., 2013). Their response to each other may be vital in creating an understanding of mental health issues both while they are young people and as they grow older.

Mental Illness

A mental illness is a condition where significant behavioral or psychological symptoms occur in an individual that cause distress in one's daily life, affecting the well-being and productivity of persons (American Psychiatric Association, 2013). Individuals may experience disability or impairment of functioning, and the illness may put the individual at an increased risk of suffering pain, disability, death or an important loss of freedom. (American Psychiatric Association, 2013). These disorders can have a negative, and sometimes crippling, effect on one's life, how we think about ourselves or interact with others (Canadian Mental Health Association, n.d.).

In contemporary medicine there is a distinction between mental illness and physical illnesses. The public holds a general belief that they are independent of one another (Kendall, 2001). Neither the brain nor the body develops an illness alone. When a person is sick both an individual's psyche and physical well-being are involved (Kendall, 2001).

Kendall (2001) has argued that it is not possible to have an independently defined group of symptoms for either mental illness or physical illness. Many symptoms that occur during the onset and management of mental illness are physical symptoms and vice versa (Kendall, 2001). For example, an individual diagnosed with depression will often feel physical symptoms such as low energy, aches and pains, and weight change (American Psychiatric Association, 2013) while fear and other emotional factors play large roles in physical illnesses such as asthma or hypertension (Kendall, 2001).

The connection between physical and mental symptoms was demonstrated in a study by Smith (2012), who examined the psychological and cognitive effects of the common cold. Participants completed a series of baseline tests then were re-examined after they had developed a cold. Participants reported being less alert and being in a negative mood after the cold

development (Smith, 2012). Participants also showed slower reaction times, task completion times, and were slower to learn new information (Smith, 2012). Smith (2012) also found that a common cold affects driving. Participants who had developed a cold had slower reactions to unexpected road events and were less likely to be able to avoid collisions. Smith (2012) suggests that these cognitive effects are due to cold bacteria interfering with neurotransmitter activity in the brain (Smith, 2012). Mental and physical symptoms span mental and physical illness.

Specific Stigmas related to Mental Illness

Persons diagnosed with a mental illness are often subject to prejudicial attitudes and discriminating behaviour from the general public through social and personal stigma (Davey, 2013). Social stigma and personal stigma are closely related but how the individual perceives them is different. Social stigma is related to how the public perceives individuals with a mental illness diagnosis. There may be a belief that people experiencing a mental illness are violent, incompetent, or weak (Rüsch, Angermeyer, & Corrigan, 2005). These social beliefs have been shown to negatively influence help-seeking behaviour of persons dealing with mental health problems (Cooper-Patrick et al., 1997) and reinforce misinformed beliefs about mental illness and violent behaviour (Amgermeyer & Matschinger, 1995; Stuart, 2003).

Personal stigma refers to how the affected individuals feel about themselves. Individuals diagnosed with a mental illness begin to believe they are defined by their diagnosis and the negative beliefs the public associates with it (Rüsh et al., 2005). Personal stigma is also connected with low help-seeking behaviour (Eisenberg, Downs, Golberstein, & Zivin, 2009) and can negatively affect an individual's self-esteem and feelings of self-worth (Rüsh et al., 2005). A mental illness diagnosis becomes a larger issue as individuals are not only dealing with

symptoms of their illness but also the difficulties resulting from the associated stigma (Rüsch, et al., 2004).

Stigma takes many forms and is prevalent in everyday life. Wahl (1999) reported that stigmatizing comments and depictions of mental illness are the most common experiences of stigma. Direct stigma occurred when people overheard harmful and/or offensive comments regarding mental illness (Wahl, 1999). Indirect stigma was also reported in situations where negative remarks were made without the intent to be harmful or hurt mental health consumers (Wahl, 1999). These situations occurred because the person making the comments did not consider that there may be mental health consumers in their audience (Wahl, 1999). The main source of stigma in this study was the general public while relatives were the second most common source (Wahl, 1999).

Stigma is manifested through language and is commonly experienced via the behaviours and actions of others once a mental illness becomes known. People reported being treated as less competent once others knew about their diagnosis (Wahl, 1999). People perceived that they were being told to lower expectations, were being treated in a child-like manner, were being treated by others in a fearful manner, being given less responsibility in the work place, and given less responsibility in the household (Wahl, 1999)

As mentioned earlier, help-seeking behaviour is impacted by stigma (Scheffer, 2003) Estimates suggest that two-thirds of individuals who require treatment will not seek help because of perceived stigma (Scheffer, 2003). Stigma has been found to be a barrier in help-seeking behaviour particularly for patients with major depressive disorder as there is a negative stigma associated with both the mental illness itself and the treatment (Cooper-Patrick et al., 1997).

Another difficulty that affects individuals diagnosed with a mental illness is the perception that there is a link between mental illness and violent behaviour (Link, Phelan, Bresnahan, & Pescosolido, 1999; Stuart, 2003; Angermeyer & Matschinger, 1995). Studies suggest that individuals often believe that mental disorders such as depression and schizophrenia were significantly related to violent behaviour, even though violent behaviour was never presented (Link et al., 1999). The association between violent behaviour and mental illness may be a result of media portrayals of mental illness on the news or in movies that cause the public to associate random, senseless, and unpredictable violence with mental illness (Stuart, 2003). For example, a German study reported that people desired social distance from individuals with a mental illness as they perceived them to be unpredictable and dangerous (Angermeyer & Matschinger, 1995). In American studies, the public rated drug and alcohol dependent users as the most violent among all people followed by individuals diagnosed with schizophrenia or depression (Pescosolido, Monahan, Link, Stueve, & Kikuzawa, 1999).

The MacArthur Violence Risk Assessment studies report that individuals diagnosed with a mental illness have the same prevalence of violent behaviour as do individuals without a mental illness diagnosis unless there are substance use problems (Appelbaum, Robbins, & Manahan, 2000; Monahan et al., 2001; Steadman et al., 1998). Schizophrenia, bipolar disorder, and major depressive disorder have relatively low rates of violent behaviour (Appelbaum, Robbins, & Manahan, 2000; Monahan et al., 2001; Steadman et al., 1998). Factors associated with violent behaviour are being young, single, male, and of lower socioeconomic status (Stuart, 2003). However, mentally ill individuals are more likely to be victims of violent behaviour (Stuart, 2003).

Mental illness is a complex relationship between physical and mental symptoms, both of which can cause disruption throughout one's life. Individuals dealing with a mental illness not only have to learn to manage and understand their symptoms but are also faced with the challenges created by stigma associated to mental illness. Stigma associated with mental illness can be influenced by the specific mental disorder itself. A better understanding of mental illness and symptoms of mental disorders can give an individual the knowledge to manage their mental illness. A better social understanding of mental illness can create a positive attitude towards mental illness reducing the effects of stigma.

Mental Illness Prevalence in Young People

Adolescents and young people between the ages of 15 to 24 are of the highest risk to be affected by mental illness (Kessler, et al., 2005; Kirby, 2013; Pearson, Janz, & Ali, 2013). Major depressive disorder, generalized anxiety disorder, and bipolar disorder presented the highest prevalence rates among all mental disorders in Canada in 2012, excluding substance use disorders (Statistics Canada, 2012). Some research suggests that anxiety disorders have an average onset age of 14-24 and mood disorders have an average onset during early teenage years (Kessler et al., 2007). For example, a national assessment of college health in 2008 reported that 15.3% of college students attending North American Post-Secondary Institutions had a depression diagnosis within their lifetime and that 32.5% of that population had been diagnosed within the past year (The American College Health Association, 2008). In 2013, post-secondary school counsellors reported an increase in students with severe psychological problems, an increase in students eligible for counselling services, and an increase in students arriving on campus already on psychiatric medication (Gallagher, 2013)

Major depressive disorder, generalized anxiety disorder, and bipolar disorder consistently presented the highest prevalence rates of all reported mental disorders in Ontario, 2012, excluding substance use disorders (Statistics Canada, 2012). In 2013, it was reported that approximately 795,000 children and youth in Ontario have a mental health issue, the most common including anxiety disorders and mood disorders (Kirby, 2013). These numbers do not include youth and young adults suffering from mental illness symptoms who have not been diagnosed or reported, or who do not meet the full diagnostic criteria.

Mental Disorders Examined in this Research

The three disorders chosen for this study were major depressive disorder, generalized anxiety disorder and bipolar disorder. They have been focused on because of their similarly high prevalence among young people (Statistics Canada, 2012) and their closely related origins and symptoms (American Psychiatric Association, 2013; Barlow, 1991; Barlow, 2000; Barlow, 1988). In this section I will discuss the complexities of the relationship between all three disorders that can make them difficult to distinguish from one another. I will also focus on the DSM- IV descriptions for each specific disorder and the reasons why these distinctions are important.

Commonalities

Emerging evidence shows strong support for the ‘triple vulnerability’ model (Barlow, 1991; Barlow, 2000; Barlow, 2002) to explain the causes of major depressive disorder and the associated mood and anxiety disorders. The triple vulnerability model suggests that the development of mood disorders and anxiety disorders are associated with biological vulnerabilities, general psychological vulnerabilities, and disorder-specific vulnerabilities

(Barlow 2000; Barlow, 2002). For both major depressive disorder and generalized anxiety disorder, biological vulnerabilities are associated with temperament, such as neuroticism (Barlow 2000; Barlow, 2002). General psychological vulnerability for major depressive disorder and generalized anxiety disorder is belief and perceived feelings of not being in control of life events or emotional states (Barlow, 2000; Barlow, 2002).

Previous research has demonstrated similarities in biological and general psychological vulnerabilities in major depressive disorder and generalized anxiety disorder (Kendler et al., 1987; Kendler et al., 1992; Kendler, 1996). Kendler et al., (1987) conducted a twin questionnaire study in Australia where a number of anxious and depressive symptoms showed evidence of being inherited, where genetic factors accounted for 27% of the total variance. During a second report and a follow-up report, researchers suggested a common genetic contribution to major depressive disorder and generalized anxiety disorder and that this common genetic contribution better explained the results from their previous study (Kendler et al., 1992; Kendler, 1996). It was determined that the risk of developing either major depressive disorder or generalized anxiety disorder was associated with common genetic vulnerabilities, however, the actual development of either disorder was a result of environmental factors (Kendler et al., 1992; Kendler, 1996).

The triple vulnerability model (Barlow 2000; Barlow, 2002) and the results from previous research show strong similarities in biological and general psychological vulnerabilities for major depressive disorder and generalized anxiety disorder (Kendler et al., 1987; Kendler et al., 1992; Kendler et al., 1996). However, environmental factors were accounted as a dissimilar factor for mood disorders and anxiety disorders as an individual may experience a number of different and/or unique life stressors that allow for the development of either disorder (National

Institute of Mental Health, 2011). Disorder-specific vulnerabilities for major depressive disorder and generalized anxiety disorder distinctly differ (Barlow 2000; Barlow, 2002). Recent research has found differences in cognitive profiles; participants with a current major depressive disorder diagnosis scored significantly higher for hopelessness/suicidality and rumination than current generalized anxiety disorder participants (Hendricks et al., 2014). Current generalized anxiety disorder participants scored significantly higher for anxiety sensitivity for physical concerns and pathological worry than current major depressive disorder participants (Hendricks et al., 2014).

Mood disorders and anxiety disorders are strongly related and often have a high comorbidity rate (Barlow, 2008; Barlow, 2002; Moffitt et al., 2007). Comorbidity, in relation to mental illness, means that two or more mental disorders may be present in one individual (Valderas et al., 2009). Cross-sectional comorbidity is substantial and research has found that anxiety disorders are the most common primary disorders diagnosed while major depressive disorder also significantly occurs over a lifetime in these individuals (Kessler et al., 1996). High prevalence of comorbidity patterns of anxiety and mood disorders has been found in recent research (Lamers et al, 2011; Hirschfeld, 2001). Individuals suffering from comorbidity of an anxiety and mood disorder have a higher severity of illness which can cause greater disability, more severe negative implications on psychosocial functioning, and worsened quality of life, compared to patients with only one diagnosis (Brown et al., 1996; Kessler et al., 1998; Sherbourne et al., 1996).

Major depressive disorder. Major depressive disorder is a psychological mood disorder that is characterized by overwhelming feelings of sadness, worthlessness, hopelessness and guilt (American Psychiatric Association, 2013). Symptoms of major depressive disorder may also be reoccurring dark and suicidal thoughts (American Psychiatric Association, 2013). Physical

symptoms of major depressive disorder are fatigue, insomnia, aches and pains, irregular habits, and restless behaviour (American Psychiatric Association, 2013).

Major depressive disorder is commonly treated through either psychiatric medication or therapy (National Institute of Mental Health, 2011). Newer and more popular antidepressant medication are serotonin reuptake inhibitor (SSRI) medication which enhance production of the neurotransmitter serotonin while also allowing for more serotonin to pass messages between nerve cells (NHS, 2014). Serotonin and norepinephrine reuptake inhibitor (SNRI) are similarly administered for MDD (National Institute of Mental Health, 2011) as both serotonin and norepinephrine neurotransmitters transmit information from one cell to another and both appear to help regulate mood and concentration (Davidon, DuPont, Hedges, & Haskins, 1999). Influence of serotonin and norepinephrine still requires sufficient research, however, the success of these medications in treating major depressive disorder suggests a neurobiological factor in the development of MDD (National Institute of Mental Health, 2011.).

Cognitive behavioural therapy (CBT) and interpersonal therapy (IPT) are the two most common and successful forms of psychotherapy used in treating major depressive disorder (National Institute of Mental Health, 2011.). This therapy is characterized as identifying and understanding unstable thinking and behavioural patterns and working towards creating stable patterns (Craske, 2010). CBT aims to teach patients new behavioural practices and thinking patterns to modify abnormal cognitions and beliefs (Craske, 2010). CBT for individuals diagnosed with major depressive disorder aids in developing positive thinking patterns so that patients learn to interpret their daily encounters and life events in a positive way instead of negative (Craske, 2010; National Institute of Mental Health, 2011). CBT can also help patients recognized stressors or behaviours that are contributing to their depression (National Institute of

Mental Health, 2011.). Consistent findings support the successful use of CBT for treatment for major depressive disorder (Proudfoot et al., 2004; Lustman et al., 1998). Interpersonal therapy aids patients in understanding troubled relationships they have that may be making their major depressive disorder worse and aids in working through those relationships (National Institute of Mental Health, 2011).

Generalized anxiety disorder. Generalized anxiety disorder is a psychological anxiety disorder that is characterized by excessive worry for more days than not and for at least six months, the most common symptom (American Psychiatric Association, 2013; Barlow, 2002). This disorder can cause an individual to worry constantly and create severe tension that can negatively affect daily functioning (American Psychiatric Association, 2013). Persons suffering from generalized anxiety disorder often feel helpless in controlling their worry (American Psychiatric Association, 2013). Worries may be focused on jobs, family, or health but can also be focused on smaller matters such as appointments or doing chores (American Psychiatric Association, 2013). Individuals with generalized anxiety disorder often have difficulty sleeping, report constant muscle aches or pains, seem irritable and report feeling shaky, weak, and unable to concentrate (American Psychiatric Association, 2013).

Research directs attention to a complex relationship between genetic, biological, and psychosocial factors in the development of generalized anxiety disorder. Temperaments believed to be associated with generalized anxiety disorder are ‘neuroticism’ ‘negative affect’ and ‘behavioural inhibition’ (Barlow, 2000; Barlow, 2002). While this research cannot suggest that the relationship between these temperaments is a definite causal factor in the development of generalized anxiety disorder, they have found that they play an important role, together and individually, in creating a biological vulnerability to the development of the disorder as these

temperaments tend to be passed down through genetic makeup (Barlow, 2008; Barlow, 2002; Barlow, 2000). There have been consistent findings that a vulnerability for generalized anxiety disorder may be inherited as children whose parents present clinical generalized anxiety disorder report greater prevalence of the disorder themselves compared to children whose parents do not present this disorder (Wheeler, White, Reed, & Cohen, 1948). Families that report a history of generalized anxiety disorder tend to show higher prevalence of the disorder among relatives opposed to families who do not report a history of the disorder (Crowe, Noyes, Pauls, & Slyman, 1983).

Research has found a connection between generalized anxiety disorder and the nervous system (Thayer, Friedman, & Borkovec, 1996; Kagan, Reznick, & Snidman, 1988; Kagan, Gibbons, Johnson, Reznick, & Snidman, 1990; Kagan & Snidman, 1999). Specifically, a connection has been found between excessive worrying and the autonomic nervous system, a system that controls involuntary actions such as breathing and heart activity (U.S. National Library of Medicine, 2015). Lyonfield, Borkovec, & Thayer (1995) examined the two components of the autonomic nervous system, the parasympathetic nervous system which aids in slowing heart rate and relaxing important muscles in the stomach and the sympathetic nervous system which aids in accelerating the heart rate and raising blood pressure. Participants with generalized anxiety disorder exhibited low control over their parasympathetic nervous system as they were unable to control their heart rate, even showing elevated heart rates while at rest, compared to individuals without generalized anxiety disorder (Lyonfields et al., 1995). The results from this study suggest that the act of worrying suppresses autonomic nervous system activity (Lyonfields et al., 1995).

Similar results have been found involving individuals with generalized anxiety disorder and reactions to worry producing stimuli (Thayer, Friedman, & Borkovec, 1996; Hoehn-Saric, McLeod, & Zimmerli, 1989). Thayer et al., (1996) suggest that an unresponsive and rigid autonomic nervous system may be associated with generalized anxiety disorder but with appropriate treatment this function can be successfully modified. Studies focused on children who exhibit inhibited behavior as a result of anxiety also found consistent similar relationships between generalized anxiety disorder and suppressed autonomic nervous system activity (Kagan et al., 1988; Kagan et al., 1990; Kagan & Snidman, 1999).

Generalized anxiety disorder has been successfully treated through use of psychiatric medication. Benzodiazepines (Brawman-Mintzer & Lydiard, 1997; Dubovsky, 1990), which enhance the activity the gamma-Aminobutyric acid (GAMA) neurotransmitter in the brain allowing an individual to feel calm (Center for Addiction and Mental Health, n.d.). However, issues arise during long term use such as dependency and withdrawal for patients and this medication does not successfully treat patients who have symptoms for more than just generalized anxiety disorder (Roy-Byrne, Wingerson, Cowley, & Dager, 1993; Shader & Greenblatt, 1993). Antidepressant medication such as trazadone, a serotonin modulator that increases the production of serotonin in the brain, has shown some success in treating in generalized anxiety disorder but present adverse side effects which cause patients to be less open to their use (Hoen-Saric et al., 1988). While research is still needed on the efficacy of benzodiazepine and antidepressant medication on generalized anxiety disorder, success has been found in using these medications, suggesting that neurological components may play a role in the development of generalized anxiety disorder.

More recent research examines serotonin reuptake inhibitor (SSRI) medication, opposed to traditional serotonin medication, often restricted to cases of depression, SSRI medication can be used at a greater rate to treat symptoms of generalized anxiety disorder as well (NHS, 2014). Serotonin and norepinephrine reuptake inhibitor (SNRI) are also being studied for their efficacy in treating generalized anxiety disorder (Davidson et al., 1999). In a recent double-blind placebo study examining the effects of an SSRI medication on generalized anxiety disorder individuals found the medication was successful in treating patients and found significant improvement of symptoms (Davidson, Bose, Korotzer, & Zheng, 2004). Effectiveness of SSRI and SNRI medication in the treatment of generalized anxiety disorder symptoms suggests a neurological factor to symptom development.

Psychosocial factors such as negative early life experiences (severe emotional trauma, death of a parent) can be attributed to a psychosocial vulnerability (Barlow, 2008). These early experiences develop a mindset that negative events through life are unpredictable, and more so, uncontrollable (Barlow, 2008). A sense of not being in control appears to be at the core of generalized anxiety disorder for many individuals as early negative events solidify the belief that all negative events are uncontrollable, therefore, manifesting weak or non-existing coping mechanisms in this individuals (Barlow, 2008).

As discussed above, generalized anxiety disorder can be successfully treated through the use of psychiatric medication however therapy is another option available. Cognitive behavioural therapy (CBT) is often and successfully used in treating generalized anxiety disorder (Heuzenroeder et al., 2004). CBT for generalized anxiety disorder focuses on cognitive therapy to modify excessive worrying and behavioural therapy to teach the patient relaxation techniques and muscle relaxation (Otte, 2011). Consistent findings have found CBT is successful in treating

patients with generalized anxiety disorder compared to usual treatment offered not including CBT (Hunot, Churchill, Silva, & Teixeira, 2007; Norten & Price, 2007; Stewart & Chambless, 2009).

Bipolar disorder. Bipolar disorder is one of the oldest psychiatric disorders recognized (Miklowitz, 2008). It is a mood disorder characterized by mania which is a distinct period of elevated, expansive, or irritable mood for at least a week along with at least three of the following symptoms: inflated self-esteem or grandiosity, decreased need for sleep, more talkative than usual or pressure to talk, flight of ideas or racing thoughts, distractibility, increase in goal-directed activity (either socially, at work or school, or sexually), and excessive involvement in risky behaviour (American Psychiatric Association, 2013; Miklowitz, 2008). It is also often associated with drastic shifts in mood states, from extremely low (depression) to extreme high (manic), however, this is not a diagnostic symptom (American Psychiatric Association, 2013). Bipolar disorder may also present cognitive symptoms such as grandiose delusions, for example, thinking that one is God or famous (American Psychiatric Association, 2013; Miklowitz, 2008).

Bipolar disorder patients often present mixed episodes, that is, they meet the criteria for a major depressive episode and a manic episode nearly every day for a minimum of a week (Calabrese, Fatermi, Kujawa, & Woyshville, 1996). Mixed episodes occur most often in children and adolescents suffering from BP (Geller et al., 2002). Bipolar disorder is diagnosed on a spectrum, however, for the purpose of the study and above definition, this study will only focus on bipolar I.

Bipolar disorder is often comorbid with a number of mental disorders, such as, attention deficit/hyper activity, oppositional defiant disorder, agoraphobia, panic disorder, alcohol

dependence, and drug abuse (Kessler, Chiu, Demler, & Walters, 2005). When considering prevalence rates over the course of one year Kessler et al., (2005) found that bipolar disorder often comorbid with generalized anxiety disorder. During an epidemic study 46% of bipolar disorder patients presented symptoms of comorbidity with other mental disorders (Regier et al., 1990).

The vulnerability-stress model is used to aid in the understanding of what causes bipolar disorder, suggesting that biochemical, genetics, and environmental factors are all related to its development (Goodwin & Jamison, 1990; Miklowitz & Frank, 1999; Miklowitz & Goldstein, 1997). Biochemical factors associated with BP are serotonin, dopamine, and gamma-aminobutyric acid (GABA) imbalances (Goodwin & Jamison, 1990; Miklowitz & Frank, 1999; Miklowitz & Goldstein, 1997). Recent research has found consistent results for excessive dopamine associated with manic episodes and success of atypical psychotic medication that works to lower dopamine levels and reducing manic symptoms (Berk et al., 2007; Berk & Dodd, 2005). Recent research also found that genetic abnormalities with gene code associated with transporting serotonin occurred during a major depressive state in bipolar disorder patients (Canon et al., 2007; Cho et al., 2005). Limited research has found a modest connection between GABA abnormalities and the development of bipolar disorder (Torrey et al., 2004).

An extensive meta-analysis of genetic vulnerabilities associated with bipolar disorder found a significant amount of evidence to support genetic trait abnormalities in patients with bipolar disorder (Fusar-Poli, Hous, Bechdolf, & Borgwardt, 2012). Researchers found that structure abnormality within the hippocampus and the right hemisphere among affected monozygotic twins may be associated vulnerability to the disorder (Fusar-Poli et al., 2012). Decreases in white matter was found significantly more in patients with bipolar disorder than

others across all the studies (Fusar-Poli et al., 2012). The researchers concluded that the white matter found in the frontal lobe appeared to be central, across all studies, to a vulnerability for bipolar disorder (Fusar-Poli et al., 2012).

Environmental factors can affect, and develop symptoms of, bipolar disorder by disturbing daily routine and sleep function (Miklowitz, 2008). Factors such as shift work or constantly having to change ones daily routine are suggested to disturb daily rhythms stability, disturbing social and occupational stability (Ehlers, Kupfer, Frank, & Monk, 1993; Miklowitz, 2008). These disturbances are more severe when they interfere with the circadian rhythm, human body's naturally occurring clock that follows a 24-hr cycle (Ehlers et al., 1993; Miklowitz, 2008). These types of environmental factors are especially problematic for individuals with bipolar disorder as they are often more sensitive minor changes in sleep-wake cycles (Miklowitz, 2008). Malkoff-Schwartz et al., (1998) examined effects of life events on manic episodes in bipolar disorder patients and found that most often a manic episode was influenced by disturbances in the patient's sleep-wake cycle while a major depressive episode did not appear to be effected by these events.

Bipolar disorder is most often treated through medications such as mood stabilizers, atypical antipsychotics, and antidepressants (National Institute of Mental Health, 2011.). Mood stabilizers are often the first choice, usually lithium, which is found to be most successful in treating mania for bipolar disorder (Stafford, 2011). While it is still unknown exactly how, lithium has been found successful in treating episodes of depression, mania, and even reducing the risk of suicide in patients with a mental illness (Stafford, 2011). For bipolar disorder, lithium works by modifying how the brain transmits signals via neurotransmitters and is associated with increased levels of serotonin (Stafford, 2011). It can stimulate brain growth by modifying the

hormone levels in the brain, and has even been found to successfully modify how genes repair cells (Stafford, 2011).

Psychotherapy, in conjunction with medication, is used to treat bipolar disorder long-term (Miklowitz, 2008). CBT is often used as psychotherapy treatment for bipolar disorder, however, recent research has found that not all cases of bipolar disorder benefit from this treatment (Scott et al., 2006). Scott et al., (2006) found that patients who were in the earlier stages of bipolar disorder had more success with CBT therapy in conjunction with medication than did individuals with bipolar disorder for longer periods.

Alternative therapies such as, family-focused and psychoeducational are gaining popularity (National Institute of Mental Health, 2011.). Family-focused therapy aids family members in developing new and more successful coping strategies as well as the ability to recognize symptoms earlier in their loved ones (National Institute of Mental Health, 2011.). Several studies have found consistent results in the success of family-focused therapy in reducing severe symptoms, enhancing global function of the individual, and lower frequency in relapses (Clarkin et al., 1990; Glick, Clarkin, Haas, Spencer, & Chen, 1991; Clarkin, Carpenter, Hull, Wilner & Glick, 1998; Miklowitz et al., 2003).

Psychoeducational therapy is used for cases of child and adolescent bipolar cases (Miklowitz, 2008). This type of therapy is geared toward educating patients and their families about the illness itself and aiding in the ability to recognize symptoms earlier to access treatment before a full-blown episode occurs (National Institute of Mental Health, 2011.). Miklowitz, Biuckians, & Richards, (2006) examined young BP patients after 21 sessions of psychoeducational therapy, with medication, along with their families, and found significant improvements in manic and depressive symptoms and less parent-child issues.

These three specific disorders all share common biological, psychological, and environmental factors towards development (Barlow, 1991; Barlow, 2000; Barlow, 2002). Comorbidity between major depressive disorder and generalized anxiety disorder and bipolar disorder is also significantly prevalent (Barlow, 2008; Barlow, 2002; Moffitt et al., 2007; Kessler et al., 2005). As these disorders tend to share common factors of origin and treatment, they also share common symptoms (American Psychiatric Association, 2013). The close relationship between these specific disorders suggests that an understanding of them cannot be individual to each disorder. Instead, an interlaced base of understanding the similarities and differences between these disorders is essential for understanding each.

Mental Health Literacy

Mental health literacy is the knowledge of, and beliefs, an individual or group have towards mental illness and those diagnosed with a mental disorder (Jorm, 2000). The characteristics of mental health literacy are as follows. The ability to recognize a disorder or recognize psychological distress, such as knowing the warning signs of depression or signs of a panic attack. (Jorm, 2000). The beliefs and knowledge of what risk factors and causes are associated with mental illnesses, such as biological and genetic vulnerabilities (Jorm, 2000). Having the knowledge of professional mental health treatment available and beliefs about those treatment options, such as psychiatric medication and psychotherapy (Jorm, 2000). The knowledge about self-help interventions and beliefs about these interventions, such as meditation for anxiety (Jorm, 2000).

We know that mental illness is prevalent among young people and that stigmatizing attitudes towards mental illness have solidified by adolescence (Hinshaw, 2006). While youth become more aware of mental illness prevalence as they enter adolescence there is also an

increased desire for social distance from persons with such a disorder (Hinshaw, 2006). Lack of mental health literacy in youth could be influencing stigmatizing attitudes, well into young adulthood.

This was emphasized in a study in which pre-existing attitudes towards mental illness in college students proved to be difficult to change (Boysen & Vogel, 2008). In this study, participant attitudes were tested before they were exposed to a mental health literacy intervention (Boysen & Vogel, 2008). In the post-test it appeared that the intervention was more persuasive to their existing beliefs than contradictory (Boysen & Vogel, 2008). That is, participants who held previous positive beliefs about mental illness found the intervention gave them more reason to hold positive beliefs while participants who held prior negative beliefs found the intervention gave them more reason to view mental illness negatively. The researchers speculated that this lack of change may be associated with the fact that college students are no longer developing attitudes, stigmas, and stereotypes but that they are attempting to maintain consistency with their pre-existing attitudes (Boysen & Vogel, 2008). Since it is possible that young adult's attitudes have already been formed, surveying those attitudes is important, although it may be too late for intervention.

The previous study suggests that mental health literacy interventions may have a greater impact in children and adolescence when youth are still developing their attitudes, beliefs and stereotypes. Youth have a difficult time recognizing the symptoms and behaviours associated with mental illness (Burns & Rapee, 2006; Pinfold, Stuart, Thornicroft, & Arboleda-Flórex, 2005). Improvements in mental health literacy for youth would aid improving general societal understanding of mental health and increase timely interventions for those who need help. Youth

who recognize and understand symptoms can create a comfortable environment for treatment seeking (Santer, Short, & Ferguson, 2009).

Previous Studies on Mental Health Literacy of Young People

Knighton & Currie (2010) in partnership with Kids Help Phone Canada examined youth mental health literacy through an online survey posted on the organizations website. The aim of the survey was to distinguish what youth know about mental illness compared to their behaviour towards mental illness (Knighton & Currie). The study examined youth's ability to differentiate between normal intense emotions and behaviour or emotions associated as symptoms of a mental illness (Knighton & Currie, 2010). Youth's beliefs and attitudes regarding mental illness and how they are linked to social acceptance, support, and help-seeking behaviour were also examined (Knighton & Currie, 2010). The focus points of the study were sadness and depression, stress and anxiety, and eating disorders and body image.

The results of this study show that young people ages eleven to sixteen demonstrated a relatively high level of general knowledge regarding mental illness with 75% of participants correctly answering questions related to knowledge about mental health problems (Knighton & Currie, 2010). However, 58% of respondents reported having personal experience with mental illness (diagnosis, counselling, and treatment) (Knighton & Currie, 2010). This might explain why the results from this study are not line with previous mental health literacy reports on young people, which found low to moderate levels of mental health literacy where participants did not report prior experience with mental health problems (Burns & Rapee, 2006; Marcus & Westra, 2012; Pinfold et al., 2005). The participants from the Kids Help Phone study do not accurately represent the Canadian population of young people as they had a more informed knowledge base than young people with no previous experience, education, and/or exposure.

Although this study reported relatively higher levels of mental health literacy, only 50% of participants considered seeking help for mental health problems due to stigma associated with mental illness (Knighton & Currie, 2010). This result suggests that even with higher levels of mental health literacy, stigma associated with mental illness is still a major barrier for youth and help seeking behaviour (Kids Help Phone, Knighton & Currie, 2010). The current study addressed the issue of prior mental illness experience.

Mental health literacy for major depressive disorder, generalized anxiety disorder, and schizophrenia was examined in young adults through a national Canadian survey (Marcus & Westra, 2012). Literacy of Canadian's 18-24 were compared to older adults, 25-64 (Marcus & Westra, 2012). Participants were presented with three vignettes characterizing major depressive disorder, generalized anxiety disorder, and schizophrenia. (Marcus & Westra, 2012).

Participants were asked to choose what they thought was wrong with the individual from a list of answers: depression, anxiety, schizophrenia, don't know, not sure, and no response (Marcus & Westra, 2012). Help seeking beliefs were examined by asking participants the best way for the vignette characters to seek help and to deal with their symptoms (Marcus & Westra, 2012). Lastly, participants were asked about their beliefs regarding medication and psychotherapy as a treatment for mental illness (Marcus & Westra, 2012). Questions were structured as multiple choice, offering premade answers for participants to choose from (Marcus & Westra, 2012).

Both age groups labeled the major depressive vignette correctly more often than generalized anxiety or schizophrenia (Marcus & Westra, 2012). Both age groups consistently agreed that seeking help from a psychiatrist was the best option for schizophrenia but not for depression or anxiety (Marcus & Westra, 2012). Young people reported negative beliefs towards

medication and psychotherapy, significantly more than older adults. (Marcus & Westra, 2012). Young people believed that medications could be helpful in managing mental disorders, and did not view psychotherapy as helpful (Marcus & Westra, 2012).

The current research provided participants with a vignette representing bipolar disorder in place of schizophrenia. All three disorders share common developmental factors, symptoms, and treatment, opposed to schizophrenia (American Psychiatric Association, 2013; Barlow, 1991; Barlow, 2000; Barlow, 2002; Barlow, 2008; Moffitt et al., 2007; Heuzenroeder et al., 2004; Kessler et al., 2005; National Institute of Mental Health, 2011.; Scott et al., 2006) and all three disorders present similarly high prevalence among young people across Canada while schizophrenia does not (Statistics Canada, 2012). The current study also used open-ended questions for the vignettes, opposed to multiple choice, allowing participants to generate their own answers which will give a better indication of mental health literacy (Burns & Rapee, 2006).

The current study is modelled on the research of Burns & Rapee (2006). This research examined mental health literacy of depression in Australian youth 15-17 (Burns & Rapee, 2006). Participants were asked to complete the Friend in Need Questionnaire (Burns & Rapee, 2006). They were presented with five vignette cases; Emily expressed depressive symptoms with blunt suicidal intent and thoughts of worthlessness; Tony presented less common symptoms commonly associated with major depressive disorder; Mandy, Jade, and Nick all presented normal life crises such as a relationship break up, getting caught drinking underage, and the death of a family member (Burns & Rapee, 2006). Participants were asked to answer how worried they were about each individual, what they thought was the matter with each individual, what parts of the vignette were the strongest hints of emotional distress for each individual, how

long they thought it would take each individual to get better and who/how they thought was the best way for the individual to get help (Burns & Rapee, 2006).

Overall ability to label depression and identify symptoms of depression appeared to be significantly influenced by common or uncommon symptoms. That is, 67.5% of youth labelled Emily depressed and reported the strongest hints for emotional distress to be the mention of suicidal intent and feelings of worthlessness while only 33.8% labelled Tony depressed and reported the strongest indicator of emotional stress was lack of interest in physical activities (Burns & Rapee, 2006). These results suggest that without common symptoms such as suicidal intent and feelings of worthlessness adolescence have a difficult time identify symptoms of depression and labelling depression.

They found females were able to label depression more accurately, showed greater concern regarding well-being, reported that depressed cases took a longer recovery than normal teenage problems, and demonstrated a greater ability to identify symptoms of depression compared to male respondents (Burns & Rapee, 2006). Both male and female respondents indicated that the depression vignette characters needed professional help with the common response being help from a counsellor, however, a variety of other generic terms, such as professional, were also used and suggests that adolescence lack knowledge about the specialization of mental health professionals (psychiatrist vs. psychologists vs. counsellor) (Burns & Rapee, 2006). Only 2% of youth reported doctors as appropriate helpers for depression suggesting that youth may not view doctors as a source of help for mental health problems, as well, internet-based help platforms and telephone counselling services were not mentioned as forms of helped (Burns & Rapee, 2006).

The current research tool uses a questionnaire structure similar to the Friend in Need questionnaire. Slight modifications were made. The research expanded beyond depression to include a vignette for all three of the disorders being studied, that is, major depressive disorder, generalized anxiety disorder, and bipolar disorder. An examination of mental health literacy to include these other disorders will provide additional knowledge on how we can aid in the necessary early recognition and facilitate appropriate help-seeking behaviour, in young people themselves and others around them, for all mental disorders (Kelly, Jorm, Wright, 2007).

Current Study

In this paper we researched what young people know about the three most common disorders associated with young people and early onset: major depressive disorder, bipolar disorder, and generalized anxiety disorder (Kessler et al, 2007; Statistics Canada, 2012). Do young people have the ability to recognize symptoms associated with these disorders and can they label them? What do young people suggest as treatment for these specific disorders? This study also examined differences in male and female responses.

We examined the gaps in the previous mental health literacy studies. First, the current study examined mental health literacy for bipolar disorder. This disorder is missing from previous research yet has a similar prevalence of major depressive disorder and generalized anxiety disorder in young people and has equally debilitating symptoms (American Psychiatric Association, 2013; Statistics Canada, 2012). As these three disorders share common origins and symptoms, recognition may be difficult and misdiagnosis of these disorders can often occur. Misdiagnosis can be dangerous as these disorders respond differently to specific treatment options and require differential and disorder specific attention (Barlow, 1991; Barlow, 2000;

Barlow, 2002; Davidon et al., 1999; Heuzenroeder et al., 2004; Perlis, 2005; Miklowitz, 2008; National Institute of Mental Health, 2011.; Scott et al., 2006).

As mentioned earlier, the mental health literacy of depression differs from generalized anxiety disorder and bipolar disorder so results from mental health literacy studies about depression are not generalizable to generalized anxiety disorder or bipolar disorder. While the three disorders share common symptoms, each disorder has a distinct symptom or trait that is not found in the other disorders. Distinguishing symptoms for major depressive disorder are overwhelming feelings of sadness, worthlessness, hopelessness, and guilt (American Psychiatric Association, 2013). For generalized anxiety disorder is excessive worry for more days than not for six months (American Psychiatric Association, 2013; Barlow, 2002) and for bipolar disorder is a manic episode (American Psychiatric Association, 2013). The recognition of these distinguishing symptoms would enable those around them to understand that each debilitates individuals in unique ways and each disorder requires disorder specific knowledge and treatment.

It was hypothesized that participants would show poorer mental health literacy for generalized anxiety and bipolar disorder opposed to major depressive disorder (Marcus & Westra, 2012). It was also hypothesized that female participants would show better mental health literacy than males, as this pattern has been shown in previous research (Burns & Rapee, 2006; Cotton, Wright, Harris, Jorm, & McGorry, 2006).

CHAPTER 2

Methodology and Results

Participants

Participants were 88 Ontario, Canada residents. Participants were 18-24 so results could be compared to previous research on mental health literacy of young people. This age group was also selected due to higher onset of mental disorders occurring among these ages (Kessler et al, 2007; Statistics Canada, 2012). There were 26 male respondents (29.5%) and 62 female respondents (70.4%).

Recruitment

The questionnaire appeared online through Fluid survey, an online survey tool. Participants were recruited through the social media outlet Facebook. A brief explanation of the questionnaire and a link were posted on my personal Facebook and exposed to 147 eligible participants. A comment was added to my recruitment post asking that individuals who are not within the 18-24 age bracket to not participate in this study. I also asked for participants to share my post to their own Facebook for snowball sampling. The message was posted twice a week for a 3.5 weeks. Participants were given the opportunity to request a copy of the of the questionnaire results, and in doing so, were asked to contact myself independent of the survey instrument. A copy will be sent using email.

Procedure

The first page of the study was a detailed introduction to the questionnaire and informed consent. Participants had to agree to participate in the study, and acknowledge that the data given would not be attached to any names and used within this research study. There was a button for participants to click to agree to participation. Without clicking this button an individual would not be able to submit their questionnaire. Once consent was given, participants were asked to fill

out the online qualitative questionnaire. The questionnaire was available online for 3.5 weeks and participants were allowed to opt out of the research at any time. Participants did not have to answer every single question, however, the questionnaire must have been completed all at once and could not be saved and returned to at a later date. This was done so participants could not research the topic and then return to the questionnaire to finish. The questionnaire was entirely anonymous. Participants were asked gender, age, current province, and whether or not they have prior experience with mental illness. Although this was a minimal risk study, some participants may have felt uncomfortable answering questions presented throughout the questionnaire. Resources for support were offered at the end of the study if participants desired to use them.

Research Tools

The questionnaire consisted of three vignettes in which individuals present characteristics of major depressive disorder, bipolar disorder, and generalized anxiety disorder. Participants were allowed to generate their own answers and were able to express opinions and beliefs related to these three specific mental disorders. The questionnaire was developed using components from the Friend in Need Questionnaire developed by John, R. Burns and Ronald, M. Rapee (2006). The Friend in Need questionnaire was sampled as the research is closely related to the current study and was successful in assessing mental health literacy for depression (Burns & Rapee, 2006). The vignette of Tony is copied word-for-word from the study, except for modifications to terminology geared to a Canadian audience. Questions from the Friend in Need questionnaire were sampled but worded differently or split into two questions. As the Friend in Need questionnaire uses open ended questions, the current study also does so as this method found success previously (Burns & Rapee, 2006).

Questionnaire scenarios were developed by incorporating at least five symptoms of major depressive disorder (Tony), generalized anxiety disorder (Alexandra), and bipolar disorder (Cameron) as described in the *Diagnostic and Statistical Manual of Mental Disorders – fifth edition* (American Psychiatric Association, 2013; Burns & Rapee, 2006). The DSM – IV was used as it is the standard diagnostic tool used and followed by psychiatrists. The current study researched participant mental health literacy about various mental health issues instead of focusing strictly on depression. A copy of the questionnaire is included in Appendix A.

Analysis

When data collection was completed the responses were analyzed using standard coding methods. Coding was done based on the responses, first for common terms in labelling symptoms and naming the mental illness were identified. Analysis of commonality around terms referred to for treatment options was also done. A comparison of correct symptoms recognized for each vignette, correct mental illness label, and treatment options were counted and compared among the vignettes. First, I identified the most highly noted labels, symptoms, and help sources appropriate for each vignette, then, I compared the appropriate answers within each vignette and then between all three vignettes. Second, I identified the most highly noted label, symptoms, and help sources that were not appropriate for each vignettes, then also compared these answers within each vignette and then between all three vignettes. Male and female response were also compared. For this analysis, I identified the appropriate and unappropriated labels, symptoms, and help sources for each vignette then compared these answers within each vignette and between all three vignettes. Although there were no specific questions about stigma, responses were examined for evidence of social stigma.

A 2x3 factorial ANOVA was conducted to determine any differences in ability to correctly label each mental illness between all three. A multivariate analysis of variance (MANOVA) was conducted to analyze gender differences in responses. A paired sample t-test was conducted to compare correct labeling of each mental disorder between all three vignettes, comparing two disorders at a time, to determine whether there was a significant difference in ability to label a mental illness. These statistical tests were used to examine, if any, significant differences occurred, specifically gender differences. Results were considered significant if the relationship between the variables measured had a p value of .005 or less. These tests helped to examine whether there was a strong effect of gender on the results, as well as, a significant difference in knowledge between all three mental disorders.

Results

Can young people determine when an individual is dealing with a mental illness?

For each vignette respondents were asked, ‘do you think that ___ is experiencing a mental illness’? Responses were coded according to the presence of identified key words: “Yes” in the presence of the words ‘yes/yeah’, “No” in the presence of the words ‘no/nope’, “Maybe” in the presence of the words ‘maybe/possibly’, and “Not Sure” in the presence of the words ‘don’t know/not sure’. It was anticipated that respondents would answer yes most frequently for the Major Depressive Disorder vignette and the least frequently for the Bipolar Disorder vignette. This did occur. It was also anticipated that respondents would answer yes for the Generalized Anxiety Disorder vignette less frequently than the Major Depressive Disorder vignette but more frequently than the Bipolar Disorder vignette. On examination of the responses, respondents did answer yes less frequently than the Major Depressive Disorder

vignette, however, respondents answered similarly to the Bipolar Disorder vignette. Frequencies of respondents who answered yes, by sex, are shown in Table 1.

Table 1

Number of participants who determined characters were dealing with a mental illness

	Total	Male	Female <i>N</i>	p-value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Major Depressive Disorder	78.4%	18.1%	60.2	*.001
Generalized Anxiety Disorder	61.3%	0.07%	53.4	*.000
Bipolar Disorder	60.2%	12.5%	48.8%	*.000

*Sig difference ($p < 0.05$) between male and female on MANOVA analysis

A univariate test shows significant sex differences in ability to determine whether the individual in vignette one is dealing with a mental illness, $F(3, 84) = 6.452, p = .001$. A further examination of the means indicate that female respondents were more likely ($M = .85, SD = .355$) than male respondents ($M = .62, SD = .50$) to determine whether the individual in vignette one is dealing with a mental illness.

A univariate test shows significant sex differences in ability to determine whether the individual in vignette two is dealing with a mental illness, $F(4, 83) = 18.1, p < .001$. A further examination of the means indicate that female respondents have were more likely ($M = .76, SD = .43$) than male respondents ($M = .27, SD = .45$) to determine whether the individual in vignette two is dealing with a mental illness. The means also indicate that men ($M = .62, SD = .496$) were more likely to answer no than female respondents ($M = .15, SD = .355$).

A univariate test shows significant sex differences in ability to determine whether the individual in vignette three is dealing with a mental illness $F(4,83) = 7.36, p < .001$. A further examination of the means indicate that female respondents were more likely ($M = .69, SD = .46$) than male respondents ($M = .42, SD = .50$) to determine whether the individual in vignette three was dealing with a mental illness. The means also indicate that male respondents ($M = .42, SD = .50$) were more likely to say no than female respondents ($M = .18, SD = .38$).

Can young people label mental illness?

For each vignette respondents were asked ‘if you answered yes, to which mental illness do you believe ____ symptoms are related’? For vignette one, responses were coded “Major Depressive Disorder” in the presence of the words ‘major depressive disorder/MDD/major depressive episode’, “Depression” in the presence of the words ‘depression/depressed’, “Insomnia” in the presence of the words ‘insomnia’, “Anxiety” in the presence of the words ‘anxiety/anxiety disorder’, “Multiple” in the presence of two or more diagnoses, and “Not sure” in the presence of the words ‘don’t know/possibly/maybe’. Frequencies of each code, by sex, are shown in Table 2.

Table 2

Number of participants for each code, by sex, vignette one

	Total	Male	Female	p-value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Major Depressive Disorder	0.01%	0.01%	0%	.123
**Depression	72.7%	1.1%	56.8%	*.001
**Insomnia	0.01%	0.01%	0%	.123
**Anxiety	0.02%	0.01%	0.01%	.527
Multiple	0.07%	0.01%	0.06%	.362
Not Sure	0.02%	0.02%	0%	*.027

*Sig difference ($p > 0.05$) between male and female on MANOVA analysis

**Not accurate diagnostic terms

A univariate test shows significant sex difference in labelling mental illness for vignette one $F(5, 82) = 4.16, p = 0.02$. Further examination of the means indicate that female respondents ($M = .81, SD = .40$) were more likely than male respondents ($M = .46, SD = .51$) to label the individual in vignette one as depressed. The means also indicate that male respondents ($M = .08, SD = .27$) were more likely than female respondents ($M = .00, SD = .000$) to be unsure.

For vignette two, responses were coded “Generalized Anxiety Disorder” in the presence of the words ‘generalized anxiety disorder/GAD/generalized anxiety’, “Anxiety” in the presence of the words ‘anxiety/anxiety disorder’, “Obsessive Compulsive Disorder” in the presence of the words ‘obsessive compulsive disorder/OCD’, “Multiple” in the presence of two or more diagnoses, “Social Anxiety” in the presence of the words ‘social anxiety’, “Social Phobia” in the presence of the words ‘social phobia’, “Depression” in the presence of the words

‘depressed/depression’, ‘Self-Esteem’ in the presence of the words ‘low self-esteem/lack of self-confidence/self-esteem disorder’, and “Not Sure” in the presence of the words ‘don’t know/not sure/possible/maybe’. Frequencies for each code, by sex, are shown in Table 3.

Table 3.

Number of participants for each code, by sex, vignette 2

	Total <i>n</i> = 88	Male <i>n</i> = 26	Female <i>n</i> = 62	p-value
Generalized	0.05%	0.01%	0.04%	.635
Anxiety Disorder				
**Anxiety	36.3%	0.03%	32.9%	*.001
Obsessive	0.07%	0.02%	0.05	.954
Compulsive				
Disorder				
Multiple	0.05%	0.02%	0.03%	.603
Social Anxiety	0.01%	0%	0.01%	.520
Social Phobia	0.02%	0%	0.02%	.360
**Depression	0.01%	0%	0.01%	.520
**Self Esteem	0.03%	0.01%	0.02%	.885
Not Sure	0.03%	0%	0.03%	.259

*Sig difference ($p < 0.05$) between male and female on MANOVA analysis

**Not accurate diagnostic terms

A univariate test shows significant sex differences in labelling mental illness for vignette two $F(8,79) = 2.60, p = .014$. Further examination of the means indicate that female respondents ($M = .47, SD = .50$) were more likely than male respondents ($M = .12, SD = .33$) to use the label anxiety.

For vignette three, responses were coded “Bipolar Disorder” in the presence of the words ‘bipolar/bipolar disorder’, “Multiple” in the presence of two more diagnoses, “Personality Disorder” in the presence of the words ‘personality disorder/split personality disorder/multiple personality disorder/dissociative personality disorder’, “ADD/ADHD” in the presence of the words ‘ADD/ADHD/impulse control disorder’, “Addiction” in the presence of the words ‘addiction/drug addiction’, “Schizophrenia” in the presence of the words ‘schizophrenia’, and “Not Sure” in the presence of question marks beside diagnostic terms and ‘don’t know/not sure/unsure’. Frequencies for each code, by sex, are shown in Table 4.

Table 4.

Number of participants for each code, by sex, vignette 3

	Total	Male	Female	<i>p-value</i>
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Bipolar Disorder	30.6%	0.09%	21.5%	.991
Multiple	12.5%	0%	12.5%	*.022
Personality Disorder	0.05%	0%	0.05%	.139
ADD/ADHD	0.04%	0.01%	0.03%	.841
Addiction	0.03%	0.01%	0.02%	.885
Schizophrenia	0.01%	0%	0.01%	.520
Not Sure	11.3%	0.03%	0.07%	.974

*Sig difference ($p < 0.05$) between male and female on MANOVA analysis

A univariate test shows no significant sex difference in labelling mental illness for vignette three. A further examination of the means indicates that female respondents ($M = .18$, $SD = .38$) were more likely than male respondents ($M = .00$, $SD = .000$) to give a multiple

diagnosis. The means also indicate that female respondents ($M = .08$, $SD = .27$) were more likely than male respondents ($M = .00$, $SD = .000$) to give a personality disorder diagnosis.

A 2 X 3 factorial ANOVA was conducted to compare the correct labelling between each vignette across the sample as a whole. Results found a significant difference in respondents ability to correctly label each mental illness $F(2, 174) = 46.45$, $p < 0.01$. Respondents had significantly less correct answers on Bipolar Disorder ($M = .31$, $SD = .464$) compared to the label Depression ($M = .73$, $SD = .448$), $t(87) = 7.945$, $p < .001$. Respondents also had significantly less correct answers on Bipolar Disorder ($M = .31$, $SD = .464$) compared to the label anxiety ($M = .36$, $SD = .484$), $t(87) = 2.289$, $p = .024$. These results were anticipated.

Can young people label symptoms of mental illness?

For each vignette respondents were asked, ‘what parts from ___ story are the strongest hints to you that he/she is experiencing a mental illness?’ Vignette one gave clear reference to five of the nine symptoms of a Major Depressive episode from the DSM-IV. Responses were coded “Lost Interest” in the presence of the words ‘soccer/lost interests/lost interest in prior hobbies/doesn’t want to play soccer’, “Weight” in the presence of the words ‘weight loss/loss of appetite/not eating/weight change’, “Insomnia” in the presence of the words ‘insomnia/not sleeping/can’t sleep/not sleeping well’, “Fatigue” in the presence of the words ‘tired/no energy/lack of energy’, and “Thinking” in the presence of the words ‘can’t concentrate/hard time thinking/bad school grades’. Frequencies for each code, by sex, are shown in Table 5.

Table 5

Identified symptoms of Major Depressive Disorder by sex

Symptom	Total <i>n</i> = 88	Male <i>n</i> = 26	Female <i>n</i> = 62	p-value
Lost Interest	69.3%	14.7%	47.7%	.119
Weight	71.5%	20.4%	51.1%	.754
Insomnia	45.4%	11.3%	34%	.328
Fatigue	31.8%	0.06%	21.5%	.259
Thinking	57.9%	14.7%	43.1%	.333

A univariate test shows no significant sex difference in labelling symptoms for Major Depressive Disorder.

Vignette two gave clear reference to the six symptoms of Generalized Anxiety Disorder from the DSM – IV. Responses were coded “Excessive 6” in the presence of the words ‘excessive worrying for 6 months/excessive worrying for her whole life/constantly worrying her whole life’, “Excessive” in the presence of the words ‘excessive worrying/constantly worrying’ without the mention of the time period the behavior had been occurring, “Control” in the presence of the words ‘difficulty controlling worry/can’t control her anxiety’. “3 symptoms” in the presence of at least 3 labelled associated symptoms (restlessness/on edge, fatigue, difficulty concentrating, muscle tension, sleep disturbances), “Clinical” in the presence of the words ‘affecting her daily life/work problems/doing poorly at work’, and “Focus” when participants did not mention her behavior being the result of another mental disorder and other physiological effects of a substance. Frequencies for each code, by sex, are shown in Table 6.

Table 6.

Identified symptoms of Generalized Anxiety Disorder, by sex

Symptom	Total <i>n</i> = 88	Male <i>n</i> = 26	Female <i>n</i> = 62	p-value
Excessive 6	11.3%	0.02%	0.09%	.488
Excessive	48.8%	10.2%	38.6%	.085
Control	0.04%	0%	0.04%	.189
3 Symptoms	27.2%	0.05%	0.21%	.478
Clinical	10.2%	0.02%	0.07%	.616
Focus	0.07%	0.02%	0.05%	.954

A univariate test shows no significant sex differences in labelling symptoms of Generalized Anxiety Disorder.

Vignette three gave clear reference to three of the seven symptoms of a manic episode from the DSM – IV. Responses were coded “Symptoms of Manic Episode” in the presence of three or more symptoms being labelled (risky behaviour, easily distracted, flight of ideas, increase in goal-directed activity (either socially, at school, or sexually), and more talkative than usual) and “Manic Only” in the presence of the words ‘mania/manic/manic episode’ without labelling 3 or more symptoms of the manic episode. A manic episode is the only mandatory symptom for the diagnosis of Bipolar Disorder (American Psychiatric Association, 2013). Frequencies for each code, by sex, are shown in Table 7.

Table 7

Identified symptoms of a Manic Episode by sex

Symptom	Total	Male	Female	p - value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Symptoms Manic	0.05%	0.02%	0.03%	.127
Manic Only	10.2%	0.02%	0.07%	.616

Not a diagnostic criteria

A univariate test shows no significant sex differences in identifying a manic episode.

While manic episodes and major depressive episodes often occur together in Bipolar Disorder, a major depressive episode is not mandatory for the diagnosis of Bipolar Disorder. Other responses were coded “Depression” in the presence of the words ‘sad/depressed/can’t concentrate/not as talkative/won’t leave his room/depressive state’, “Mood Swings” in the presence of the words ‘mood swing/drastic mood changes’, and “Personality” in the presence of the words ‘personality changes/drastic personality changes’. Frequencies for each code, by sex, are shown in Table 8.

Table 8

Number of participants for each code, by sex, symptoms for Bipolar Disorder

Symptom	Total	Male	Female	p – value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Depression	19.3	0.04%	14.7%	.550
*Mood Swings	0.21%	0.05%	15.9%	.731
*Personality	18.1%	0.05%	12.5%	.871

*Not diagnostic criteria

A univariate test was done including all symptoms (Symptoms of Manic, Manic only, Depression, Mood Swings, and Personality Changes) and the test shows no significant sex differences in respondent’s answers.

What are the strongest hints of no mental illness?

For each vignette respondents were asked, ‘which parts from ____ story are the strongest hints to you that he/she is NOT experiencing a mental illness? For vignette one responses were coded as “Parents” in the presence of the words ‘divorce/parents separation/home life’, “No Suicidal Intent” in the presence of the words ‘no suicidal intent/doesn’t want to kill himself/doesn’t think about killing himself/no suicide attempts’, “Attention” in the presence of the words ‘looking for attention/wants attention’, “Just Sad” in the presence of the words ‘just sad’, and “Normal” in the presence of the words “he is acting normal/he is just a teenager/puberty’. Frequencies of each code, by sex, are shown in Table 9.

Table 9

Number of participants for each code, by sex

Symptom	Total	Male	Female	p - value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Parents	30.6%	10.2%	20.4%	.609
No Suicidal Intent	0.07%	0.02%	0.05%	.135
Attention	0.03%	0.03%	0%	*.006
Just Sad	0.03%	0.01%	0.02%	.885
Normal	0.05%	0%	0.05	.139

*Sig difference (p<0.05) between male and female on MANOVA analysis

A univariate test shows no significant sex differences overall. Further examination of the means indicate that male respondents ($M = .12$, $SD = .33$) were more likely than female respondents ($M = .00$, $SD = .000$) to attribute the behavior to attention seeking.

For vignette two, responses were coded “No Self-Esteem” in the presence of the words ‘no self-esteem/lack of self-confidence/hates herself’, “Worrier” in the presence of the words ‘just a worrier’, “What People Think” in the presence of the words ‘she cares too much about what people think’, “Dating” in the presence of the words “recent break up/just started dating/end of long term relationship’, and “Normal” in the presence of the words ‘her anxiety is normal/typical female worries’. Frequencies of each code, by sex, are shown in Table 10.

Table 10

Number of participants for each code, by sex

Symptom	Total	Male	Female	p-value
	$n = 88$	$n = 26$	$n = 62$	
No Self-Esteem	22.7%	13.6%	0.09%	*.001
Worrier	0.07%	0%	0.07%	.076
What People Think	17%	0.06%	10.2%	.336
Dating	15.9%	0.04%	11.3%	.932
Normal	0.07%	0.02%	0.05%	.954

*Sig difference ($p < .005$) between male and female on MANOVA analysis

A univariate test shows significant sex difference in responses as to why vignette two is not dealing with a mental illness , $F(5,82) = 9.12$, $p < .001$. Further examination of the means indicate that male respondents ($M = .46$, $SD = .51$) were more likely than female respondents ($M = .13$, $SD = .34$) to attribute the behavior to low-esteem issues.

For vignette three, responses were coded “Normal” in the presence of the words ‘just being a teenager/normal/normal teenager behaviour/normal teenage boy’, “Parents” in the presence of the words ‘bad parenting/bad parenting skills/parents have lost control/parents have set no rules’, and “Partier” in the presence of the words ‘just likes to party’. Frequencies for each code, by sex, are shown in Table 11.

Table 11

Number of participants for each code, by sex

Symptom	Total	Male	Female	p –value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Normal	32.9%	11.3%	21.5%	*.002
Parents	11.3%	0.04%	0.06%	*.005
Partier	14.7%	0.07%	0.06%	.134

*Sig difference (p<.005) between male and female on MANOVA analysis

A univariate test shows significant sex differences in labelling these symptoms $F(3, 69) = 5.93, p = .001$. A further examination of the means indicate that male respondents ($M = .38, SD = .50$) were more likely than female respondents ($M = .09, SD = .28$) to attribute the behaviour as being normal. The means also indicate that male respondents ($M = .15, SD = .37$) were more likely than female respondents ($M = .00, SD = .000$) to attribute the behaviour to parenting skills.

How do young people recommend help for individuals with a mental illness?

For each vignette respondents were asked, ‘how do you think ___ should cope with his/her problems? Please explain your answer’ for each character. For vignette one, responses were coded “Guidance Counsellor” in the presence of the words ‘guidance counsellor/school

counsellor’, “Counselling” in the presence of the words ‘counselling/family counselling’, “Parents” in the presence of the words “talk to his parents’, “Someone” on the presence of the words “talk to someone’, “Doctor” in the presence of the words ‘doctor/family doctor/professional’, and “Therapist” in the presence of the words ‘therapy/therapist/psychotherapist’ or labelling types of psychotherapy practices. Frequencies for each code, by sex, are shown in Table 12.

Table 12

Number of participants for each code, by sex

Help Source	Total	Male	Female	p - value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Guidance	21.5%	0.04%	15.9%	.451
Councillor				
Counselling	15.9	0.03%	13.6%	.379
Parents	7.2%	0.03%	17%	.183
Someone	12.5%	0.03%	0.09%	.862
Doctor	18.1%	0.04%	13.6%	.664
Therapist	20.4%	0.04%	15.9%	.451

A univariate test shows no significant sex differences in recommending help.

For vignette two, responses were coded “Doctor” in the presence of the words ‘doctor/family doctor/professional’, “Therapist” in the presence of the words ‘therapy/therapist/psychotherapist/mental health specialist’, “Relax” in the presence of the words ‘relax/relaxation techniques/just relax/de-stress/de-stressing techniques’, “Counselling” in the

presence of the words ‘counsellor/counselling’, and “Work On Herself” in the presence of ‘gain some self-esteem/work on her confidence/learn to love herself/stop caring about what people think’. Frequencies of each code, by sex, are shown in Table 13.

Table 13

Number of participants for each code, by sex

Help Source	Total	Male	Female	p –value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Doctor	19.3%	0.01%	18.1%	*.017
Therapist	19.3%	0.02%	17%	.075
Relax	17%	0.06%	10.2%	.336
Counsellor	17%	0.05%	11.3%	.728
Work On Herself	19.3%	0.06%	12.5%	.568

*Sig difference ($p < 0.05$) between male and female on MANOVA analysis

A univariate test shows significant sex differences in recommending help $F(5, 82) = 3.00$, $p = .016$. Further examination of the means indicate that female respondents ($M = .26$, $SD = .44$) were more likely than male respondents ($M = .04$, $SD = 2.0$) to recommend seeking help from a doctor.

For vignette three, responses were coded “Doctor” in the presence of the words ‘doctor/family doctor/professional’, “Counsellor” in the presence of the words ‘counsellor/counselling/family counselling’, “Parents” in the presence of the words ‘parents need to set more rules/parents need to do a better job’, “Grow Up” in the presence of the words ‘just grow up/he will mature/he needs to act his age’, and “Don’t Know” in the present of the words ‘don’t know/not sure/unsure’. Frequencies of each code, by sex, are shown in Table 14.

Table 14

Number of participants for each code, by sex

Help Source				
	Total	Male	Female	p-value
	<i>n</i> = 88	<i>n</i> = 26	<i>n</i> = 62	
Doctor	12.5%	0.02%	10.2%	.383
Counsellor	12.5%	0.02%	10.2%	.383
Parents	17%	0.07%	0.09%	.113
Grow Up	13.6%	12.5%	0.01%	*.000
Don't Know	0.07%	0.02%	0.05%	.954

*Sig difference ($p < .005$) between male and female on MANOVA analysis

A univariate test shows significant sex differences in recommending help for vignette three $F(4,83) = 10.0, p < .001$. Further examination of the means indicate that male respondents ($M = .42, SD = .50$) were more likely than female respondents ($M = .02, SD = .13$) in suggesting that the individual in vignette three needed to grow up.

At the end of the questionnaire respondents were asked ‘have you or someone close to you ever experienced a mental illness’. 72 total respondents answered yes while 16 total respondents answered no. Of the respondents, 53 female respondents answered yes while 19 male respondents answered yes. Of the respondents, 9 female respondents answered no and 7 male respondents answered no.

CHAPTER 3

Discussion and Conclusions

The aim of the current study was to assess the mental health literacy of young people living in Ontario, Canada, for Major Depressive Disorder, Generalized Anxiety Disorder, and Bipolar Disorder. Specific interest in this study was ability to correctly label mental illness, ability to identify key symptoms, and recommended help sources. Overall, the results revealed a mixed level of knowledge in relation to young people's ability to 'label' these disorders and to identify key symptoms. The fact that there was a marked difference across the sample in using correct terminology in labeling responses of vignette one (0.01% for Major Depressive Disorder and 72.7% for Depression), vignette two (0.05% for Generalized Anxiety Disorder and 36.3% for Anxiety), and vignette three (30.6% for Bipolar Disorder) suggests that, young people have a greater ability to assess abnormal behaviour associated with Major Depressive Disorder and Generalized Anxiety Disorder and correctly label those two disorders as opposed to Bipolar Disorder. This result was expected. Interestingly, a majority of respondents answered with "depression" instead of Major Depressive Disorder and "anxiety" instead of Generalized Anxiety. A possible explanation is that both Major Depressive Disorder and Generalized Anxiety Disorder appear to have slang terminology attached to them, while Bipolar Disorder does not. Therefore, respondents may have answered with slang for Major Depressive Disorder (depression) and Generalized Anxiety Disorder (anxiety) opposed to Bipolar disorder.

Results also found a mixed level of knowledge across the sample for identifying key symptoms of these disorders. Vignette one included five of the 9 symptoms of a Major Depressive Episode, where weight loss/loss of appetite and diminished interest in activities were the two most highly noted symptoms. However, they were closely followed by insomnia, diminished ability to think, and fatigue/loss of energy.

Vignette two included the six symptoms of Generalized Anxiety Disorder, where excessive worry was the most highly noted symptom followed by ability to label a cluster of three or more symptoms associated with Generalized Anxiety Disorder, but this did not follow closely behind excessive worry. Excessive worry for at least six months, ability to control anxiety, clinical significant distress, and focus of behaviour not being attributed to another mental disorder or physiological effect of a substance all received a quite limited number of responses and did not follow closely behind the two higher noted symptoms. These results show that respondents had greater difficulty identifying symptoms of Generalized Anxiety Disorder opposed to Major Depressive Disorder.

Vignette three presented three of the seven symptoms of a manic episode. Mood swings was the most highly noted symptom. While cycles of mania and depression are often found in individuals dealing with bipolar disorder these cycles are not actual diagnostic criteria (American Psychiatric Association, 2013). Depression and personality changes were both the second most highly noted symptoms. Depressive episodes are considered a symptom however not diagnostic criteria as a manic episode must be present to distinguish between Major Depressive Disorder and Bipolar Disorder (American Psychiatric Association, 2013). Personality changes are not a symptom of Bipolar Disorder (American Psychiatric Association, 2013). Simply saying that the individual in vignette three was experiencing a manic episode was noted more often than participant's ability to list the symptoms of a manic episode. The only diagnostic symptom of Bipolar Disorder is a manic episode (American Psychiatric Association, 2013) and ability to label the three symptoms of a manic episode was the least noted symptom. Results show that participants had the greatest difficulty in identifying symptoms of Bipolar Disorder opposed to Generalized Anxiety Disorder and Major Depressive Disorder.

The most important reason to increase mental health literacy for young people is to bring awareness to an epidemic that is directly effecting this age group, adolescents and young people between the ages of 15 to 24 are of the highest risk to be effected by mental illness (Kessler, et al., 2005; Kirby, 2013; Pearson, Janz, & Ali, 2013). Major depressive disorder, generalized anxiety disorder, and bipolar disorder presented the highest prevalence rates among all mental disorders in Canada in 2012, excluding substance use disorders (Statistics Canada, 2012). Results from this study found that the overall sample exhibit greater mental health literacy for Major Depressive Disorder opposed to Generalized Anxiety Disorder and Bipolar disorder, however, there is still room for improvement. Ability to name at least five symptoms of Major Depressive Disorder was inconsistent. While respondents showed greater ability to identify the symptoms of Major Depressive Disorder opposed to the other disorders, there was still no constant number of respondents for each symptom. These results suggest that young people are missing knowledge about all of the symptoms of Major Depressive Disorder, these results are consistent with prior research on Major Depressive Disorder (Burns & Rapee, 2006; Marcus & Westra, 2012).

Ability to identify symptoms for Generalized Anxiety Disorder fell drastically short compared to Major Depressive Disorder, these results were similar to previous studies comparing Major Depressive Disorder and Generalized Anxiety Disorder (Marcus & Westra, 2012). Respondents most highly noted ‘symptom’, excessive worry, is not an actual symptom by itself. The low scores for identifying each symptom for Generalized Anxiety Disorder suggest that young people have little knowledge about Generalized Anxiety Disorder and how it presents itself.

Lastly, ability to identify the symptoms of bipolar disorder also fell drastically short compared to Major Depressive Disorder as well as Generalized Anxiety Disorder. As with Generalized Anxiety Disorder, the most highly noted symptom for Bipolar Disorder, mood swings, is not a diagnostic criteria (American Psychiatric Association, 2013). Depression was the second most highly noted symptom. While Major Depressive Episodes may be common in people dealing with Bipolar Disorder, the only mandatory diagnostic symptom is a manic episode (American Psychiatric Association, 2013), yet, ability to at least identify the manic episodes and to identify the symptoms of a manic episode were the least noted symptoms for respondents. These results suggest that respondents have a very low knowledge about Bipolar Disorder, especially regarding mania and the behaviour associated to a manic episode.

The results show that seeking help from a doctor or mental health specialists was only the most highly noted source of help for vignette two (19.3%), this result goes against previous research, where young adults were found to be significantly less favourable towards accessing any type of professional health for mental health issues, specifically seeking help from a doctor (Marcus & Westra, 2012). Speaking to his parents (27.2%) and speaking to the guidance counsellor (21.5%) were the most highly noted sources of help for vignette one while better parenting skills (17%) and growing up (13.6%) were the most highly noted sources of help for vignette three. These results suggest that, while young people had some knowledge of the extent of the difficulties the individuals in vignette's one and two were experiencing, these difficulties were not seen in vignette three. Results for vignette's one and three are more in line with previous research on young people and help seeking behaviour (Marcus & Westra, 2012).

Ability to label mental illness and identify key symptoms is an important part of mental health literacy and can greatly influence help-seeking behaviour and diagnosis (Jorm, 2000,

Kessler, Lloyd, Lewis, & Gray, 1999). Improvements in mental health literacy would aid general societal understanding of mental health and increase timely interventions for those who need help. Failure in using proper psychiatric labels and knowledge of symptoms can cause communication problems with doctors and health practitioners (Jorm, 2000), in fact, mental illness is underdiagnosed by doctors, leaving more than half of those who meet diagnostic criteria for a mental disorder without a diagnosis (World Health Organization, n.d.). How an individual presents their symptoms has been shown to influence the accuracy of a diagnosis, whereas, if an individual has the ability to properly understand and speak about their symptoms to a doctor or health practitioner they more often than not receive an accurate diagnosis and greater help (Kessler et al., 1999). When individuals communicated with doctors in a psychoanalyzing manner, explanation of symptoms is based on a psychological origin such as difficulty controlling worry, individuals received a more accurate diagnosis, whereas, individuals who normalised their symptoms, explanation of symptoms is based on finding 'normal' reasons for symptoms such as parents recent separation, they were more often not diagnosed at all (Kessler et al., 1999). Young people's ability to better understand their symptoms as a result of a psychological problem and the trigger for these symptoms can lead to higher rates of help-seeking behaviour and better communication with doctors or health practitioners (Jorm, 2000; Kessler, 1999).

An important reason to increase mental health literacy for adolescence and young adults is to increase proper help-seeking behaviour when it is needed. The most common sources of help for vignette one were his parents and the school guidance counsellor. This finding may reflect that participants are familiar with parents and school guidance counsellors as sources of help, these results are similar to prior research on mental health literacy and young people (Burns

& Rapee, 2006). Interestingly, seeking help from a therapist was noted more often than seeking help from a doctor, these results are not similar to prior research (Burns & Rapee, 2006, Marcus & Westra, 2012). A possible explanation may be that current advocacy for Depression awareness has made young adults more aware and more accepting of psychiatric help for Major Depressive Disorder than past research has shown. The most highly noted sources of help for vignette three were better parenting skills and growing up. These results suggest that the behaviour was perceived more often as not being related to a mental illness, and interestingly, respondents placed blame for the behaviour on either the parents or the individual. This is a common myth surround mental illness (Canadian Mental Health Association, n.d.).

The differences between help sources offered for vignette's one and two opposed to vignette three suggest that there may be stigmatizing attitudes towards certain behaviours and/or symptoms. Young people had mixed results in offering recommendations for help services, often throwing out terms as generic as 'professional' or 'counsellor'. These results suggest that young people do not fully understand the differences between the help offered from a counsellor opposed to a trained doctor or therapist. These results echo prior research on help-seeking (Burns & Rapee, 2006). While it is positive to note that young people understand that some form of help is needed, future research would benefit in assessing young people's knowledge about the differences in help offered through different streams of mental health help sources.

Female respondents demonstrated higher mental health literacy, in terms of their ability to determine whether an individual is experiencing a mental illness across all three vignettes, correctly label Major Depressive Disorder and Generalized Anxiety Disorder, and in recommending help sources for Generalized Anxiety Disorder. These results are not surprising and are in line with findings from prior studies (Cotton, Wright, Harris, Jorm, & McGorry, 2006;

Burns & Rapee, 2006). The reasons for these differences were not explored during this research, though there may be several. By late adolescence depression is more often seen in females than males (Lewinsohn, Rohde, & Seeley, 1998) so it may be possible that females will exhibit a greater mental health literacy than males as a result from personal experience with a mental illness themselves or because they know someone who has experienced a mental illness. It is also a common belief that females exhibit more emotional understanding and are more intuitive than males, as well, females often exhibit greater knowledge of inter- and intra-personal processes than males starting in adolescence (Berndt, 1996; Burns & Rapee, 2006; Leadbeater, Blatt, & Quinlan, 1995).

A very important reason to increase mental health literacy in young people, preferably starting in adolescence, is to eliminate the idea that mental health problems are primarily a female health concern (World Health Organization, n.d.). Mental illness can affect anyone and it does not discriminate by gender (Canadian Mental Health Association, n.d.). Statistically, men and women in Canada have relatively similar prevalence rates for Major Depressive Disorder, Generalized Anxiety Disorder, and Bipolar Disorder (Statistics Canada, 2012). Stigma surrounding mental illness in relation to gender negatively impacts help-seeking behaviours (Scheffer, 2013). Women are more likely to talk about their mental illness and/or symptoms, specifically to a doctor or mental health specialist while men are not (World Health Organization n.d.). As well, societal beliefs that mental health issues equate to emotional problems tends to give in to the gender stereotype that women are more prone to mental health issues, thus hindering help-seeking behaviour in males and creating barriers to accurate identification and treatment of mental illness in males (World Health Organization, n.d.). These gender stereotypes become dangerous as individuals dealing with mental health issues have a higher risk of suicide, and men

commit suicide four times more often than women (Canadian Mental Health Association Toronto, n.d.).

Of particular interest in this study were the responses as to the strongest hints that each vignette character was not experiencing a mental illness. The strongest hint that vignette one was not experiencing a mental illness was his parent's recent separation. This result suggests that young people cannot determine the difference between a mental illness trigger incident and normal life stressors. These responses show that young people have less knowledge about the initial causes of mental illness, which may make them less likely to view others, or themselves, as experiencing a mental illness because of a current life situation and commonly believed behavioural responses. The second highest noted for vignette one was no suicidal intent, this result echoes previous research where adolescents exhibited little ability in identifying and putting together the symptoms of Major Depressive Disorder when suicidal intent was not present (Burns & Rapee, 2006).

The most highly noted reason that vignette two was not experiencing a mental illness was the belief that she simply had no self-esteem or lacked self-confidence. It is interesting that participants responded with this as the vignette clearly references excessive worry about a number of different issues. This may be due to vignette two being a female, therefore, respondents may have suspected her to be more self-conscious. This was not examined in the current study, however, future research should look into the gender differences of mental health literacy between male and female vignettes dealing with the same mental illness. The second highest noted reasons were that she cared too much about what people think and her dating life. These results show that young people had a difficult time putting together all the worries, but instead, focused primarily on the superficial anxieties, and seemingly belittled these as non-

important behaviours. Again, a possible explanation for this could be vignette two's gender, however this was not studied further in this research though future research should look into mental health literacy of gender stereotypes in the same disorders.

Interestingly, the most highly noted reason that vignette three was not experiencing a mental illness was that participants believed he was behaving normal, that is, not exhibiting abnormal behaviour and behaving typical of a teenage male. These results suggest that young people are unable to identify the behaviours exhibited during a manic episode. Vignette three referenced risky behaviours (excessive partying, drug use, leaving parties with stranger, and risk sexual behaviour), flight of ideas, excessive talking or need to talk, and stealing from his parents. A possible explanation for these results could be that societal norms have changed regarding appropriate behaviour (Deane, 2013). It is becoming more acceptable now for adolescent and young people to exhibit risky behaviour, and it is even being suggested that older generations allow these behaviours as a means of growing up (Deane, 2013). The possibility that the young people in this study share these beliefs may explain why they were unable to identify the erratic behaviour exhibited in this vignette, instead, assessed this behaviour as normal for a teenage male.

The second most highly noted reason respondents gave was the label "partier", or suggesting he just liked to party. Beliefs about adolescent and young people being given looser restraints on partying, alcohol, drugs, and their behaviour in general may also explain the reasoning behind this response. Lastly, respondents suggested that vignette three was not dealing with a mental illness, however, the behaviour was the result of bad parenting. The idea that bad parenting "causes" mental illness is a prominent myth surrounding mental illness (Canadian Mental Health Association, n.d.).

An important part of increasing mental health literacy is to decrease the stigma attached to it. Persons diagnosed with a mental illness are often subjected to prejudicial attitudes and discriminating behaviour from the general public through social and personal stigma (Davey, 2013). Social stigma is related to how the public perceived individuals with a mental illness diagnosis. The results from this study show that young people do not seem to hold high levels of stigma towards Major Depressive Disorder, however, they do more often associate Generalized Anxiety Disorder with an individual's character, perceiving Alexandra as weak. Perceiving Alexandra as having a weak character was demonstrated in the high number of responses suggesting that she simply had low self-esteem and that she cared about others opinions too much. These responses suggest that individuals associated some of Alexandra's worries to an inability to ignore the opinions of others and allow them to negatively impact her life and her self-image, instead of being able to cluster all of her worries together as being abnormal anxiety. Young people also tended to perceive Cameron as incompetent as opposed to dealing with a mental illness. Perceiving Cameron as being incompetent was demonstrated in the high number of responses suggesting that he needed to grow up. These responses suggested that respondents assessed Cameron's behaviour as a reflection of his character rather than the symptoms of manic and depressive episodes. Social stigma has been shown to negatively influence help-seeking behaviour (Cooper-Patrick et al., 1997) and also reinforces misinformed beliefs about mental illness (Angermeyer & Matschinger, 1995; Stuart, 2003).

Increasing mental health literacy can help eliminate social stigma and influence greater help-seeking behaviour. Personal stigma refers to how the affected individuals feel about themselves. Often, individuals diagnosed with a mental illness begin to believe that they are defined by their diagnosis and the negative beliefs the public associates with it (Rüsch et al.,

2005). Personal stigma is also connected with low help-seeking behaviour (Eisenberg et al., 2009). Increasing mental health literacy can reduce personal stigma and increase help-seeking behaviour. Mental health literacy can educate young people on the facts about mental illness and help to eliminate the myths surrounding it.

Limitations

As this was an anonymous online questionnaire we had no control over what people say about themselves and we had to rely on the honesty of participants. While the amount of information given to the subjects about the nature of the questionnaire was as restricted as possible, we could not entirely control response bias. Response bias refers to a range of cognitive biases that can influence the responses of participants away from an accurate or truthful response (Furnhan, 1986; Nederhof, 1985). For example, social desirability bias is when respondents answer in a way that makes them look more favourable to the experimenter (Furnham, 1986; Nederhof, (1985). It is important to note that this study had a small sample size of 88 respondents, 26 male respondents and 62 female respondents.

Conclusions

The results of the present study suggest that young people have greater mental health literacy for Major Depressive Disorder compared to Generalized Anxiety Disorder and Bipolar Disorder. However, the results also show that there are still gaps in knowledge about Major Depressive Disorder, specifically in ability to use correct psychiatric terminology, ability to identify symptoms, and ability to recommend appropriate help sources. Across all three disorders, young people showed a limited ability to use correct psychiatric terminology, limited ability in identifying symptoms, and limited ability in referring appropriate help sources. These

limitations point to the importance of developing interventions and mental health education courses that are tailored to this important age group and to adolescence. Efforts in developing mental health interventions and education courses that are well rounded to include information regarding more mental disorders than just Major Depressive Disorder, proper terminology, and symptom recognition, and treatment options are particularly important given the high prevalence of mental health issues among young adults and adolescents (Kessler, et al., 2005; Kirby, 2013; Pearson, Janz, & Ali, 2013; Statistics Canada, 2012).

To date, popular interventions focusing on young adults within Canada are primarily focused on Major Depressive Disorder (Bell Let's Talk, 2015; Depression Hurts, 2015) and there is no consistent mental health education courses offered to youth throughout the Ontario Secondary curriculum (Ontario Ministry of Education, 2015). Canadian education campaigns and educational courses should build on these to incorporate other mental disorders and the specific needs of Canadian young adults, such as the need for greater symptom recognition, stigma associated with mental illness, and treatment options available. Interventions that focus on these key areas for Canadian youth can increase help-seeking behaviour and increase accurate diagnosis when it is needed (Eisenberg et al., 2009; Jorm, 2000; Rüsçh et al., 2005; Scheffer, 2003).

In conclusion, initiatives to development of mental health literacy interventions and education courses should be based on the needs and preferences of Ontario young people. Future efforts should be aimed at both improving young people's attitudes towards mental illness and mental health treatment options and educating young people on the proper terminology of mental illnesses and recognition of symptoms and how they present themselves. The development of these interventions and courses are vital to improving help-seeking behaviour by young people

and general social acceptance of mental illness in young people. Lastly, these findings also suggest the need for future mental health literacy studies to explore differences in symptom recognition for gender associated with the symptoms, for other mental disorders, and for younger populations, specifically under the age of 18.

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Appendix A: Mental Health Literacy Questionnaire

Age:

Gender:

Current Province of Residence:

Thank you for agreeing to participate. Please read each of the 3 scenarios and answer the questions that follow about them.

Tony is in grade 9. His parents recently separated after an extended period of fighting. Tony's guidance counsellor called a meeting with his mother to discuss his school progress. Over the past 9 months there had been deterioration in Tony's school grades, and he was often late getting to school. Tony explained that he had been feeling constantly tired lately, and was finding it difficult to get to sleep at nights – that was why he was not able to get out of bed in the mornings. His mother said that she thought he was not eating enough – in fact, she thought that he had lost quite a bit of weight over the last few months. In relation to his school grades, Tony said that although he wanted to do well, he found that he just couldn't concentrate or think as well as before. The guidance counsellor said he thought it would be a good idea for Tony to start playing on the school soccer team again, as he had always enjoyed it so much. Tony said that he just wasn't that interested in soccer or anything else lately.

Do you think that Tony is experiencing a mental illness?

If you answered yes, to which mental illness do you believe Tony's symptoms are related?

Which parts from Tony's story are the strongest hints to you that he IS experiencing a mental illness?

Which parts from Tony's story are the strongest hints to you that he is NOT experiencing a mental illness?

How do you think Tony should cope with his problems? Please explain your answer.

Alexandra, a 22 year old employed female. She has recently started dating again after the end of a long relationship. She describes herself as a worrier and her family would say that she worries too much. As long as she can remember she has had a hard time controlling her worrying behaviour, often worrying about her appearance, being on time, whether her friends like her, whether her family like her, or whether she will ever be successful. Now she finds herself excessively worrying about whether men will find her attractive, her position at work, her weight and her health. She constantly feels exhausted, her muscles always feel tense, and her worries intrude when she tries to relax. She has a hard time concentrating and always feels tense and jumpy. Her worries often keep her from falling asleep or wake her up during the night.

Do you think that Alexandra is experiencing a mental illness?

If you answered yes, to which mental illness do you believe Alexandra's symptoms are related?

Which parts from Alexandra's story are the strongest hints to you that she IS experiencing a mental illness?

Which parts from Alexandra's story are the strongest hints to you that she is NOT experiencing a mental illness?

How do you think Alexandra should cope with her problems? Please explain your answer.

Cameron, a 17 year old high school student, has many friends. His friends describe him as sometimes very talkative and full of idea but at other times distance and sad. He has been known to participate in risky behaviours such as excessive partying, recreational drug use, and leaving parties with strangers. But at other times he has no interest in social activities or school and is easily distracted. Cameron's teachers express concern as his school work tends to be inconsistent. He can be the best student in the classroom but often he applies no effort and appears apathetic and unfocused. Once when Cameron appeared to be in a good mood he stole his parent's credit cards and spontaneously purchased expensive items. Other times his parents have a difficult time getting Cameron to leave his room and cannot cheer him up.

Do you think that Cameron is experiencing a mental illness?

If you answered yes, to which mental illness do you believe Cameron's symptoms are related?

Which parts from Cameron's story are the strongest hints to you that he IS experiencing a mental illness?

Which parts from Cameron's story are the strongest hints to you that he is NOT experiencing a mental illness?

How do you think Cameron should cope with his problems? Please explain your answer.

Have you or someone close to you ever experienced mental illness?

Yes

No

Although this was a minimal risk study, some people may have felt uncomfortable answering questions presented throughout the questionnaire. If you desire, additional support can be obtained through the following resources.

<http://www.mooodisorders.ca/>

<http://www.canmat.org/>

<http://www.dbsalliance.org/>

<http://depressionhurts.ca/en/>