Severity and gendered mental disorders: Does perceived illness severity influence gendered stereotypes of mental health stigma?

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Thesis submitted to the Department of Psychology in Partial Fulfillment of the Requirements for the Master of Arts Degree in Clinical Psychology.

Abstract

Compounding the already difficult nature of mental illness is the stigma attached to it, and mental illness is highly stigmatized. Social scientists have begun to explore and find evidence that stereotypes are not always unitary constructs, but they interact and influence one another. Boysen (2017a; 2017b) and Boysen and colleagues (2014) have found evidence for "gendered mental disorders", the relation between gender stereotypes, mental disorder, and stigma, and have found clear evidence for the existence of gendered stereotypes for mental disorders: stereotypically "masculine" disorders elicit more stigma than stereotypically "feminine" disorders. Perceived severity of the illness may also play a role and may interact with gendered stereotypes. The current study supported previous findings that men are more stigmatized than women and that men with masculine stereotyped mental health disorders (i.e. gambling disorder) are significantly more stigmatized than men with feminine stereotyped mental health disorders (i.e. bulimia nervosa) or women. Severity proved to be a significant factor in predicting stigma, however, it was not found to be the only factor associated with increased stigma towards certain disorders. Differences in stigma towards different disorders appear to be influenced by interactions between target sex, disorder gender, and perceptions of severity.

Keywords: mental illness, stigma, gender, severity

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Gendered Mental Disorders and Severity: Does Perceived Illness Severity Influence Gendered Stereotypes of Mental Health Stigma?

It is estimated that at least 1 in 5 individuals suffers from a diagnosable mental illness in a given year and at least 25% of individuals will be affected by a mental or behavioural disorder at some point in their life (World Health Organization, 2002). At any point in time, about 10% of the adult population is experiencing a mental or behavioural disorder and at least 1 in 4 families will have one or more members seeking mental health treatment (WHO, 2001). Compounding the already difficult nature of mental illness is the stigma attached to it, and mental illness is highly stigmatized (Boysen et al., 2014). As a result, many mental health and substance use difficulties are widely and significantly underacknowledged and underreported and thus underdiagnosed and undertreated (Baumann, 2007; WHO, 2001; 2002). Stigma is a significant limiter and barrier to accessing help and is often a top cited reason for inhibiting individuals from seeking treatment (Corrigan, 2004; Phelan & Basow, 2007; Vogel et al., 2006). Consequently, only a small minority of those who experience mental or behavioural disorders seek or receive treatment. As more individuals experience mental health difficulties without addressing or without receiving proper care, there is an increasing burden and "treatment gap"; individuals remain ill for much longer and symptoms worsen (WHO, 2001). As this treatment gap widens, the disability burden will continue to grow exponentially.

The purpose of the current paper is to examine the relationship between mental illness stigma and gender. In particular, the relationships between gender, sex, and severity, and how these variables influence public stigma ratings, will be examined. Starting with the literature review, we discuss mental illness stigma broadly (background, definitions, and theories) and how mental illness is measured and understood in the social science literature (e.g. social distance,

dangerousness, responsibility, and rarity). The intersectional nature of mental illness stigma with sex and gender stereotypes is discussed in detail as well as influential work by Boysen and colleagues, as the current study builds on their research. Following this literature review is an outline of the current study (design, measures, and materials) and procedure. Results will then be presented for each hypothesis and explored in more depth in the discussion section. The paper ends with a discussion of the current study's limitations and implications as well as suggestions for future directions.

Conceptualizing and Defining Stigma

The word stigma comes from the Greek word *stizein;* which translates to a "distinguishing mark", such as a brand or tattoo (Arboleda-Florez & Stuart, 2012). The term *stigma* was created to identify abnormalities or unusualness, and to expose the "bad" moral status of the individual in question (Goffman, 1963). These signifiers were quite literally cut or burned into the individual in order to advertise that the bearer of the mark was an immoral being. The signals noted to the public that this person was somehow blemished or polluted and thus must be avoided and excluded, tainting their social identity. These blemishes become the central aspect of the individual's identity and reduce the person from a whole; the individual now deemed flawed and "less than fully human" and considered to have shortcomings and failings of the body, mind, and character (Goffman, 1961; 1963; Pescosolido, 2013).

While the general concept of stigma well preceded his work, Erving Goffman can be credited for bringing serious attention to different potential targets of stigmatization, in particular, psychiatric patients and mental illness stigma. Most previous stigma research focused on race or gender as the central aspect of prejudice and discrimination (Galinsky et al., 2013; Goff et al., 2008; Johnson et al., 2012). Goffman brought the scientific study of stigma to mental

illness, primarily through his work *Stigma: Notes on the Management of a Spoiled Identity* (1963).

As highlighted by Goffman (1963), stigmatization is an inherently relational and social construct. Stigma does not lie within the individual, rather it lies in the social context. Stigma is generated and perpetuated within a social arena and its meaning and implications are relationship- and context-specific; it is conferred by one social group upon another social group (Arboleda-Florez & Stuart, 2012). The act of labelling is thought to be influenced more by the social characteristics of the labeller and the specific social context and circumstances rather than the person being labelled (Scheff, 1966; 1974; 1984). Thus, stigma is a social phenomenon curated by the culture and structure of society; a label attached by society that can only be enacted in social circumstances (Goffman, 1961; Major & O'Brien, 2005; Pescosolido, 2013). While people are no longer "tattooed" in a literal sense, stigma is applied to identify and disgrace the individual (Goffman, 1963). Often it is a "tattoo" of social disapproval due to real or imagined individual characteristics, beliefs, and/or behaviours that are against the dominant social, cultural, economic, and political norms (Lauber, 2008). Accordingly, stigma is incredibly variable across time and cultures, as well as what behaviours or attributes are stigmatized (Major & O'Brien, 2005).

Definitions

Stigma refers to the culmination and consequences of stereotypes, prejudice, and discrimination. Stereotypes are widely held beliefs and associations that link whole groups of people with certain characteristics or traits (Campbell, 1967; Kassin et al., 2005; McGarty et al., 2002). They are real or assumed characteristics learned through direct or indirect exposure to the stereotyped group (Arboleda-Florez & Stuart, 2012; Lauber, 2008). Quite often, these beliefs are

oversimplified, rigid, or distorted and tend to be negative in connotation while being framed as "fact-based" (Arboleda-Florez & Stuart, 2012)

Stereotyping is an undesirable side effect of mental shortcuts and social categorization. Grouping and classifying objects and people are mental and social organization tools that help to simplify and enhance one's ability to recall, store, manipulate, and negotiate information in our complex social interactions and relationships (Allport et al., 1954; Hinshaw & Cicchetti, 2000; Macrae & Bodenhausen, 2000). When categories become extreme, inflexible, or negative, these groupings become unhelpful as they can inhibit our judgements and lead to faulty conclusions. Stereotypes are particularly harmful as they pigeonhole individuals and reduce their identity to a faulty typecast (Hinshaw & Cicchetti, 2000).

Prejudice is the affective component that accompanies the stereotype (Allport et al., 1954; Allport, 1979; Lauber, 2008). It is a negative feeling about others because of the connection between them and their social group (Kessler et al., 2005). Quite literally, prejudice is a "pre-judgement" which consists of preconceived feelings, opinions, and attitudes the individual has. Often, these attitudes are based upon stereotyped knowledge and unfortunately thus come from insufficient, unjustified, and/or faulty knowledge structures (Hinshaw & Cicchetti, 2000).

When stereotyping and prejudice are persistent, they can become attitudes. Attitudes are based on a combination of beliefs, emotions, and behaviours and are generally settled and stable evaluations and ways of thinking about people, objects, groups, or issues (Petty et al., 2014). Particularly strong attitudes are those which are resistant to change, stable over time, and can be influential on cognition and behaviour (Petty et al., 2014). Current attitude models suggest that attitudes are linked in memory with various beliefs, emotions, and behaviours (Petty et al., 2014). Attitude structures rely on memory networks, which are a combination of an individual's

thoughts, feelings, and personal and learned experiences about someone or something. An object or person is judged based on what the memory network looks like and what information and experiences it is made up of. As such, attitudes are often easily accessible and "automatic" and are connected to other attitude structures.

Discrimination is the behavioural component and refers to negative and unfair treatment directed toward a person or group (Hinshaw & Cicchetti, 2000; Lauber, 2008); it is an expressed result of stereotypical thoughts and prejudiced feelings (Allport et al., 1954; Corrigan & Lee, 2013; Lauber, 2008). Although stereotypes and attitudes do not reliably predict behaviour (LaPiere, 1934; Wicker, 1969), discrimination can be the result of the complex relationships between emotions and behavioural intentions (Boysen, 2017b). The treatment or behaviour can be overt, like the direct rejection of a visible minority job applicant, or covert, like the inattention of crime committed against minority peoples and neglect of minority victims.

Stigma also operates at many different relational and social levels. At the micro level is self-stigma and stigma by association. Self-stigma is stigmatizing beliefs about oneself. It is the internalization of prejudices and discrimination. This often leads to harmful cognitive and emotional effects such as reduction of self-worth self-esteem, caused by labelling oneself as socially unacceptable or abnormal (Corrigan & Lee, 2013; Vogel et al., 2006). Self-stigma can lower an individual's internal self-concept and efficacy (Corrigan & Lee, 2013). There are often feelings of inadequacy, weakness, failure, and/or incompetence. Stigma consciousness (Pinel, 1999) often leads to self-blame, silence, and shame. It takes considerable energy to hide, lessen, or conceal illness symptoms from others. In addition, the act of hiding symptoms perpetuates a damaged self-concept, esteem, and can result in self-denigration.

Stigma by association (courtesy stigma/associative stigma) is often experienced by family, friends, and acquaintances. In this case, it is not only the stigmatized individual, but it is also the individuals who are affiliated with someone who is stigmatized. Simply through association they share the "taint" and some of the discredit of stigma (Pryor et al., 2012). They themselves are socially rejected and experience a secondary stigma from associating with the ill individual (Van Dorn et al., 2005). It spreads through different types of association including meaningful relationships such as family and close friends, ethnic identifications, and chosen affiliations (Pryor et al., 2012).

At the macro level are public and structural stigma. Public stigma occurs when the general population endorses stereotyped and prejudice attitudes and act in discriminating ways (Corrigan, 2004; Corrigan & Lee, 2013; Vogel et al., 2006). It refers to the negative attitudes and beliefs that work together to motivate others to fear, avoid, reject, and discriminate against those with mental illness (Parcesepe & Cabassa, 2013). Public stigma is what and how the public feels and behaves towards those with specific characteristics and is the perception held by a group, public, or society that deems an individual socially unacceptable (Vogel et al., 2006). This type of stigma is associated with lack of treatment engagement, poor treatment outcomes as well as reduced autonomy and self-efficacy (Parcesepe & Cabassa, 2013). Public stigma is significant as it not only sets the context for how individuals perceive and respond to mental health problems and symptoms, but how others treat them and how public policy and legislation is crafted (Parcesepe & Cabassa, 2013). Indeed, the implications of public stigma are profound. It is perhaps one of the most well-known types of stigma and is the focus of the current paper.

Structural stigma is often subtler and more covert and functions at the policy and economic level. This includes social, political, economic, and legal structures. Structural stigma

operates through institutional and governmental organizations and other public or private positions and institutions of power. They often include rules, policies, and procedures that either intentionally or unintentionally restrict rights and hinder opportunities for minority groups (Corrigan & Lee, 2013). Structural stigma is often more covert such as the absence of appropriate services for minorities or preference given to non-minority peoples. Social policy and legislation not only place a number of limitations and restrictions on minority groups, but they actively target and seek out to penalize and criminalize minority populations either overtly or covertly. For instance, an overt example is the intentional segregation and genocide of indigenous peoples in Canada while a more covert example is job discrimination, lack of housing, and lack of appropriate medical and legal care offered or available (Hinshaw & Cicchetti, 2000).

Unfortunately, mental illness is a double-edged sword (Schomerus et al., 2010); one must not only deal with the illness, its symptoms, and how it affects one's overall and day-to-day life, but one must also deal with the numerous relational and societal repercussions. Stigma exacerbates the already onerous medical and health difficulties of mental illness by adding relational and social repercussions.

Theories and Conceptual Models of Stigma

Labelling Theory

The role of labels and labelling has been acknowledged as a powerful and consistent contributor in stigma, prejudice, and discrimination (Angermeyer & Matschinger, 2003; Link et al., 1999; Link & Phelan, 2006; Pescosolido, 2016; Phelan & Basow 2007; Rosenfield, 1982). Labelling someone leads to more adverse reactions from the public and more rejection (Angermeyer & Dietrich, 2006). Labelling theory (Scheff, 1966; 1974; 1984) recognizes and

emphasizes social attribution and the important role of "labelling", strongly emphasizing the powerful role of words and labels in creating and shaping an individual's perceptions and experiences, as well as how others think, feel, and behave toward them.

Researchers have criticized Labeling Theory's particular focus on labels as a direct cause of stigma. It is questioned whether stigma is primarily caused by a specific label (e.g., "mentally ill", "schizophrenic") or if it is a result of the behaviours with which it is associated (Boysen et al., 2014, Chauncey, 1975; Dietrich et al., 2004). Some have suggested it is not the label itself that brings forth stigma and rejection, rather stigma is a direct response from the symptomatic behaviour of the individual; that labels were the consequence of odd and deviant behaviour as opposed to it being the prime cause of deviancy (e.g., speech, movement, or thought irregularities; Gove, 1975).

Modified Labeling Theory

Regardless of the direction of influence, it is widely acknowledged that the label of "mental illness" and its implications matter, and researchers have agreed that the role of labelling in stigma is extremely important as it is likely both systems (i.e. the label and the symptomatic behaviour) working together which influences stigma, as opposed to just one or the other (Angermeyer & Dietrich, 2006; Link & Phelan, 2006; Pescosolido, 2016; Phelan & Basow 2007). Link and Phelan (2006) thus developed Modified Labeling Theory which focuses less on labeling as a direct cause of mental illness and more on the social consequences of labelling. The modified theory suggests that labelling and stigma jeopardize the life circumstances and experiences of those with mental illness by harming their self-esteem, social networks, and employment opportunities. Without losing sight of the importance of labelling, the focus is much less on the label as it is on the personal, social, and relational consequences. By having such

disadvantages, people who experience mental illness labels are at greater risk for the prolongation, exacerbation, and reoccurrence of mental illness and its symptoms (Link & Phelan, 2006).

The modified labelling theory proposes that there are five interrelated components which produce and perpetuate stigma: labelling, stereotyping, separation, discrimination, and exercise of power. Similar to the original theory, the first component, labelling, emphasises the importance of the labelling process and the specific labelling of "difference" as one of the first steps toward the development and maintenance of stigma. The label is significant because it not only identifies and marks a difference, but also often adds to it the second component, stereotyping, by adding a value judgement which is often negative or undesirable (Angermeyer & Dietrich, 2006). While many differences between individuals and groups are more or less socially irrelevant (e.g., handedness, preferred foods) some differences have been deemed socially meaningful in certain social contexts (e.g., race, gender, sexual identification and orientation, socioeconomic status; Link et al., 2004). The label provides the individual with a new marking, and thus new "meaning", group, and categorization, which has specific implications about who that individual is and can be (Angermeyer & Dietrich, 2006).

Labelling is particularly harmful because it can influence how one interacts and treats those with that designated "label". Research has demonstrated that when individuals are informed that an individual has a mental illness there are more negative attitudes expressed along with a greater desire for social distance (Angermeyer & Dietrich, 2006; Phelan & Basow, 2007). Separation is the third component of modified labeling theory, a phenomenon also often referred to as "othering" in the social science research. Separation is a distinct and very important dissociation; it separates, excludes, and isolates the labelled group. Through this process, the

labelled and stereotyped group is separated and alienated from the dominant group (Angermeyer & Dietrich, 2006). Separation acts as a distancer between "us", the ones who are not mentally ill, and "them", the ones who are "mentally ill". In this way they become the "other", an outgroup that is considered different and is thus disassociated from and excluded from the dominant group.

Perhaps the most damaging is when stereotyped attitudes and prejudice feelings are expressed. The fourth component, discrimination, is when the "other" is devalued, rejected, and excluded through overt or covert means. Often it is the undesirable difference or character label that is used as a rationale to do so and emotions, prejudice, and faulty knowledge structures are often exploited in order to fuel this.

The final component, the exercise of power, is crucial to this process and sets the arena for stigmatization to occur. There requires a fundamental imbalance of power for separate "dominant" and "subordinate" groups to even exist (Link & Phelan, 2001). Stigma relies on the unequal access to social, economic, and political power and resources (Pescosolido, 2013).

Social Attribution Theory

Attribution theory has become an important framework for explaining the relationship between stigmatizing attitudes and discriminatory treatment as it highlights the connections among ideas, emotions, and behaviour (Corrigan et al., 2003; Weiner, 1995). This area of research particularly focuses on the attitudes towards those with mental illness and how those attitudes influence discriminatory behaviour (Corrigan et al., 2003; Link et al., 1999; Pescosolido et al., 1999; Rosenfield, 1982).

The social attribution theory of stigma comes from the social cognitive perspective and is a model of human motivation and emotion (Corrigan, 2000). It suggests that behaviours are a

result of cognitive-emotional processes; that people have thoughts and ideas about mental illness, which leads to specific emotions, which ultimately leads to behaviour. Crucial to the social cognitive theory is the powerful role of meaning-making; that humans are naturally motivated to search for meaning in everyday events in order to understand and make sense of the world around them. It suggests that individuals search for "how" and "why" something comes about and individuals create theories, connections, and reasons to explain it. This is particularly important in understanding stigma as it illuminates and emphasizes the essential and crucial role of emotion and social context and their influence on labelling, prejudice, and discrimination.

Stigma is understood in terms of knowledge structures (Corrigan, 2000). Knowledge structures are an efficient way that people catalogue information and each one consists of what one knows about the particular person or object in question; it is a prototype of what it means to us and how we think, feel, and act toward it. In particular, that individuals make attributions about the cause (e.g., genetics, trauma) and controllability (e.g., medication use, symptom management) of an illness which lead to inferences about responsibility (e.g., their "fault" versus not). These inferences lead to different emotional reactions (e.g., anger, pity, fear, compassion) which affect how an individual behaves toward that person (e.g., care for and help them versus avoid, fear, and harm them; Corrigan et al., 2003).

Stigma of Mental Illness

Multiple general dimensions of mental illness have been suggested in order to understand stigma as well as factors that influence people's willingness to interact with those with mental illness. Feldman and Crandall, (2007) found that people with mental illness tend to be stigmatized based on seven dimensions: dangerousness, disruptiveness, being out of touch with reality, rarity, personal responsibility, degree of avoidability, and not being treatable with

medication. A regression analysis narrowed these factors down to 3 core dimensions of stigma that leads to social rejection and desire for social distance: dangerousness, personal responsibility, and rarity. Mental illnesses that lead to a greater desire for social distance from the public are usually perceived to be dangerous, rare, as a result of personal responsibility, or some combination of the three. Indeed, Feldman and Crandall (2007) note that these three characteristics account for so much of the variance in social distance scores, that they call them the "big three" dimensions of mental illness stigma.

Social Distance

One of the most widely studied and commonly used measures of mental illness stigma is the desire for social distance. Social distance is recognized as a proxy measure of psychiatric stigma and is a predominant measure utilized by researchers (Boysen et al., 2014; Jorm & Oh, 2008; Link et al., 2004; Marie & Miles, 2008; Parcesepe & Cabassa, 2013). It is often the primary mechanism for researchers measuring stigma (Parcesepe & Cabassa, 2013). Social distance is the degree of proximity an individual is comfortable with in relation to the stigmatized target (Parcesepe & Cabassa, 2013); it is a kind of "social tolerance", or an individual's willingness to associate or engage with others who demonstrate psychological problems. This can include living in the same neighborhood, working at the same establishment, or having a close personal friend or family member with mental illness (Schnittker, 2008). The tendency to distance oneself from persons with mental illness has been consistently found by stigma researchers (Boysen et al., 2014; Jorm & Oh, 2008; Link et al., 2004; Marie & Miles, 2008; Parcesepe & Cabassa, 2013).

The desire for social distance increases when the individual is presented with a social situation that implies or requires social closeness (Lauber, 2004). Unsurprisingly, individuals

appear to be more willing to have distant social relationships than close social relationships with those with mental illness (Lauber, 2004). The more intimate or "perceived closeness" of the setting, the more people respond with distance and rejection (Lauber, 2004). For instance, individuals appear to be much more comfortable having a passing interaction with someone with mental illness or having them as a friend of the family than working directly with them or having that individual marry into the family (Pescosolido, 2013). According to a 2008 survey, 42% of Canadians were unsure whether they would socialize with a friend who had mental illness and 55% said it would be unlikely for them to marry someone with mental illness (Canadian Medical Association, 2008). Social distance has shown to be greatest for alcohol and drug use disorders, schizophrenia, and depression with highest avoidance for those with a substance addiction (Parcesepe & Cabassa, 2013).

The desire for social distance can also be understood as affective distance (Karakavali, 2009). When social distance increases, relationships tend to lose their affective content, or worse, negative affections start to dominate the relationship (Karakayali, 2009). When we are socially close to someone, we experience mutual understanding, empathy, and fairness (Karakayali, 2009). If we have identified an individual as a member of an outgroup, and thus someone we are not socially close to, we are identifying that they do not belong with us and do not feel a kinship. These feelings of personal, relational, and social distance to those who are different from us manifest themselves physically into real life through discrimination. Personal contact with someone with mental illness is associated with decreased perceptions of dangerousness, stigma, and discriminatory attitudes and behaviours (Parcesepe & Cabassa, 2013).

Social distance is a robust measure of mental illness stigma and it demonstrates the consequences of stigma as well. It helps understand the depth and breadth of mental illness

stigma; the same attitudes that predict the desire for social distance also predict other aspects of stigma such as discriminatory behaviours (e.g., coercive treatment; Boysen et al., 2014).

Dangerousness

One of the most consistently cited contributing factors to increased mental illness stigma is dangerousness (Corrigan et al., 2003; CMHA, 2011; Parcesepe & Cabassa, 2013). Dangerousness is the extent to which people believe that those with mental illness pose a threat, either to themselves or others. The perception of danger is a central aspect of the stereotype of mental illness and has been consistently recognized in stigma research (Boysen, 2017; Feldman & Crandall; 2007; Goffman, 1971; Link et al., 1999, Parcesepe & Cabassa, 2013; Phelan & Basow, 2007). Perceptions of dangerousness to the self and others has been consistently associated with increased preferences for social distance (Parcesepe & Cabassa, 2013).

Many studies using vignette conditions have repeatedly shown significant and strong associations between mental illness and beliefs about violence (Boysen, 2017; see Link et al., 1999; VanDorn et al., 2005; van't Veer et al., 2006). For instance, respondents viewed those with schizophrenia, depression, alcohol dependence or drug dependence as more likely to be violent than the general public who have "normal", everyday troubles (Parcesepe & Cabassa, 2013). There are also differing opinions about levels and types of dangerousness among those with mental illness. For instance, schizophrenia is significantly more likely to be judged as dangerous than other disorders (Link et al., 1999; Marie & Miles, 2008; Parcesepe & Cabassa, 2013). Those who are alcohol dependent are more likely to be perceived as unpredictable and a harm to others, while those with depression are more likely to be perceived as a harm to themselves (Angermeyer & Dietrich, 2006). Another study found that those with substance use and psychotic disorders seemed to connote increased perceptions of dangerousness both to

themselves and others (Parcesepe & Cabassa, 2013; Phelan & Basow, 2007). Indeed, the public opinion appears to have clusters of more dangerous conditions like substance use disorders and schizophrenia, and less dangerous like depression, anxiety, and dementia (Angermeyer & Dietrich, 2006).

Responsibility and Controllability

Personal responsibility refers to the degree in which people believe that an individual is at fault for their illness. It refers to the amount of control or input the individual has had in regard to the onset, symptoms, or coping of the illness. Those who are seen to have controllability of a cause or some volitional influence are more stigmatized (Angermeyer & Dietrich, 2006; Corrigan et al., 2003; Schomerus et al., 2010; Parcesepe & Cabassa, 2013). Individuals appear to put more blame on those who are seen to be in personal control or are culpable and more stigma toward those who "bring it on" themselves (e.g., mental disorder due to traumatic brain injury versus drug use). When individuals believe that an illness is under the ill individual's control, they tend to show less pity and more anger (Corrigan et al., 2003). For instance, in regard to physical health, Weiner and colleagues (1988), found that judgements on blindness or homelessness varied depending if the onset was seen as controllable versus uncontrollable. In regard to mental health, a study by Angermeyer and colleagues (2002) fond that individuals thought those with alcohol use disorder held much more personal responsibility when compared to those with schizophrenia or depression; approximately 75% of respondents thought alcohol use disorder was due to lack of willpower when compared to schizophrenia or depression (Angermeyer et al., 2002). The idea of a "bad character" has also been seen much more frequently as a cause for alcohol use disorder than for depression or schizophrenia (Link et al., 1999; Pescosolido et al., 2010; Schnittker, 2008).

Origin is an important dimension for responsibility stigma attitudes; if the individual is believed to be personally responsible for the onset or exacerbation of their illness, they tend to face greater stigma (Corrigan et al., 2003; Feldman & Crandall, 2007). Controllability refers to the characteristics of the cause (how it came about) whereas responsibility refers to a judgement about the person (if they aided in bringing it about or not; Corrigan et al., 2003). If the cause of the event or outcome can be attributed to factors that were or are in the individual's control, then they are much more likely to be thought of and judged as personally responsible (e.g., drug-induced schizophrenia). A study by Corrigan and colleagues (2003) found that beliefs about increased personal responsibility decrease pity and increase anger and fear. When an individual is believed to be responsible for their illness, the effects of controllability on pity and anger are significantly reduced. That is, when someone believes an individual is somehow at fault for their illness pity drops and anger rises. On the contrary, if the illness is caused by factors outside of the individual's control (e.g., genetic factors, injury or accident) then they are less likely to be judged as responsible (Corrigan et al., 2003). People have ideas and stereotypes as to which disorders are more blameworthy; most believe schizophrenia and depression to be due to chemical imbalances in the brain while substance use disorders were seen as a result of faulty personal character and how the individual was raised (Link et al., 1999).

When determining responsibility, personal belief systems have found to be important. For instance, individuals who hold moral models of mental illness tend to also hold beliefs that those who are mentally ill are somehow blameworthy or are not "trying hard enough" (Corrigan et al., 2000). They are also more likely to believe those with mental illness are unpredictable and dangerous. It has also been found that having a medical understanding of mental illness leads to greater desire for social distance (Boysen & Gabreski, 2012). A potential explanation for these

strict and rigid understandings of mental illness is essentialism: that individuals with mental illness are intrinsically deviant and thus unable to be rehabilitated or changed (Boysen & Gabreski, 2012). It is to see mental illness (and people), as discrete and unchanging categories and to believe that there are clear and distinct boundaries between groups that are fixed or unchangeable. It is to believe that these groups exist across time periods and locations; in other words, that they are universal, right, true, and undefiable (Boysen & Gabreski, 2012).

The belief that those with mental illness cannot be rehabilitated in combination with the common belief of dangerousness results in a particularly high penchant for exclusionary, discriminatory, and controlling practices. The more people believe that mental illness is associated with dangerous or aggressive behaviour, the more willing they are to discriminate (Arboleda-Florez & Stuart, 2012; Feldman & Crandall, 2007), and the more that people believe that this is true or unchangeable the more people are willing to support coercive and punishing treatment methods (e.g., forced treatment, institutionalization, imprisonment). Extreme versions lead to authoritative and totalitarian attitudes which can lead to forced containment and treatment and result in human rights violations (e.g., concentration camps, genocide).

Rarity

Rarity is the degree to which people believe the illness to be uncommon (Feldman & Crandall, 2007). It is hypothesized that "rare" conditions have something to do with unexpectedness, unpredictability, and lack of exposure (Feldman & Crandall, 2007; Phelan & Basow, 2007). Beliefs about mental illness are influenced by familiarity: the knowledge and experience with mental illness (Corrigan et al., 2003). Those who have greater knowledge of and experience with mental illness (e.g.,, those who have had contact with persons who have psychiatric disabilities) are less likely to endorse dangerousness and have less desire for social

distance (e.g.,, see Angermeyer et al., 2003; Corrigan et al., 2001; Marie &, 2008; Parcesepe & Cabassa, 2013). Indeed, familiarity with mental illness leads to more positive attitudes (Angermeyer & Dietrich, 2006; Angermeyer et al., 2004; Parcesepe & Cabassa, 2013). Those who are more familiar tend to respond with more pity and less anger and fear (Corrigan et al., 2003). Those with less familiarity and experience showed attitudes that those with mental illness were less predictable and more volatile (Angermeyer & Dietrich, 2006). Contact and positive experiences with individuals who have mental illness has also shown to reduce the desire for social distance (Parcesepe & Cabassa, 2013). More research is needed to discern this specific relationship however (Feldman & Crandall, 2007).

Gendered Mental Illness Stigma

Stigma is an incredibly heterogenous and intersectional phenomenon (Boysen et al., 2014; Boysen, 2017., Galinsky et al., 2013). While stereotypes are most often thought of as unitary constructs and are treated as separate and unrelated concepts, social science researchers have begun to explore and find evidence that stereotypes interact and create highly unique experiences (Boysen et al., 2014; Boysen, 2017a; Crenshaw, 1989). Intersectionality research focuses on this phenomenon specifically: how different social categorizations work together as interdependent systems and the unique disadvantages of them overlapping in a single individual (Crenshaw, 1989). Different group characteristics (e.g., gender, race, age, class, sexual identification and orientation, disability, etc.) shape highly individualized experiences and have uniquely challenging implications. For instance, we know that generally, people with psychological disabilities are viewed more negatively than those with physical disabilities (Corrigan et al., 2009); that men are seen as “bad and bold” and women are seen as “warm and nurturing” (Boysen, 2014); and that those with schizophrenia are seen as more violent and

dangerous than others (Crisp et al., 2000). Intersectionality research focuses on the overlap between stereotypes such as these.

While most of the stereotype intersectionality research has focused on gender, race, or class (Galinsky et al., 2013), there is increasing research on the intersectionality of other stigmatized identities and labels (e.g., gendered races; Galinsky et al., 2013), such as the focus of the current study, gendered mental disorders. There is emerging evidence that people have different mental health expectations and stereotypes about different groups, and recent empirical support for the concept of "gendered mental disorders" – in other words, people tend to view certain disorders as masculine or feminine (Boysen & Logan, 2017). Factors that potentially influence this intersectionality include sex differences (between mental illnesses) and global gender stereotypes.

Sex Differences

Interestingly, disorders that are heavily stigmatized have another thing in common: they are all more common among men than women (Boysen, 2017a). In fact, high and low stigma disorders match up almost perfectly with well-established sex differences in mental disorders; high stigma disorders are more common among men and lower stigma disorders are more common among women (Boysen, 2017a).

There are some well-researched and consistent differences between genders in regard to prevalence, course, onset, pattern, and symptom presentation in mental and behavioural disorders between males and females (American Psychiatric Association [APA], 2013; Boysen, 2017a). Women are more likely to be diagnosed with anxiety, mood, eating, and sexual dysfunction symptoms while men are more likely to be diagnosed with substance use, impulse control, and paraphilias (Boysen, 2014). In regard to personality disorders, women tend to be diagnosed more

with paranoid, dependent, borderline, avoidant, and histrionic personality disorders, while men are more likely to be diagnosed with antisocial, narcissistic, and schizoid personality disorders (Trull et al., 2010). There is higher prevalence of conduct disorder and antisocial behaviour in male children and higher eating disorder and anxiety prevalence in adolescent females (WHO, 2002). There is earlier onset schizophrenia in men and women with bipolar depression tend to present with more serious forms (WHO, 2002). Men also tend to have higher rates of traumatic brain injury (Farace & Alves, 2000). In addition, suicide ideation and attempts are more prevalent among women while men complete suicide more often and use more lethal means (WHO, 2002).

Sex differences may be due to biological determinants but are also likely due to socially constructed differences between males and females in regard to roles, expectations, responsibilities, and status. These factors interact to contribute to differences in the nature of mental health difficulties, help-seeking behaviour, and those who are affected by the illness (WHO, 2002).

Gender Stereotypes

There is a wealth of research documenting global stereotypes of men and women. For instance, it has been found that in general, women are viewed more positively than men (Eagly et al., 1991; Glick et al., 2004). Decades of stereotype research has consistently documented women as sensitive and warm and men as strong and assertive (Boysen & Logan, 2017; Eagly & Mladinic, 1994; Fiske et al., 2007). Core dimensions often used to study and characterize genders are agency and communion (Haines et al., 2016). Agency represents competence, independence, and instrumentality, which are traits more stereotypical of males. Communion represents warmth, concern for welfare of others, and expressivity, which are traits more

stereotypical of females. People tend to believe that men are typically aggressive, tough, independent, stable, and unconcerned with their own appearance while women are viewed as more talkative, gentle, expressive, sensitive, and concerned with their appearance. There are also negative stereotypes about masculinity itself in that masculine stereotypes, in general, are associated with negative attributes such as coldness, aggressiveness, hostility, selfishness, and egotism (Boysen & Logan, 2017). Women are stereotyped to be more emotional and experience emotions such as fear, sadness, and distress (Boysen, 2017a). Men are stereotyped to be unemotional with anger being the emotion that is stereotyped for men (Boysen, 2017a).

Gendered Mental Disorders

While examining mental health stereotypes about gay men, Boysen and colleagues (2006; 2011) found an interesting interaction between gender and mental illness stigma stereotypes. In a series of studies, Boysen and colleague (2006, 2011) asked participants to rate how typical various types of mental illness symptoms were of gay men. Disorders which were characteristically thought to be women's disorders, such as anxiety, eating, and mood disorders, were also rated as significantly associated with homosexual men. Some of the most frequent mental health symptoms attributed to gay men were "feels anxious", "cries easily", is "unsatisfied with appearance", and is "overly dramatic", and stereotypes about homosexual men shared 50% of their content with stereotypes about heterosexual women's mental health while sharing almost no similarities with stereotypes about heterosexual men's mental health. Interestingly, the symptoms of specific disorders, including paraphilias, antisociality, and substance use, significantly dominated the heterosexual men category but not the homosexual men or heterosexual women category. The authors concluded that mental health stereotypes about gay men were largely based off the belief that gay men are "feminine" and thus believed to

experience “feminine disorders” as opposed to “masculine disorders” (Boysen et al., 2006; 2011).

These initial findings provoked a succession of studies on the intersection of gender and mental health. In a series of studies, Boysen and colleagues (2014) found that masculine disorders elicit significantly higher levels of stigma than feminine disorders. That is, it appears that people have gendered expectations and beliefs about mental illness.

In the first set of studies, Boysen and colleagues (2014) set out to identify if specific disorders were thought to be masculine or feminine as well as their associated stigma. Boysen and colleagues (2014) had participants rate on a scale from 1 (*very feminine)* to 7 (*very masculine*) the gender of a disorder. They found masculine disorders to be (sorted by most masculine): frotteurism, pedophilia, voyeurism, intermittent explosive disorder, exhibitionism, sexual sadism, pyromania, gambling disorder, antisocial personality disorder, alcohol use disorder, attention deficit hyperactivity disorder, schizophrenia, drug use disorder, and post-traumatic stress disorder. Masculine stereotypes included disorders that were related to addiction, aggression, impulse control, and paraphilia. The feminine disorders included (sorted by most feminine): anorexia nervosa, body dysmorphic disorder, bulimia nervosa, histrionic personality disorder, panic disorder, trichotillomania, orgasmic disorder, factitious disorder, borderline personality disorder, adjustment disorder, depression, generalized anxiety disorder, and hoarding disorder. Feminine stereotypes included disorders that were characterized by internalizing symptoms, such as concerns over appearance and body, emotional personality, relationship difficulties, and anxiety and mood.

In a subsequent study, Boysen and colleagues (2014) found that disorders which were deemed “masculine” from their previous research elicited significantly more stigma (defined as

lack of pity and fear) than feminine disorders. In particular, stereotypically masculine disorders elicit more negative stigma; masculine disorders were associated with greater fear and lack of pity than feminine disorders. The difference between attitudes about stereotypically masculine and feminine disorders was significant with large effect sizes (lack of pity: $d = 1.46$; fear: $d = 5.33$) suggesting that gender stereotypes are thus an important factor to consider when investigating and considering stigma toward mental illness (Boysen et al., 2014)

Finally, Boysen and colleagues (2017a) found that the stereotypical gender of the disorder was a more important factor in explaining stigma rather than the sex of the person with the disorder. In particular, masculine disorders received higher ratings of fear than feminine and neutral disorders as well as more social distance wanted. Lack of pity was similar for masculine and feminine disorders and both were significantly more stigmatized than gender neutral disorders. As such, it appears that it is the specific behaviours and symptoms of the disorder rather than the sex of the person which is a contributor to stigma (Boysen, 2017a).

One of the dominant theories of gender differences so far appear to revolve around externalizing and internalizing symptoms. Men tend to show higher externalizing symptoms such as substance use and antisociality, while women tend to show higher prevalence of internalizing symptoms such as anxiety and depression (Boysen, 2014; 2017a; 2017b; Marie & Miles, 2008, Wirth & Bodenhausen, 2009). Interestingly, Boysen (2017a) found when introducing symptom type (externalizing, internalizing), sex affected stigma, but only for the variable of fear. That is, it appears that males, in general, elicited more fear than females. In addition, individuals demonstrated more fear, more desire for social distance, and less pity when the symptoms were externalizing, regardless of sex. There was no evidence of an interaction between sex and symptom type, suggesting that women who exhibit symptoms typically exhibited by men also

elicit higher levels of stigma. Taken together, the findings from these studies suggested that sex and symptomatic behavior affect stigma (Boysen, 2017a). Results suggested that externalizing symptoms are much more stigmatized than internalizing symptom, and to a lesser extent, the fact that these behaviours are exhibited by males, each contribute to increased stigma.

Another study was conducted to help control for potential confounds regarding symptomology type. Boysen (2017a) kept symptomology (internalizing or externalizing) constant while manipulating the description of the person with mental illness. Overall, behavioural valence (intrinsic attractiveness or aversiveness) had the largest and most consistent influence on stigma across all conditions. Behaviour had the most robust effect with externalizing behaviours consistently resulting in increased stigma. That is, negative behavioural traits (e.g., hostile, fussy) lead to more stigma than positive (e.g., independent, warm). Masculinity was also associated with increased stigma, particularly with increased fear. There was no evidence for a general increased stigma toward men, however, only that they tend to be more feared than women. From these results it appears that it is the specific behaviour associated with masculine disorders that is a more important factor contributing to stigma rather than the sex of the individual engaging in the behaviour.

In another series of studies, Boysen (2017b) used the Stereotype Content Model (SCM) BIAS (bias intergroup affect and stereotypes) map (Cuddy et al., 2009; Fiske et al., 2009; Fiske, 2012) to explore masculine stigma. Overall, individuals viewed masculine disorders as more competent than warm. The opposite was true for feminine disorders, in which they were significantly more likely to be seen as warm than competent. However, overall, feminine disorders were seen as more competent than masculine disorders. In addition, masculine disorders received significantly lower ratings of warmth, active facilitation/helping behaviour,

and pity than feminine disorder. They also elicited increased contempt, anger, fear, and active harm. That is, perceiving people with mental illness as warm was associated with more active helping (facilitation) and avoidance of actively harming them. Perceiving them to be competent was related to passively helping and avoidance of active harm. These findings illustrate how perceptions of warmth and competence can help explain the increased stigma of masculine disorders; it appears that the effects of perceived warmth and having a "masculine" disorder on emotions and behavioural intentions is more influential to stigma than being male. However, there is evidence that men, relative to women, elicit more fear and active harm behaviours and the masculinity of the disorder appears to limit the effects of perceived warmth and thus perceived stigma.

The Current Study

A limitation of previous research is the inability to explain why masculine disorders are more stigmatized, and more specifically, the relationship between "masculinity" and "severity" (Boysen & Logan, 2017). It is possible that the stigma associated with "masculine" disorders is more reflective of stigma towards the perceived severity of the disorder as opposed to the "gender" of the disorder. Indeed, it may be that masculine disorders are perceived as more severe than feminine disorders by the general public; more abnormal, unhealthy, or intrusive on the rights and freedoms of others.

While severity is a common dimension for understanding mental illness, it has been relatively unexplored specifically in the stigma literature (Boysen & Logan, 2017), potentially due to the subjective nature of severity and the lack of consensus about the meaning and definition of severe mental illness (Slade et al., 2000). Definitions of "severe mental illness" change over time and are based on specific social, political, and cultural milieus (Slade et al.,

2000). Perceptions of severity among professional and laypeople also differ (Gaebel et al., 2006). Professional definitions tend to focus on amount or degree of disability or disruption in one's life, such as social disability, which is often a core criterion of medical definitions of mental illness (Gaebel et al., 2006). While laypeople may also incorporate this into their definitions, many other factors often come into play such as personal, relational, political, and other social variables and risks (Slade et al., 2000). Laypeople tend to focus more on visible aspects of disability, such as appearance, speech and communication dysfunctions, and perceived "strangeness" (Gaebel et al., 2006). Rather than focusing on professional or medical classifications of severity, the present study will focus on general laypeople's perceptions of severity.

The present study investigated the relationship between mental illness stigma, sex, disorder gender, and perceived disorder severity. Based on the literature summarized above, three hypotheses will be tested by examining main and interaction effects on stigma ratings. That is:

H1. Main effect of disorder gender. Masculine disorders will be more stigmatized than feminine disorders (replication of Boysen et al., 2014).

H2. Main effect of severity. High severity presentations will be more stigmatized than low severity presentations.

H3. Main effect of target sex. Men will be more feared compared to Women.

There were no hypotheses concerning interactions between disorder gender and severity as these variables have not yet been examined together in the literature. Thus, the results of these effects are exploratory in nature.

Method

Participants

Participants consisted of 170 undergraduate Introductory Psychology students from a research participant pool at Lakehead University. A total of 188 responses were collected (from February 19, 2019 to May 16, 2019). After the use of deception was revealed 18 participants requested that their data not be used. Two additional participants were removed because they failed a condition's sex manipulation check. This left the current study with a sample size of N=170. Most participants were female (n=142; 84%) and identified as she/her (n=142; 84%). The other participants were male (n=27; 16%) and identified as he/him (n=27; 16%). One individual did not wish to disclose their sex (n=1; 0.59%). The average age of participants was 21.4 years (SD=5.08). The majority of individuals were Caucasian (n=142; 84%), followed by Indigenous/Aboriginal (n=10; 5.8%; see Table 1).

Study Design

The study was a 2 (sex of target: male, female) x 2 (severity: high, low) x 2 (disorder gender: masculine, feminine) between-subject design. Each participant responded to 1 out of 8 potential conditions.

Measures

Demographic Questionnaire

A demographic questionnaire was used to identify sample characteristics (Appendix A.

Familiarity with Mental Illness

The Level of Contact Report (Holmes et al., 1999; Appendix B) was used to measure familiarity with mental illness. The questionnaire presents 12 situations with varying degrees of intimacy with those with mental illness. The situations range from low intimacy "(1) I have never observed a person that I was aware had a mental illness," medium intimacy "(6) I have

worked with someone who had mental illness", to high intimacy "(12) I have a mental illness." This questionnaire measures the individual's exposure, level of contact, and familiarity with mental illness. The Level of Contact Report was presented at the end of the session to aid in concealing the true nature of the study, as it asks about personal experience.

The Level of Contact Report showed that most participants had some type of exposure or experience with severe mental illness. Almost all participants (n=168; 99%) had watched a movie or television show in which a character had a severe mental illness. A vast majority reported they had observed a person in passing that they believed to have a mental illness (n=141; 83%) and/or watched a documentary about severe mental illness (n=143; 84%). Over half of participants had a friend of the family (n=98; 58%) and/or relative (n=98; 58%) who had a severe mental illness. Just under half of participants had observed a person with severe mental illness on a frequent basis (n=81; 48%). A minority of participants had worked with individuals with severe mental illness at their place of employment (n=64; 38%) or their job involved providing services to those with severe mental illness (n=35; 21%). A minority of participants lived with a person with severe mental illness (n=27; 16%) or had a severe mental illness themselves (n=26; 15%). A small minority reported never having observed a person they were aware had severe mental illness (n=14; 8%; Table 2)

Stigma

The outcome measure is an adapted version of the Attribution Questionnaire-27 (AQ; Corrigan, 2003; Appendix C). The AQ (Corrigan, 2003) is used to measure key components of stigma: attitudes, emotional reactions, and behavioural responses. It is based on the work of Weiner et al. (1988) and Reisenzein (1986) and is a 27-item questionnaire measuring nine different constructs related to stigma and mental illness. The nine constructs are organized into

three sections: attitudes (personal responsibility/blame, dangerousness), emotional reactions (anger, concern/pity, fear), and behavioural responses (help, avoidance, segregation, coercion). Each construct is measured by 3 items. Each item is measured on a 9-point Likert-type scale where higher scores mean more of that construct (e.g., a high score of dangerousness represents more perceived dangerousness). Items can be looked at separately or summed together for an overall stigma score.

The AQ has been extensively used within mental health stigma research (Brown, 2010; Halter, 2004; Kanter et al., 2008; Law et al., 2009; Link et al., 2004). It is primarily an attitudinal assessment of stigma that is used as a response questionnaire after participants read about a character in a vignette (Link et al., 2004). The literature shows evidence for construct validity with the original attribution questionnaires as well as correlating with relevant and similar concepts in the literature. That is, the subscale measures relate to one another as well as highly related constructs in ways that attribution theory would lead us to expect (e.g., blameworthiness and persuasive care; Corrigan, 2003; Link et al., 2004).

Adaptations of the AQ-27 consisted of changing personal (i.e., "I") statements on the questionnaire to general public statements. For example, *"[I]* would feel pity for this person*"* was changed to *"[People]* would feel pity for this person". This is done as individuals are being asked to rate public stigma and not their personal stigma.

Materials and Conditions.

Vignettes. The stimuli for the current study were presented as vignettes (Appendix D). Vignettes contained information based on randomly assigned independent variables. There were three independent variables: sex of target (male, female), severity (high, low), and gender of disorder (masculine, feminine).

The vignette methodology was chosen for numerous reasons. Vignettes are one of the most common methodological approaches in studying stigma (Link et al., 2004; Pescosolido et al., 2013). They are a form of stimuli that asks participants to react to a described individual or scenario. Vignettes are desired as they allow researchers to provide more elaborate stimuli and ensures standardized presentation of a subject (Link et al., 2004). They allow one to be specific about their stimuli and still use experimental methods for hypothesis testing. Vignette methodologies are also widely used within the stigma literature, so the results of the present study will be comparable to other stigma research conducted (Link et al., 2004).

Manipulation of sex. The manipulation of sex consisted of switching the pronouns and names used in the vignettes. The vignettes used a male name (e.g., Stephen) or female name (e.g., Sarah) and corresponding pronouns (e.g., he/she, him/her) to depict a male or female person.

Manipulation of disorder gender. The second independent variable, gender of the disorder, was manipulated by presenting participants with a stereotypically masculine (gambling disorder) or stereotypically feminine (bulimia nervosa) disorder. The gendered disorders were chosen from past stereotype research (see Boysen et al., 2014). Boysen and colleagues (2014) had respondents rate the "masculinity" and "femininity" of 52 mental disorders from the DSM-5 (APA, 2013) on a 7-point Likert-type scale from (*very feminine*) to 7 (*very masculine*), with 4 being neutral. Disorders with an average rating of 5 or above were categorized as masculine disorders. Disorders with an average rating of 3 or below were categorized as feminine disorders. Gambling disorder and bulimia nervosa were chosen from the masculine and feminine categories due to their high level of gendered agreement. That is, gambling disorder was believed to be

"masculine" by 75% of respondents and bulimia nervosa was perceived to be "feminine" by 83% of respondents (data from the 2014 Boysen et al. study).

Manipulation of severity. Severity was manipulated by changing symptom presentation. The Threshold Assessment Grid (TAG; Slade et al., 2000) was used to create mild and severe symptom presentations. The TAG is a seven-item clinical questionnaire designed to aid in detection and consensus of severe mental illness among healthcare professionals. The TAG assesses seven domains related to severe mental illness: safety ([1] intentional self-harm, [2] unintentional self-harm), risk ([3] from others [4] to others), and needs and disabilities ([5] survival, [6] psychological, and [7] social). Characters in the vignettes demonstrated symptom presentations aligned with the different severity presentations in the TAG. For example, a statement from the male, high severity, masculine disorder presentation reads: "Last weekend, Stephen got into a fight with a fellow card player when he lost the round to him". This depicts TAG domain 4 (Risk to others) under the "Severe" rating column, which states: "High risk to physical safety of others as a result of dangerous behaviour". Another example from the female, low severity, feminine disorder presentation reads: "Sarah is anxious when attending family occasions as there is a lot of food present and she is usually unable to excuse herself to purge or workout". This depicts TAG domain 7 (Social) under the "mild" rating column, which states: "Minor disabling problems with activities or in relationships with other people."

An example vignette is as follows (vignette condition: male, masculine disorder, high severity):

> *"Stephen is a 30-year old man with gambling disorder. Stephen likes to go to the casino to gamble every weekend. Over the past few months Stephen has increased his spending toward gambling. He has been having difficulty paying his bills and his partner*

is having to pay more than their share to cover them. Stephen has also missed out on a few family occasions as he has been at the casino every weekend. His partner is highly concerned and frustrated at the situation. Last weekend, Stephen got in a fight with a fellow card player when he lost the round to them. Stephen feels ashamed, worried, and hopeless that he will not be able to stop his gambling."

Manipulation Checks for Sex, Disorder Gender, and Severity. Manipulation checks were conducted on the three independent variables (Appendix E). Sex was measured by a single question asking if the individual depicted in the vignette was a male or female subject. Disorder gender was measured in the same way as Boysen and colleagues (2014). Participants were asked to rate the disorder on a 7-point Likert-type scale from 1 (*very feminine*) to 7 (*very masculine*), with 4 being neutral. Disorders with an average rating of 5 or above were categorized as masculine disorders and those with an average rating of 3 or below were categorized as feminine disorders. Severity was measured with a perceived severity rating. The perceived severity rating is a single-item measure which asks participants to rate on a 7-point Likert-type scale how severe they believe the disorder to be (1 = *very low severity*; 7 = *very high severity*).

Social desirability bias. Minor deception was used in order to protect against social desirability bias. One of the main limitations of stigma research is social desirability bias (Henderson et al., 2012; Michaels & Corrigan, 2013). In order to reduce bias, the study was framed as an information-gathering survey for psychology training asking participants to help the experimenter pick vignettes for future psychology research. Participants were asked to help rate scenarios to use for training graduate clinical psychology students.

Ethical considerations

When using deception, it is imperative to consider ethical considerations. The current study was submitted to the Lakehead University Research Ethics Board (REB). It is believed that the potential harms of the current use of deception is very minimal and the potential benefits from the current research outweighs the potential harms. All participants were debriefed following the study and informed of the deception used.

Procedure

Participants signed up for the study via the online SONA psychology bonus point management system. The study was conducted online and questionnaires were provided via the Survey Monkey website. Participants began by reading and signing an electronic informed consent form.

Participants began the study by answering a demographic questionnaire (Appendix A). They were then randomly presented one of 8 potential vignettes depicting an individual with mental illness. Randomization was done by Survey Monkey. Participants then answered the Attribution Questionnaire. The Level of Contact Report (Holmes et al., 1999) was administered at the end, in order to help protect against revealing the true nature of the study early on. Participants were then debriefed following the study about the deception used and thus the true nature of the study.

Results

Missing data were analyzed using Little's (1988) Missing Completely at Random (MCAR) test which was not significant ($\chi_2 = 4289.945$, DF = 4288, $p = .489$) suggesting there was no pattern to the missing data. Mean substitution was used to replace missing values. Data were screened for univariate outliers with Z-scores. There were several extreme scores, however, upon review none of them were considered to fall outside of the population and so were retained.

Manipulation Checks

Manipulation checks were conducted on the three independent variables (Appendix E). In general participants viewed males (Stephen) and females (Sarah) as intended. Two participants failed the manipulation check so were excluded from the study. The gender manipulation check indicated participants were also viewing masculine and feminine disorders as intended. The severity manipulation check indicated that high severity conditions received higher perceived severity ratings (M=4.88; SD=1.36) than low severity conditions (M=3.53; SD=1.27), which was significant $t(168) = 6.648$, $p < .001$.

One limitation of Survey Monkey was that it did not equally randomize participants to groups. As a result, there were differing numbers of participants in each condition. Accordingly, Tukey's HSD test was used to account for unequal sample size. See Table 3 for the participant distribution across conditions. In addition, one of the vignettes on Survey Monkey had a typing error: the female, high severity, feminine disorder condition said "[female name]" instead of the proper insert "Sarah". The implications of this error are discussed further in the limitations section, below.

Hypothesis 1: Disorder Gender

Factorial ANOVAs were conducted to test the study's main hypotheses. The first hypothesis was that masculine disorders (i.e. gambling disorder) would be more stigmatized than feminine disorders (i.e. bulimia nervosa; replication of Boysen et al., 2014). Hypothesis 1 was supported. A main effect of disorder gender indicated a significant difference between masculine (gambling) and feminine disorders (bulimia) on the stigma measure $F(1, 162) = 4.693$, $p=.032$. Post hoc Tukey HSD indicated masculine disorders (gambling; M=106.90, SD=25.12) were significantly more stigmatized than feminine disorders (bulimia; M=102.69, SD=24.02).

Hypothesis 2: Severity

Hypothesis 2 (that high severity disorders would be more stigmatized than low severity disorders) was supported. A main effect of severity indicated a significant difference between high and low severity presentations on the stigma measure F (1, 162) = 16.227, $p < .001$. Post hoc Tukey HSD analyses indicated that high severity presentations (M=112.71; SD=23.64) were significantly more stigmatized than low severity presentations (M=97.78; SD=23.41), as expected.

Hypothesis 3: Sex of the Individual with the Disorder

There was a significant main effect of sex on overall stigma, F (1, 162) = 4.944, p = .028. "Stephen" (M=108.52, SD=25.46) received significantly higher stigma ratings than "Sarah" (M=101.27, SD=23.33). We conducted a further analysis to specifically examine fear (dependent variable). Fear was chosen as Boysen (2017a) suggested fear be a priority of future replication research; we were interested in the increased stigma toward male and masculinity-related stigma, with which fear has been shown to have a particularly significant relationship (Boysen et al., 2014; Boysen, 2017a; Boysen & Logan, 2017). In the current sample, there was no significant effect of sex on the variable of fear, F (1, 168) = 2.614, p = .108. A follow-up ANOVA was conducted to see if there was an effect of sex on the variable fear for either the masculine (i.e. gambling; F (1, 87) = 3.624, p = .060) or feminine (i.e. bulimia, (F (1, 79) = .495, p = .484) disorder conditions; neither of which were significant.

Follow-up t-tests were conducted on the 8 other AQ-27 subscales (blame, anger, pity, help, dangerousness, avoidance, segregation, and coercion) to identify any significant differences between masculine (gambling) and feminine (bulimia) disorder conditions. A Bonferroni correction was used to adjust for the number of statistical tests. Masculine disorders (gambling)

were perceived as more dangerous (M=8.19; SD=4.01) than feminine disorders (bulimia; M=6.42; SD=3.10), $t(168) = 3.205$, $p = 0.004$. See Table 5 for full AQ-27 results.

Interaction Effects

To examine the influence of severity, sex, and disorder gender on stigma, interaction effects were examined. There was a significant interaction between disorder gender and severity (F (1, 162) = 5.026, p = .026; Figure 1). Follow-up ANOVAs were conducted to see if this effect on severity was consistent for both disorders. Severity was significant for masculine disorders (i.e., gambling), F (1, 87) = 20.134, $p < .000$, but not feminine disorders (i.e., bulimia), F (1, 79) = 2.34, p = .130. High severity masculine disorders (gambling) received significantly higher stigma (M=118.88; SD=21.36) than low severity masculine disorders (M=97.12; SD=23.84). High severity feminine disorders (bulimia) did not receive significantly higher scores (M=106.7; SD=24.45) than the low severity feminine condition (M=98.6; SD=23.25).

There was also a significant interaction between disorder gender and sex (F (1, 162) = 5.329, p = .022; Figure 2). Masculine disorders (gambling) received a much greater variation in stigma ratings depending on the sex of the individual in the vignette.

Follow up ANOVAs were conducted to determine if this effect of sex occurs in both disorders. Results showed that there was a significant effect of sex in the masculine (gambling) condition, F (1, 87) = 8.197, p= .005, but not in the feminine (bulimia) condition, F (1, 79) = .029, p= .865. Males with gambling disorder (M=115.59; SD=24.54) received significantly higher stigma than females with gambling disorder (M=100.72; SD=23.87). Feminine disorders (bulimia) received relatively stable stigma ratings regardless of sex. Males with a feminine disorder (M=103.07; SD=25.05) received similar stigma scores as females with a feminine disorder (M=02.14; SD=22.79).

There was not a significant interaction between condition sex and condition severity, F (1, 162) = .968, p = .327, suggesting sex and severity do not interact to influence stigma ratings.

Discussion

It is undeniable that mental illness is stigmatized, and this research suggests that stigma is influenced by disorder gender, severity, and target sex. The current research examined the intersection of mental illness and gender stigma, supporting and building upon the previous research by Boysen and colleagues (2011; 2014; 2017a; 2017b) on the concept of "gendered mental disorders". It also added the variable of severity to build upon Boysen and Logan's (2017) suggestion that the additional stigma directed towards "masculine" disorders may be reflective of stigma towards the perceived severity of the disorder. Results of the current study are generally in line with past research about gendered mental disorders, however, some findings are mixed. Hypothesis 1 and 2 were supported and Hypothesis 3 was partially supported.

Stigma Towards Men versus Women

When exploring stigma differences between men and women, the current study found that "Stephen" received significantly higher stigma ratings than "Sarah". This is in line with past research which has demonstrated that stigma is higher for men relative to women with mental illness (Boysen et al., 2014; Boysen, 2017a; 2017b). One of our hypotheses examined the influence of male sex on the variable of fear and was not supported; "Stephen" did not receive significantly higher fear ratings than "Sarah". This relationship was hypothesized as previous research, although inconsistent, have demonstrated an increase in fear for men in comparison to women with mental illness (Boysen et al., 2014; Boysen, 2017a; 2017b).

There was a significant interaction between sex and gender disorder; masculine disorders (gambling) received a much greater variation in stigma ratings depending on the sex of the

individual in the vignette. Gambling disorder conditions received lower stigma ratings when the participant was "Sarah", however, when the participant was changed to "Stephen" stigma dramatically increased. Feminine disorders (bulimia) received relatively stable stigma ratings regardless of the sex of the individual with the disorder. "Stephen" and "Sarah" did not differ significantly in stigma ratings in the bulimia conditions. Thus, the interaction between disorder gender and sex indicates that stigma is highest when the individual had a masculine disorder (i.e., gambling) and is a man. "Stephen" with Gambling Disorder was the most stigmatized.

Gendered Disorders and Stigma

In the present study, the masculine disorder (gambling) was significantly more stigmatized than the feminine disorder (bulimia) overall. These results are in line with past research, which has consistently demonstrated that masculine disorders receive more negative affect and are more stigmatized than feminine disorders (Boysen et al., 2014; Boysen et al., 2017a; 2017b; Boysen & Logan, 2017; Wirth & Bodenhausen, 2009), particularly with antisocial personality, paraphilias, and substance use disorders being the most stigmatized (Boysen et al., 2014; Boysen, 2017a; 2017b; Boysen & Gabreski, 2012; Boysen & Logan, 2017; Crisp et al., 2000; Feldman & Crandall, 2007). Past research has also demonstrated that feminine disorders receive increased pity and help relative to masculine disorders (Boysen et al., 2014; Boysen, 2017b). While not significant, the current study showed a general trend toward feminine disorders (bulimia) receiving increased pity (M=18.83; SD=3.96) and help (M=17.46; SD=17.47) ratings compared to masculine disorders pity (M=13.10; SD=4.10) and help (M=15.58; SD=4.88) ratings (Table 5).

Boysen and Logan (2017) suggested that the additional stigma directed towards "masculine" disorders may be reflective of the perceived severity of the disorder. That is,

masculine disorder symptoms are seen as more severe (i.e. more abnormal, unhealthier, and intrusive) than feminine disorders (Boysen et al., 2014). In the current study there was an interaction between disorder gender and severity, whereby in the high severity condition, stigma was higher for Gambling Disorder compared to Bulimia Nervosa; in the low severity condition there was no such difference. In other words, the effect of disorder gender on stigma depended on severity, and the effect of severity on stigma depended on disorder gender. When severity was manipulated, the Gambling condition received greater stigma and greater variance in stigma than the Bulimia condition. Low severity conditions received relatively equal stigma ratings; it is when the high severity variable was introduced that difference in stigma was most pronounced.

There was not a significant interaction between sex and severity in the current study, however, suggesting sex and severity do not interact to influence stigma ratings. That is, as severity increased "Stephen" was not more stigmatized than "Sarah". Participant sex (Stephen versus Sarah) is thus an important factor in stigma ratings when in relation to disorder gender (gambling versus bulimia) but not in relation to severity. This suggests that the higher stigma ratings we see for men with mental disorders may be less of a result of public perception of severity of the disorder, and more about the type of disorder displayed (i.e. masculine versus feminine).

Male and Masculine-Related Stigma

When considering gender, the stereotypically "bad and bold" (Glick et al., 2004) perception of men and masculinity when combined with mental illness stigma may be a recipe for significantly increased prejudice, ostracization, and discrimination. It is known that specific behaviours associated with a mental disorder have significant effects on stigma (Boysen, 2017a; e.g., see Corrigan et al., 2003; Link et al., 1987).

Externalizing Symptoms and Dangerousness

Externalizing disorders and symptoms (e.g., addiction, impulse control, antisociality, paraphilias) are typically stereotyped as masculine while internalizing disorders and symptoms (e.g., anxiety, depression, body/eating, emotional lability) are typically stereotyped as feminine (Boysen et al., 2014). Men are also more likely to be stigmatized as having antisocial, aggressive, and sexual disorders and symptoms. As these types of behaviours inherently infringe on the rights of others and this may be a source for additional stigma (Boysen, 2017b). Past research has shown externalizing symptoms receive higher desire for social distance and less pity than internalizing (Boysen, 2017a).

Dangerousness is often cited within the mental illness stigma literature (Corrigan et al., 2003; CMHA, 2011; Parcesepe & Cabassa, 2013). The more people believe that mental illness is associated with dangerous or aggressive behaviour, the more willing they are to discriminate (Feldman & Crandall, 2007). Perceptions of dangerousness to the self and others have been consistently associated with increased preferences for social distance (Parcesepe & Cabassa, 2013). The likelihood or propensity for violence is often a significant supporter for negative treatment, restriction of human and civil rights, and can lead to justifications to deny and restrict freedoms (e.g., incarceration, hospitalization; Corrigan, 2000; CMHA, 2011) and access of resources (Lauber, 2008; Major & O'Brien, 2005; Parcesepe & Cabassa, 2013). Those who believe those with mental illness are at risk for violence also tend to believe they are threat to public safety, are automatically and inherently deviant, and are more likely to condone forced legal action and coerced treatment (CMHA, 2011; Lauber, 2008). The public is more supportive of coercive or forced treatment methods when there are higher perceptions of danger, violence,

and incompetence (Lauber, 2008). For instance, the general public is less likely to hire, lease apartments to, or freely interact with those labelled mentally ill (Corrigan, 2001).

Male perpetrated violence tends to cause more damage and more likely to result in injury than female violence (Robbins et al., 2003; WHO, 2002). Thus, the trend of increased stigma may be due to the elevated risk for potential violence and aggression exhibited by men relative to women and from externalizing versus internalizing symptoms (Boysen et al., 2014; Boysen et al., 2017a; Boysen, 2017b; Glick et al., 2004). That is, the heightened potential risk men pose mixed with disorders that are externalizing and violating of others may create this heightened "masculine" stereotyped stigma (Boysen & Gabreski, 2012).

Blame and Controllability

Boysen and colleagues found that people viewed masculine disorders as more controllable behavioural choices than uncontrollable mental disorders; masculine disorders were seen as less genuine and more of a character flaw than feminine disorders and individuals were seen as more responsible and in control of their condition (Boysen et al., 2014; Boysen & Logan, 2017). This is particularly relevant as we know that those who are perceived to have more control of their illness or symptoms are also believed to be more personally responsible (Angermeyer & Dietrich, 2006; Boysen & Logan, 2017; Corrigan et al., 2003; Parcesepe & Cabassa, 2013; Schomerus et al., 2010; Weiner et al., 1988) and responsibility and controllability have also both been associated with increased stigma (Weiner et al., 1988).

Warmth and Competence

Warmth refers to traits that are related to an individual's perceived intent, including friendliness, sincerity, helpfulness, trustworthiness, and morality. Competence refers to traits that are related to perceived ability, including intelligence, skill, efficacy, and creativity (Fiske et al.,

2002). Past research has demonstrated that males and masculine disorders are perceived as high in competence but low in warmth while the opposite was true for females and feminine disorders (Boysen, 2017b; Fiske et al., 2002). Perceived warmness has been found to be associated with less stigma and more help than perceived coldness. "Cold" conditions received more anger, contempt, fear, and harm, while "warm" conditions received more helping (Boysen, 2017b). Warmness reduced the stigma toward a person with a mental disorder, unless that disorder was a masculine disorder. Anger, contempt, and fear remained even when masculine disorders were presented as warm. Thus, perceptions of low warmth is an important factor in explaining the relationship between masculinity and mental illness stigma (Boysen, 2017b).

Familiarity and Level of Contact

Another potential factor that may influence gender stigma is rarity and familiarity. If the combination of variables in question are not seen as common occurrence, then they may be judged with more stigma. Seemingly rare events are often coupled with lack of exposure, unexpectedness, and unpredictability (Feldman & Crandall, 2007; Phelan & Basow, 2007). This can lead to a perception of seriousness and/or severity. Previous findings show familiarity with mental illness leads to more positive attitudes (Angermeyer & Dietrich, 2006; Angermeyer et al., 2004; Parcesepe & Cabassa, 2013) and those who are more familiar with mental illness tend to respond to individuals with more pity and less anger and fear (Corrigan et al., 2003). Findings have indicated that those with less familiarity hold attitudes that those with mental illness were less predictable and more volatile (Angermeyer & Dietrich, 2006). There is a greater desire for social distance and increased perceptions of dangerousness (Angermeyer et al., 2003; Corrigan et al., 2001; Marie &, 2008; Parcesepe & Cabassa, 2013).

Gender Atypicality

As mentioned, past research has shown that deviation from gender scripts has been found to be related to thoughts of the existence of a genuine disturbance (Wirth & Bodenhausen, 2009). Gender-atypical mental illness have been found to elicit more favorable reactions than gender-typical ones among laypersons. According to attribution theory, stigma would be lower for gender atypical disorders because people attribute them to external, unstable causes rather than internal, stable causes (Weiner et al., 1988; Wirth & Bodenhausen, 2009). Gender atypical disorders tend to be seen as biological and more genuine than gender typical (Wirth & Bodenhausen, 2009). Those who displayed gender-atypical behaviour in regard to their mental illness were thought to have it due to a genetic or biological cause as opposed to a "weak character". For instance, Wirth and Bodenhausen (2009) found that women with Major Depressive Disorder were more stigmatized than men with Major Depressive Disorder, and men with Alcohol Use Disorder were more stigmatized than women with Alcohol Use Disorder. They found that these individuals were seen as having little control and responsibility and were thus less stigmatized (measured in negative affect, anger, disgust, sympathy, helping behavior, and dislike; Weiner et al., 1988). Individuals responded to gender-atypical behaviour with greater sympathy, less negative affect, and greater inclination to help the person (Wirth & Bodenhausen, 2009).

Boysen and Logan (2017) conducted three studies on a variety of mental disorders and found small and inconsistent findings in regard to gender atypicality. When examining only two disorders (Major Depressive Disorder and Substance Use Disorder), they replicated the results of Wirth and Bodenhausen (2009). However, when a variety of mental disorders were examined this effect went away and found that regardless of gender, stereotypically masculine disorders were far more stigmatized (Boysen et al., 2014; 2017).

Limitations and Future Directions.

The current study is based on traditional Western understandings of mental illness and gender roles. It has not taken into consideration the myriad of gender and sexual identities, roles, and orientations in different cultural and social spheres. In addition, most participants in the current sample were Caucasian, female, and university educated. As such, the current sample is not representative of the overall population and cannot be generalized to such. This is a limitation that would benefit significantly from further diversity research.

Another limitation was unequal group size due to imbalanced randomization. Survey Monkey did not equally randomize participants to groups, resulting in some groups containing more participants than others. Tukey HSD test was used to compensate for this (see Table 3 for participant distribution among conditions). However, unequal sample size can lead to loss of statistical power. In addition, one of the vignettes on Survey Monkey had a typing error: the female, high severity, feminine disorder condition said "[female name]" instead of the proper insert "Sarah".

The current study also only used one masculine (i.e., gambling disorder) and one feminine (i.e., bulimia nervosa) disorder, so the current results only apply to these two conditions and cannot be generalized to other masculine and feminine stereotyped disorders. It should also be considered that the stigma, and fear ratings in particular, of the masculine disorder (i.e., gambling) and the feminine disorder (i.e., bulimia) may differ due to their potential symptom presentations. That is, it may be that the two disorders deliver different types of risk (e.g., active versus passive risk). Future studies would benefit from using more disorders with varying levels and types of symptom presentations (e.g. external versus internal) that present different kinds of risk.

A possible future direction would be to add a sexual orientation question. For instance, when reading the bulimia nervosa condition, since there are no details about appearance and/or other personal characteristics some individuals may visualize a cisgender straight male while others may visualize an individual who is part of the LGBTQ+ community. Thus, individuals may be bringing other stereotypes they may have regarding the condition subject which are not controlled for – for example, some research suggests that gay men are consistently stereotyped as feminine (Boysen, 2006; Boysen, 2017a; e.g., see Kite & Deaux, 1987; Levitt & Klassen, 1974; Madon, 1997; Simmons, 1965; Staats, 1978; Taylor, 1983). Despite only emerging evidence and small base rates of eating disorders among gay men, the stereotype that gay men have eating disorders at a higher rate relative to straight men is prevalent (Boysen, 2017a). If there were a question asking what sexual orientation participants believed the subject to be, this could provide a rich source of information for other stereotypes people may be bringing into their responses.

Future studies should examine the variable of severity with a larger sample size as well as in comparison to different variables. Previous research has not examined the role of severity specifically in mental illness stigma, or with the current variables. Future studies may also benefit from using disorders which participants found of relatively equal severity; similar to how Boysen and colleagues (2017) utilized gendered disorders which were viewed to be relatively equal in their gendered stereotypes by participants (i.e. the feminine disorder having about the same agreement on being ‘feminine’ as the masculine disorder have on being ‘masculine’). The role of femininity is also of interest and should be looked into further, potentially as a protective factor toward stigma, as it increases positive emotions and desire to help as well as mitigates fear (Boysen, 2017a).

Conclusion

There are significant consequences to public misperceptions about mental illness., Stigma acts as a tool for social exclusion and oppression and has serious implications for an individual's social identity as well as structural inequalities that affect health, access to resources, and social participation and welfare (Arboleda-Florez & Stuart, 2012). Indeed, the personal and social consequences of stigma was Goffman's original point; stigma limits, denies, and strips others of rightful respect, opportunities, and care (Corrigan & Lee, 2013; Goffman, 1963).

The current study supported previous findings that masculine stereotyped mental health disorders are significantly more stigmatized than feminine stereotyped mental health disorders. Severity proved to be a significant factor in predicting stigma; however, it was not found to be the only factor associated with increased stigma towards certain disorders. Differences in stigma towards different disorders appear to be influenced by interactions between target sex, disorder gender, and perceptions of severity. Stigma has serious implications for social identity and welfare (Arboleda-Florez & Stuart, 2012) and the stereotypically "bad and bold" (Glick et al., 2004) perceptions of men and masculinity when combined with mental illness is a recipe for significantly increased stigma and discrimination. Future studies should continue to investigate the role of severity and other factors in gendered mental illness stigma.

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Table 1

Demographic Profile of Respondents.

Variable		Frequency (N=170)	Percent (%)
Age	18-24	146	85.9
	25-30	11	6.5
	30-51	11	6.5
	M = 21.41 SD = 5.08		
Sex	Female	142	83.5
	Male	27	15.8
	Prefer not to say	1	0.6
Gender Identity	Woman	142	83.5
	Man	27	15.8
Cultural Affiliation	Caucasian	142	83.5
	Indigenous/Aboriginal	10	5.8
	Filipino	5	2.9
	Mixed Race	5	2.9
	Black	4	2.4
	Arab/West Asian	2	1.2
	South Asian	2	1.2
	South East Asian	1	0.6
Program	Psychology	63	37.1
	Social Work	23	13.5
	Nursing	22	12.9
	Criminology	13	7.6
	Kinesiology	13	7.6
	Interdisciplinary	14	8.2
	Studies	3	1.8
	Outdoor Recreation	16	9.4
	Education	4	2.4
	General Arts	3	1.8
	Political Science	1	0.6
	Anthropology	2	1.2
	Gerontology	1	0.6
	Women's Studies	3	1.8
	General Science	1	0.6
	Philosophy		

Education Level	Year 1	44	25.8
	Year 2	59	34.7
	Year 3	38	22.4
	Year 4	24	14.1
	Year 5+	5	2.9
Marital Status	Single	134	78.8
	Cohabiting	25	14.7
	Married	2	1.2
	Separated	5	2.9
	Divorced	2	1.2
	Widowed	6	3.5

Note: Individuals may be in more than one program.

Table 2

Level of Contact Report results.

Level of Contact Item	Top Item Endorsed N (%)	Total Times Endorsed N (%)
I have never observed a person that I was aware had a severe mental illness.	1 (0.6)	14 (8.2)
I have observed in passing a person I believe may have had a severe mental illness.	0 (0)	141 (82.9)
I have watched a movie or television show in which a character depicted a person with mental illness.	3 (1.8)	168 (98.8)
I have watched a documentary about severe mental illness.	19 (11.2)	143 (84.1)
I have observed persons with a severe mental illness on a frequent basis.	9 (5.3)	81(47.6)
I have worked with a person who had a severe mental illness at my place of employment.	7 (4.1)	64 (37.6)
My job involves providing services/treatment for persons with a severe mental illness.	7 (4.1)	35 (20.6)
A friend of the family has a severe mental illness	19 (11.2)	98 (57.6)
I have a relative who has a severe mental illness	58 (34.1)	98 (57.6)
I live with a person who has a severe mental illness	21 (12.4)	27 (15.8)
I have a severe mental illness	26 (15.3)	26 (15.3)

Table 3

Participant distribution among conditions

Condition	Frequency (n)	Percent (%)
1. Male, Masculine Disorder, High Severity	15	8.8
2. Female, Masculine Disorder, High Severity	25	14.7
3. Male, Masculine Disorder, Low Severity	22	12.9
4. Female, Masculine Disorder, Low Severity	27	15.9
5. Female, Bulimia Nervosa, High Severity	12	7.1
6. Male, Bulimia Nervosa, High Severity	29	17.1
7. Female, Bulimia Nervosa, Low Severity	21	12.4
8. Male, Bulimia Nervosa, Low Severity	19	11.2

Table 4

Mean (SD) stigma AQ-27 (Attribution Questionnaire-27) scores and severity ratings by target sex (man, woman), disorder gender (masculine, feminine), and severity (high, low),

Condition	Grand M(SD)	Severity M(SD)
Man (Stephen)	108.52(25.46)	4.40(1.47)
Woman (Sarah)	101.27(23.33)	3.95(1.45)
Masculine (Gambling)	106.90(25.12)	3.58(1.33)
Feminine (Bulimia)	102.69(24.01)	4.83(1.35)
High Severity	112.71(23.64)	4.88(1.36)
Low Severity	97.78(23.41)	3.53(1.27)

Note: All results reported in averages M(SD).

Table 5

Attribution Questionnaire-27(Stigma) results and severity ratings for conditions

	Masculine (Gambling)				Feminine (Bulimia)			
	High		Low		High		Low	
	Male	Female	Male	Female	Male	Female	Male	Female
Blame	18.40(4.64)	16.47(3.91)	17.05(5.06)	16.04(3.97)	14.21(5.07)	14.01(6.62)	15.63(5.42)	13.19(5.03)
Anger	19.40(5.40)	16.85(4.37)	14.68(5.43)	11.15)4.64)	12.67(5.38)	10.67(5.74)	8.37(4.37)	10.95(4.68)
Pity	14.07(3.37)	15.28(3.86)	12.77(4.23)	10.81(3.48)	19.03(4.57)	18.25(2.86)	18.21(3.82)	19.43(3.85)
Help	13.67(5.16)	16.60(5.16)	16.02(3.75)	15.33(5.20)	16.10(5.15)	16.42(5.05)	19.58(4.74)	18.05(4.44)
Dangerousness	10.53(5.16)	8.52(3.96)	9.36(3.92)	5.63(2.60)	6.88(3.39)	4.75(2.01)	5.65(2.23)	7.43(3.47)
Fear	10.13(4.24)	8.84(5.15)	7.91(4.79)	5.15(3.16)	8.40(4.49)	5.25(3.52)	5.003.25)	7.02(4.36)
Avoidance	19.67(4.06)	18.28(4.14)	15.14(4.67)	14.56(6.08)	14.03(6.50)	12.60(6.53)	11.58(5.65)	12.62(5.13)
Segregation	7.67(5.89)	6.28(3.98)	6.59(5.03)	4.48(2.87)	6.55(3.64)	6.00(2.70)	6.11(3.83)	6.90(3.74)
Coercion	11.27(4.01)	9.54(4.04)	10.00(4.81)	6.19(3.44)	13.74(3.85)	15.00(4.71)	12.42(4.72)	13.81(3.67)
Total	127.47(21.04)	113.73(20.24)	107.48(23.87)	88.67(20.64)	109.41(25.14)	100.11(22.32)	93.39(22.18)	103.30(23.53)
Perceived Severity	4.40(1.12)	4.32(1.14)	3.23(1.19)	2.72(1.09)	5.45(1.33)	5.25(1.60)	4.16(1.12)	4.33(0.97)

Note: All results reported in averages M(SD).

Table 6

Perceived severity ratings of disorders

Disorder	Perceived Severity Rating M
Masculine	**4.35**
Antisocial Personality Disorder	4.39
Alcohol Use Disorder	5.04
Gambling Use Disorder	3.84
Voyeurism	4.11
Feminine	**4.72**
Bulimia Nervosa	5.15
Body Dysmorphic Disorder	4.59
Generalized Anxiety Disorder	4.44
Neutral	**5.32**
Histrionic Personality Disorder	3.89
Major Depressive Disorder	5.91
Schizophrenia	6.18

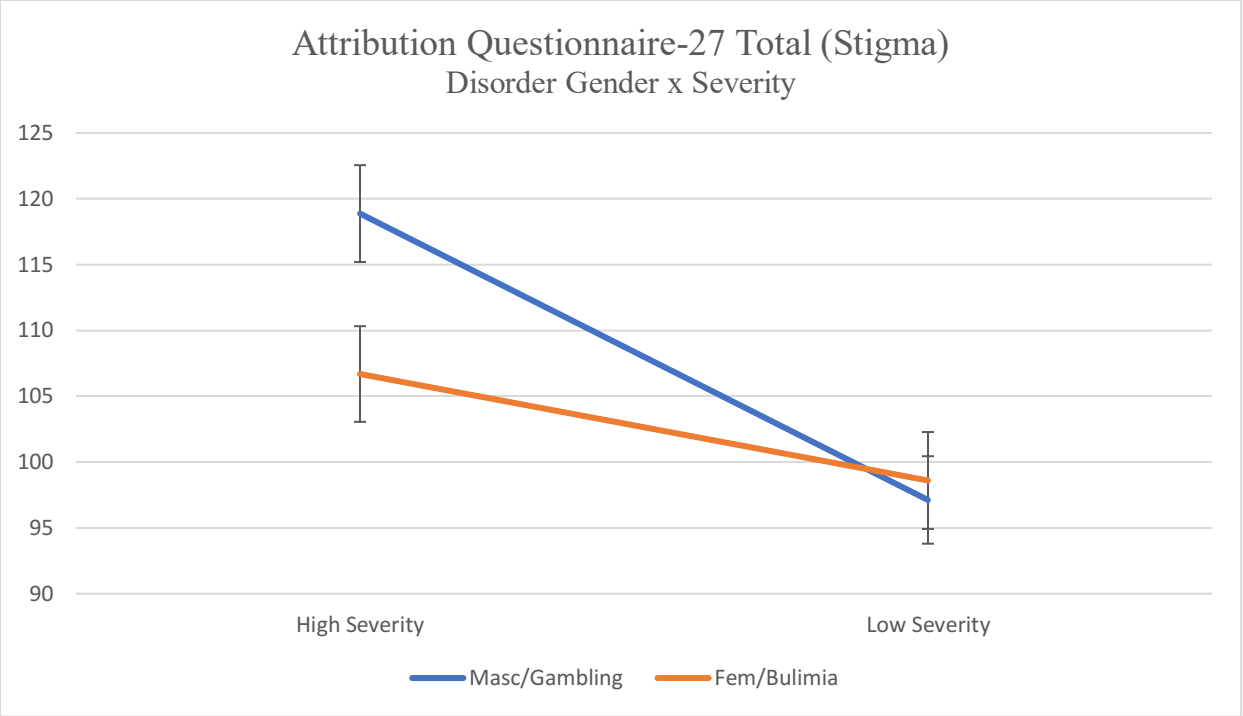

Figure 1*:* Interaction between disorder gender and condition severity.

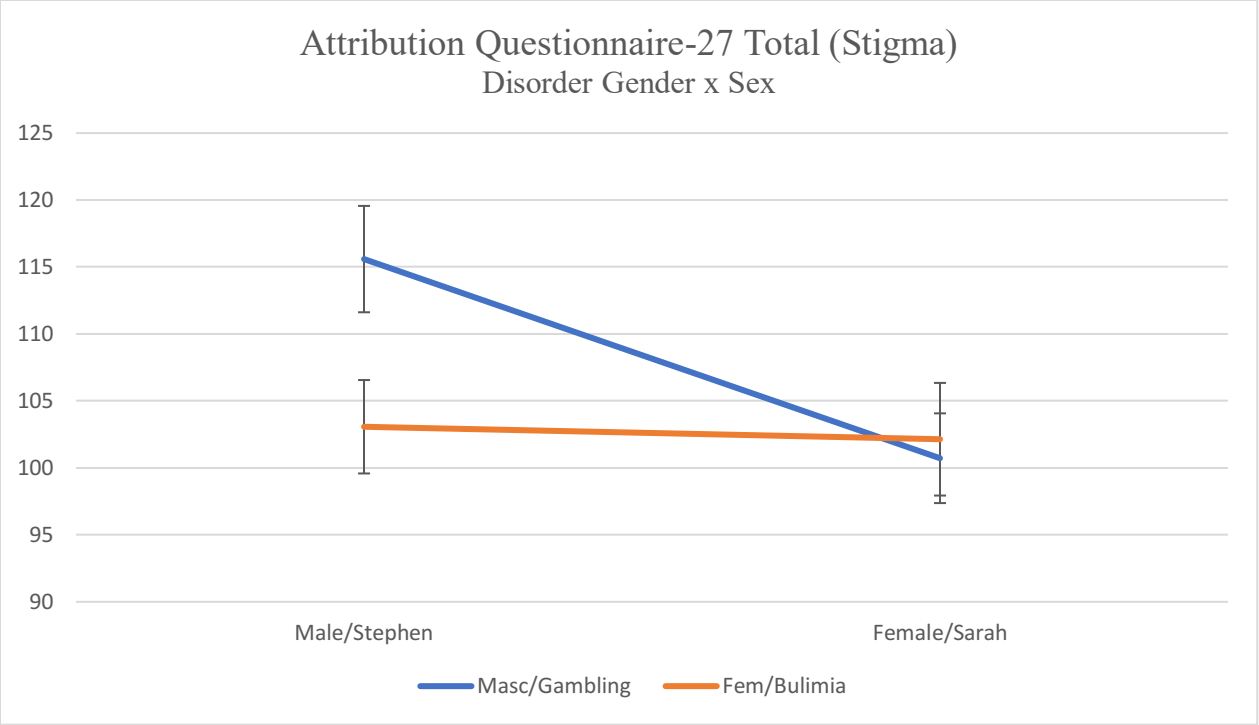

Figure 2*:* Interaction between condition sex and disorder gender.

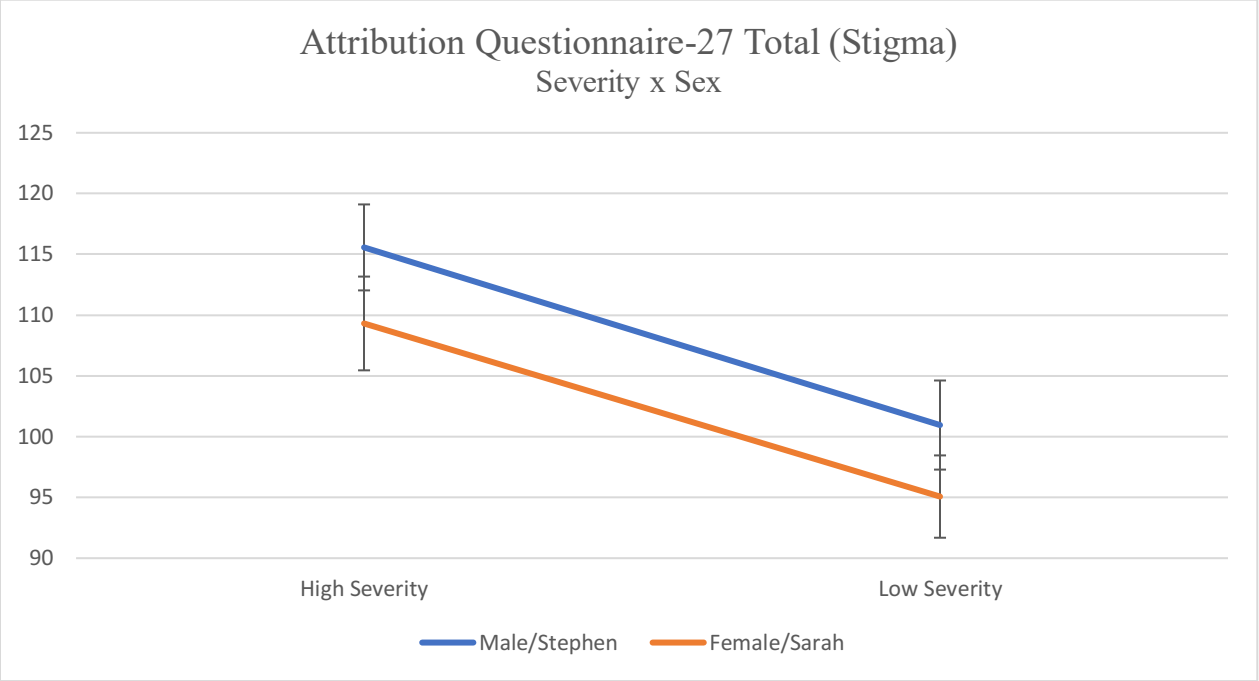

Figure 3*:* Interaction between condition severity and condition sex.

Appendix A: Demographic Questionnaire

Please answer the following questions listed below by writing your response or checking the most appropriate answer.

1. Age: _____ (years)

2. Sex:
   □ Male
   □ Female
   □ Intersex
   □ Prefer not to say

3. Gender identity:
   □ Transgendered/Genderqueer
   □ Man
   □ Woman
   □ Two-spirited
   □ Agender (neither man nor woman)
   □ Other
   □ Unsure

4. Sexual orientation:
   □ Heterosexual
   □ Gay/Lesbian/Bisexual/Queer
   □ Asexual
   □ Unsure
   □ Other

5. Cultural affiliation (rank number all that apply; e.g., 1 for primary affiliation, 2 for secondary, etc.)
   ____ Indigenous/Aboriginal (First Nation, Inuit, Metis)
   ____ Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese)
   ____ Black (e.g., African, Haitian, Jamaican)
   ____ Chinese
   ____ Filipino
   ____ Japanese
   ____ Korean
   ____ Latin American
   ____ South Asian
   ____ South East Asian
   ____ White (Caucasian)
   ____ Other (please specify: _____)

6. What program are you currently enrolled in?

   _____

7. Level of education (Please choose one)
   - □ University Year 1
   - □ University Year 2
   - □ University Year 3
   - □ University Year 4
   - □ University Year 5 (or more)

8. Marital status
   - □ Single
   - □ Cohabiting
   - □ Engaged
   - □ Married
   - □ Separated
   - □ Divorced
   - □ Widowed

Appendix B: Level of Contact Report

Please read each of the following statements carefully. After you have read all the statements below, place a check by the statements that best depict your exposure to persons with a mental illness.

_____ I have watched a movie or television show in which a character depicted a person with mental illness.

_____ My job involves providing services/treatment for persons with a mental illness

_____ I have observed in passing a person I believe may have had a mental illness

_____ I have observed persons with a mental illness on a frequent basis

_____ I have a mental illness

_____ I have worked with the person who had a mental illness at my place of employment

_____ I have never observed the person that I was aware had a mental illness

_____ My job includes providing services to persons with a mental illness

_____ A friend of the family has a mental illness

_____ I have a relative who has a mental illness

_____ I have watched a documentary on the television about mental illness

_____ I live with a person who has a mental illness

Appendix C: Attribution Questionnaire – 27

We are conducting a survey about how Canadians perceive different social groups. We are interested in how you think other people in general view these groups. We are not asking how you personally view these groups, but how you think most people view them.

PLEASE READ THE FOLLOWING STATEMENT ABOUT (STEPHEN/SARAH):

[INSERT VIGNETTE CONDITION HERE]

ANSWER EACH OF THE FOLLOWING QUESTIONS ABOUT (STEPHEN/SARAH). CHECK THE NUMBER OF THE BEST ANSWER TO EACH QUESTION.

Consider how [Stephen/Sarah] are viewed by people in general.

1. People would feel aggravated by this person.

1	2	3	4	5	6	7	8	9
Not at all								Very much

2. People would feel unsafe around this person.

1	2	3	4	5	6	7	8	9
Not at all								Very much

3. This person would terrify people.

1	2	3	4	5	6	7	8	9
Not at all								Very much

4. How angry would people feel at this person?

1	2	3	4	5	6	7	8	9
Not at all								Very much

5. People would want this person to be on medication.

1	2	3	4	5	6	7	8	9
Not at all								Very much

6. People would think this person poses a risk to [his/her] neighbours unless [he/she] is hospitalized.

1	2	3	4	5	6	7	8	9
Not at all								Very much

7. If an employer, people would interview this person for a job.

1	2	3	4	5	6	7	8	9
Not at all								Very much

8. People would be willing to talk to this person about [his/her] problems.

1	2	3	4	5	6	7	8	9
Not at all								Very much

9. People would feel pity for this person.

1	2	3	4	5	6	7	8	9
Not at all								Very much

10. People would think it is this person's own fault they [he/she] in the present condition.

1	2	3	4	5	6	7	8	9
Not at all								Very much

11. How controllable would people think this person's present condition is?

1	2	3	4	5	6	7	8	9
Not at all								Very much

12. How irritated would people feel by this person?

1	2	3	4	5	6	7	8	9
Not at all								Very much

13. How dangerous would people think this person is?

1	2	3	4	5	6	7	8	9
Not at all								Very much

14. How much would people agree that this person should be forced into treatment with [his/her] doctor even if [he/she] does not want to?

1	2	3	4	5	6	7	8	9
Not at all								Very much

15. People would agree it would be best for this person's community if [he/she] were put away in a psychiatric hospital.

1	2	3	4	5	6	7	8	9
Not at all								Very much

16. People would share a carpool with this person every day.

1	2	3	4	5	6	7	8	9
Not at all								Very much

17. How much do you think a psychiatric hospital, where this person can be kept away from [his/her] neighbours, is the best place for [him/her]

1	2	3	4	5	6	7	8	9
Not at all								Very much

18. People would feel threatened by this person.

1	2	3	4	5	6	7	8	9
Not at all								Very much

19. How scared of this person would people feel?

1	2	3	4	5	6	7	8	9
Not at all								Very much

20. How likely is it that people would help this person?

1	2	3	4	5	6	7	8	9

Not at all								Very much

21. How certain would you feel that others would help this person?

1	2	3	4	5	6	7	8	9
Not at all								Very much

22. How much sympathy would people feel for this person?

1	2	3	4	5	6	7	8	9
Not at all								Very much

23. People would think this person is responsible for [his/her] present condition

1	2	3	4	5	6	7	8	9
Not at all								Very much

24. How frightened of this person would people feel?

1	2	3	4	5	6	7	8	9
Not at all								Very much

25. If in charge of this person's treatment, people would force [him/her] to live in a group home.

1	2	3	4	5	6	7	8	9
Not at all								Very much

26. If a landlord, people would probably rent an apartment to this person.

1	2	3	4	5	6	7	8	9
Not at all								Very much

27. How much concern would people feel for this person?

1	2	3	4	5	6	7	8	9
Not at all								Very much

Appendix D: Vignettes

Male, masculine disorder, high severity: "Stephen is a 30-year old man with gambling disorder. Stephen likes to go to the casino to gamble every weekend. Over the past few months Stephen has increased his spending toward gambling. He has been having difficulty paying his bills and his partner is having to pay more than their share to cover them. Stephen has also missed out on a few family occasions as he has been at the casino every weekend. His partner is highly concerned and frustrated at the situation. Last weekend, Stephen got in a fight with a fellow card player when he lost the round to them. Stephen feels ashamed, worried, and hopeless that he will not be able to stop his gambling."

Female, masculine disorder, high severity: "Sarah is a 30-year old woman with gambling disorder. Sarah likes to go to the casino to gamble every weekend. Over the past few months Sarah has increased her spending toward gambling. She has been having difficulty paying her bills and her partner is having to pay more than their share to cover them. Sarah has also missed out on a few family occasions as she has been at the casino every weekend. Her partner is highly concerned and frustrated at the situation. Last weekend, Sarah got in a fight with a fellow card player when she lost the round to them. Sarah feels ashamed, worried, and hopeless that she will not be able to stop gambling."

Male, masculine disorder, low severity: "Stephen is a 30-year old man with gambling disorder. Stephen likes to go to the casino to gamble about once a month. Over the past few months Stephen has increased his spending toward gambling. Stephen has started to get concerned about how much he is spending but he has never been late or missed a bill. His partner has mentioned the increased spending activity, but they have not discussed it further. Stephen is distressed but does not believe it to be a problem."

Female, masculine disorder, low severity: "Sarah is a 30-year old woman with gambling disorder. Sarah likes to go to the casino to gamble about once a month. Over the past few months [Female name] has increased her spending toward gambling. Sarah has started to get concerned about how much she is spending but she has never been late or missed a bill. Her partner has mentioned the increased spending activity, but they have not discussed it further. Sarah is distressed but does not believe it to be a problem."

Female, feminine disorder, high severity: "Sarah is a 30-year old woman with bulimia nervosa. Sarah is very concerned with her weight and thinks she is overweight. She is constantly thinking about what she is eating and how it will affect her body. Sarah often finds herself eating more than she wants or intends to and makes herself vomit almost after every meal she eats. She has also begun exercising heavily and goes to the gym almost every day. [Female name] has a very difficult time attending family occasions as there is a lot of food present and she is usually unable to excuse herself to purge or workout, so she often refuses to go. [Female name]'s family is highly concerned and frustrated at the situation. Last weekend, Sarah spent almost the whole time indoors in the bathroom or at the local gym. Sarah feels ashamed, worried, and hopeless that she will ever be able to look and feel like she wants to."

Male, feminine disorder, high severity: "Stephen is a 30-year old man with bulimia nervosa. Stephen is very concerned with his weight and thinks he is overweight. He is constantly thinking about what he is eating and how it will affect his body. Stephen often finds himself eating more than he wants or intends to and makes himself vomit almost after every meal he eats. He has also begun exercising heavily and goes to the gym almost every day. Stephen has a very difficult time attending family occasions as there is a lot of food present and he is usually unable to excuse himself to purge or workout, so he often refuses to go. Stephen's family is highly concerned and frustrated at the situation. Last weekend, Stephen spent almost the whole time indoors in the bathroom or at the local gym. Stephen feels ashamed, worried, and hopeless that he will ever be able to look or feel like he wants to."

Female, feminine disorder, low severity: "Sarah is a 30-year old woman with bulimia nervosa. Sarah has begun to be concerned about her weight and often thinks about what she is eating and how it will affect her body. She has begun to make herself vomit following some particularly large or unhealthy meals and has started going to the gym a few times a week. Sarah is anxious when attending family occasions as there is a lot of food present and she is usually unable to excuse herself to purge or workout. Her family has noticed her changing eating habits and increased physical activity. Sarah is distressed but does not believe it to be a problem; she thinks once she reaches her weight goals, she will feel better."

Male, feminine disorder, low severity: "Stephen is a 30-year old man with bulimia nervosa. Stephen has begun to be concerned about his weight and often thinks about what he is eating and how it will affect his body. He has begun to make himself vomit following some particularly large or unhealthy meals and has started going to the gym a few times a week. Stephen is anxious when attending family occasions as there is a lot of food present and he is often unable to excuse himself to purge or workout. His family has noticed his changing eating habits and increased physical activity. Stephen is distressed but does not believe it to be a problem; he thinks once he reaches his weight goals, he will feel better."

Appendix E: Manipulation Checks

Was the individual in the vignette you read male or female?

___ Male
___ Female

Please rate the femininity or masculinity of [Gambling Disorder; Bulimia Nervosa]

1	2	3	4	5	6	7
Very feminine			Neutral			Very masculine

Please rate the severity of [Gambling Disorder; Bulimia Nervosa]

1	2	3	4	5	6	7
Not severe at all			Neutral			Very severe

Appendix F: Threshold Assessment Grid (TAG)

THRESHOLD ASSESSMENT GRID (TAG)

SCORE SHEET

TAG ASSESSES THE SEVERITY OF MENTAL HEALTH PROBLEMS IN AN INDIVIDUAL

For each domain (numbered 1 to 7), tick ONE statement that best applies to the person being assessed. There should be a total of 7 ticks on the completed grid (one for each domain). Then for each level of severity (e.g. 'None', 'Very Severe') add the number of ticks and record in the box at the bottom of the column. 'Very Severe' is only available for domains where life-saving emergency action by specialist mental health teams may be required. The checklists overleaf provide some guidance on the issues to consider when assessing each domain - they are not intended to be prescriptive.

		NONE	MILD	MODERATE	SEVERE	VERY SEVERE
SAFETY	**Domain 1** Intentional self harm	No concerns about risk of deliberate self-harm or suicide attempt ○	Minor concerns about risk of deliberate self-harm or suicide attempt ○	Definite indicators of risk of deliberate self-harm or suicide attempt ○	High risk to physical safety as a result of deliberate self-harm or suicide attempt ○	Immediate risk to physical safety as a result of deliberate self-harm or suicide attempt ○
	Domain 2 Unintentional self harm	No concerns about unintentional risk to physical safety ○	Minor concerns about unintentional risk to physical safety ○	Definite indicators of unintentional risk to physical safety ○	High risk to physical safety as a result of self-neglect, unsafe behaviour or inability to maintain a safe environment ○	
RISK	**Domain 3** Risk from others	No concerns about risk of abuse or exploitation from other individuals or society ○	Minor concerns about risk of abuse or exploitation from other individuals or society ○	Definite risk of abuse or exploitation from other individuals or society ○	Positive evidence of abuse or exploitation from other individuals or society ○	
	Domain 4 Risk to others	No concerns about risk to physical safety or property of others ○	Antisocial behaviour ○	Risk to property and/or minor risk to physical safety of others ○	High risk to physical safety of others as a result of dangerous behaviour ○	Immediate risk to physical safety of others as a result of dangerous behaviour ○
NEEDS AND DISABILITIES	**Domain 5** Survival	No concerns about basic amenities, resources or living skills ○	Minor concerns about basic amenities, resources or living skills ○	Marked lack of basic amenities, resources or living skills ○	Serious lack of basic amenities, resources or living skills ○	Life-threatening lack of basic amenities, resources or living skills ○
	Domain 6 Psychological	No disabling or distressing problems with thinking, feeling or behaviour ○	Minor disabling or distressing problems with thinking, feeling or behaviour ○	Disabling or distressing problems with thinking, feeling or behaviour ○	Very disabling or distressing problems with thinking, feeling or behaviour ○	
	Domain 7 Social	No disabling problems with activities or in relationships with other people ○	Minor disabling problems with activities or in relationships with other people ○	Disabling problems with activities or in relationships with other people ○	Very disabling problems with activities or in relationships with other people ○	
	TOTAL					