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Sex differences in beliefs and attitudes towards mental illness: An examination of mental health literacy in a community sample

Ray J Gibbons, Einar Thorsteinsson, Natasha M Loi

Objectives: The current study investigated mental health literacy in an Australian sample to examine the influence sex has in the identification of and attitudes towards various aspects of mental illness.

Method: An online questionnaire was completed by 373 participants (267 female, $M = 34.87$). Participants were randomly assigned a vignette depicting an individual exhibiting the symptoms of one of three types of mental illness and asked to answer questions relating to aspects of mental health literacy.

Results: Males exhibited poorer mental health literacy skills compared to females. Males were less likely to correctly identify the type of mental illness, more likely to rate symptoms as less serious and to perceive the individual as having greater personal control over such symptoms.

Conclusion: Generally, the sample was relatively proficient at correctly identifying mental illness but overall males displayed poorer mental health literacy skills than females.
Sex differences in beliefs and attitudes towards mental illness: An examination of mental health literacy in a community sample

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Introduction

Mental illness is a predominant issue in public health, contributing to substantial economic and emotional community burden. It is estimated that up to 45% of the Australian population will experience mental illness at some point during their lifetime (Australian Bureau of Statistics [ABS], 2009). However, not all individuals who experience symptoms of mental illness receive the same level of care or treatment. This is partly attributable to the general public’s beliefs and attitudes surrounding mental illness, often referred to as their mental health literacy (e.g., Jorm, Barney et al., 2006).

The term mental health literacy was first introduced in a study by Jorm et al. (1997) investigating public beliefs about the causes and risk factors for depression and schizophrenia. Jorm et al. (1997, p. 143) described a person’s mental health literacy as his or her “knowledge and beliefs about mental disorders that aid the recognition, management or prevention of these disorders.” According to Jorm et al. (1997), mental health literacy includes: (a) the ability to recognize and differentiate various types of mental illness and disorders; (b) knowledge of how and where to seek information about risk factors, intervention strategies, and professional help; and (c) attitudes and beliefs that influence a person’s ability to identify mental illness and seek appropriate help. Furthermore, an individual’s mental health literacy can be influenced by a multitude of factors, including age, remoteness of residency, education, socioeconomic status, and personal experience with mental healthcare (Dahlberg, Waern & Runeson, 2008; Farrer, Leach, Griffiths, Christensen & Jorm, 2008; Griffiths, Christensen & Jorm, 2009; Kaneko & Motohashi, 2007).

Studies have shown that the general public historically exhibit poor mental health literacy towards various aspects of mental illnesses (Goldney, Fisher & Wilson, 2001; Jorm et al., 1997; Jorm, Christensen & Griffiths, 2005). For instance, Jorm et al. (1997) revealed that only 39% of Australian respondents could accurately recognize symptoms of depression. The beliefs and attitudes of the general public has been shown to be frequently discordant with those held by mental health
professionals, with the public frequently viewing medication, hospitalisation, and psychiatric treatment as harmful (Goldney et al., 2001; Jorm et al., 1997). Interestingly, according to Andrews (1999, p. 317), both mental health “patients and the media do not distinguish between the non-specific help from counsellors and the specific treatment to be expected from mental health professionals”. This inability to discriminate between the types of services offered lends further weight to the research suggesting that the general public’s mental health literacy is still largely lacking (Goldney et al., 2001; Jorm et al., 2005; Jorm & Kelly, 2007). In addition, various stereotypes regarding mentally ill individuals have been shown to be held by the general public. Some common stereotypes include that mentally ill persons are dangerous, dirty, unpredictable, and worthless (e.g., Angermeyer & Dietrich, 2006; Corrigan, Kuwabara & O’Shaughnessy, 2009; Schnittker, 2008). An individual’s mental health literacy, including his or her beliefs and attitudes towards mental illness, may influence or contribute to the formulation of ‘lay appraisals’.

Evidence suggests that long before an individual sees a mental health professional, ‘lay appraisals’ or ‘lay diagnoses’ are made by individuals, family members, friends, and co-workers regarding the early signs of mental illness (Hollingshead, 2007). Lay appraisals are frequently responsible for determining how and when an individual receives treatment for his or her mental illness (Greenley & Mechanic, 1987; Pescosolido, Gardner & Lubell, 1998). As a result, a large portion of people remain undiagnosed and untreated (Kessler et al., 1994; Shapiro, Skinner & Kessler, 1984). A study by Link, Phelan, Bresnahan, Stueve and Pescosolido (1999) showed that many symptoms and disorders are not accurately identified by the public as being a mental illness. However, in 2011, Reavley and Jorm re-administered a national survey, originally distributed in 1995 and again in 2003-2004, in order to identify changes in the mental health literacy of the Australian general public. The results indicated that while there was an overall improvement in mental health literacy, with the public more ably recognizing depression, more positively rating a range of interventions, and holding beliefs
and attitudes more consistent with those of mental health professionals, gains still need to be made with respect to schizophrenia and anxiety disorders which are still under-recognised.

Some findings suggest that sex differences exist when it comes to public attitudes and beliefs towards mental illness (e.g., Angermeyer, Matschinger & Holzinger, 1998; Cotton, Wright, Harris, Jorm & McGorry, 2006; Holzinger, Floris, Schomerus, Carta & Angermeyer, 2012; Jorm et al., 1997); females being seen at a greater risk of developing depression than males. Cotton et al. (2006) investigated mental health literacy in young Australians between 12 and 25 years of age. They also revealed that male youths exhibited significantly worse recognition of depressive symptoms than female youths, with 61% of females able to correctly identify depression compared to 35% of males. Furthermore, male youths were less likely than female youths to view seeing a psychologist or counsellor as an appropriate treatment for psychosis.

These studies provide evidence that some sex differences in the mental health literacy of the general public exists. However, it is unknown to what extent such differences currently exists in the Australian general adult population. Expanding our knowledge of sex differences in public awareness of mental illness could help to identify particular areas of mental health literacy in need of improvement specific to each sex. High mental health literacy, including the ability to accurately identify mental illness, may play a pivotal role in help-seeking behaviors and potentially decrease an individual’s vulnerability to suicide. Additionally, the identification of such sex disparities in mental health literacy would help to facilitate and guide education programs about mental health, as well as tailor specific individual psycho-education unique to each client.

One of the aims of this study was to build upon the current findings associated with mental health literacy by investigating further the influence that sex has regarding the identification of, and attitudes towards, various aspects of the three major types of mental illness in Australia (i.e., depression, anxiety, and psychosis). As such, the hypotheses proposed to be explored by the present research are as
follows: (a) the general public’s mental health literacy are likely to differ significantly for depression,

anxiety, and psychosis, (b) various aspects of the general public’s mental health literacy toward
depression, anxiety, and psychosis are likely to differ significantly between males and females, and (c)
the sex of the individual expressing symptoms of depression, anxiety, and psychosis is likely to
influence various aspects of the general public’s mental health literacy.

Materials & Methods

Participants

The participants consisted of 381 respondents of varying age, sex, and socio-demographic
backgrounds. Eight participants discontinued the questionnaire before completing all of the initial
socio-demographic background section and were excluded. The final sample of individuals who
participated in this study consisted of 373 participants between the ages of 18 and 84 (\( M = 34.87, SD = \)
12.46) with 28% (\( n = 106 \)) of participants being male (\( M = 35.95, SD = 12.72 \)), compared to 72% (\( n =
267 \)) being female (\( M = 34.44, SD = 12.36 \)).

Participants were recruited via invitation email through various mailing lists and via messages
posted on various social networking sites such as Facebook and Twitter, and by word of mouth. The
study was approved by the University of New England’s Human Research Ethics Committee
(HE11/022).

Materials and Procedures

After reading the online information sheet and consenting to participate in the study, participants
completed demographic questions relating to their age, sex, schooling, locality (rural or urban),
income, and occupation. Following these, participants read a vignette (random allocation to one of
three vignettes) designed to emulate one of the three most common types of symptoms associated with
mental illness (i.e., depression, anxiety, and psychosis). Each vignette described an individual who was
experiencing symptoms of mental illness at a clinically significant level in which some form of
intervention would be recommended as per the criteria stipulated in the *Diagnostic and Statistical Manual of Mental Disorders 5* (DSM-V; American Psychiatric Association [APA], 2013). The depression and psychosis vignettes were adapted from the depression and schizophrenia vignettes used by Jorm et al. (1997).

The names ‘John’ and ‘Jane’ were chosen for use in the vignettes due to the fact that they are common Australian names with no cultural association to any minority groups. The age of the protagonist was kept consistent at 30 years of age in order to avoid the potential confound of developmental and psychosocial difficulties that often occur in childhood and adolescence as well as to avoid age-specific neurological and physical conditions often present in older adults.

Participants were then asked a series of questions which were created to ascertain various aspects of their mental health literacy regarding the mental illness depicted in the vignette (i.e., “In five words or less, what would you say, if anything, is wrong with the individual in the vignette?”). Additional questions were designed to ascertain the participants’ perceptions of the seriousness of the symptoms described in the vignette (e.g., “To what extent would you rate the problems of the individual in the story as being serious?”), and the perceived level of control that the participants believed the individual in the vignette has over the symptoms described (i.e., “To what extent are the problems of the individual in the story within his or her control?”).

The final questions related to participants’ sex perceptions regarding mental illness (e.g., “Which group of people would you consider to be most likely to experience problems similar to those of the individual in the story?”).

The following overall guidelines were established for the purposes of providing consistency and accuracy in distinguishing between correct and incorrect responses: (a) the use of the general category of mental illness (i.e., depression, anxiety, and psychosis), or a derivative of the word (e.g., depressive, depressed, anxious, or psychotic) was regarded as a correct response; (b) the use of the exact *DSM-V*
diagnostic criteria, or subtype there of (e.g., major depression, dysthymia, generalised anxiety disorder, or paranoid schizophrenia) was also regarded as a correct response; (c) references to symptoms of a mental illness rather than the illness itself were not regarded as correct responses; (d) the term “stressed” was not accepted as a correct identification of anxiety on the basis that it is frequently used as a colloquial term that can encompass a broad range of symptoms, some of which are often not associated with anxiety. Similarly, the terms “paranoid” and “delusional” were not accepted as correct identification of psychosis as they may also be used in colloquial contexts, and refer to the symptoms of schizophrenia rather than the illness itself; (e) misspelt words or phrases were accepted as correct providing it was discernible as to what mental illness was intended; and (f) accurate responses were maintained as correct regardless of additional information or diagnoses that were provided beyond that of the correct diagnosis, as the participant demonstrated the ability to identify the mental illness in question.

Results

Identification of Mental Illness

There was a strong association between correct identification and type of mental illness, $\chi^2(2, N = 373) = 52.11, p < .001, \phi = .37$, with 86% of participants correctly identifying depression, 57% of participants correctly identifying anxiety, and 42% correctly identifying schizophrenia. There was also a weak but statistically significant association between correct identification and sex, $\chi^2(1, N = 373) = 4.70, p = .03, \phi = -.11$, with 52% of male and 64% of female participants correctly identifying the mental illness. There was only a weak association between correct identification and protagonist sex, $\chi^2(1, N = 373) = 0.33, p = .056, \phi = .03$, with 62% of male and 59% of female protagonist mental illness correctly identified.
Main Analyses

Four three-way between groups ANOVAs, type of illness by sex by protagonist sex, were conducted for perceived seriousness, need for treatment, risk of self-harm, and personal control, see Table 1. The means and standard deviations are reported in Table 2 along with any post hoc analysis of main effects.

The interaction effect between mental illness and participant sex was significant for need for treatment, indicating that the effect that participant sex has on the perceived need for treatment for mental illness is dependent on the type of mental illness, see Figure 1. Analysis of simple effects was conducted using separate one-way between groups ANOVAs to determine the independent effects of participant sex and type of mental illness. For depression there was no significant difference between participant sex, $F(1, 117) = 0.21, p = .65$, partial $\eta^2 < .01$. For anxiety there was a significant difference between participant sex, $F(1, 122) = 11.80, p = .001$, partial $\eta^2 = .09$, with females ($M = 4.89, SD = 1.17$) perceiving a higher need for treatment than males ($M = 4.09, SD = 1.14$). For psychosis there was a significant difference between participant sex, $F(1, 128) = 13.84, p < .001$, partial $\eta^2 = .10$, with females ($M = 6.27, SD = 0.79$) perceiving a higher need for treatment than males ($M = 5.64, SD = 1.02$).

There was a significant interaction between participant and protagonist sex for personal control, see Table 1, indicating that the effect that participant sex has on perceived level of control over mental illness is dependent on the type of protagonist sex. Analysis of simple effects was conducted using separate one-way between groups ANOVAs to determine the effects of participant and protagonist sex. For males there was no significant difference between protagonist sex, $F(1, 104) = 3.05, p = .08$, partial $\eta^2 = .03$. For females there was no significant difference between the protagonist sex, $F(1, 265) = 0.74, p = .39$, partial $\eta^2 < .01$. For male protagonists there was no significant difference between participant sex, $F(1, 180) = 0.23, p = .64$, partial $\eta^2 < .01$. For female protagonists there was a significant
188 difference between participant sex, $F(1, 189) = 10.77, p = .001$, partial $\eta^2 = .05$, with male participants
189 rating a higher level of perceived control than females, see Figure 2.

190 **Sex Susceptibility**

191 Three chi-square tests were performed to test if there was a relationship between perceived sex
192 susceptibility and the type of mental illness, participant sex, and protagonist sex. There was a
193 significant association between perceived sex susceptibility and type of mental illness, $\chi^2(4, N = 373) =
194 22.48, p < .001, \phi = .25$. From the participants who received the depression vignette, 13.8% indicated
195 that males are more susceptible, 15% indicated that females are more susceptible, and 72% indicated
196 that males and females are equally susceptible. From the participants who received the anxiety
197 vignette, 13% indicated that males are more susceptible, 23% indicated that females are more
198 susceptible, and 63% indicated that males and females are equally susceptible. From the participants
199 who received the psychosis vignette, 28% indicated that males are more susceptible, 6% indicated that
200 females are more susceptible, and 66% indicated that males and females are equally susceptible, see
201 Figure 3.

202 There was a significant association between perceived sex susceptibility and participant sex, $\chi^2(2,
203 N = 373) = 11.00, p = .004, \phi = .17$. From the male participants, 29% indicated that males are more
204 susceptible, 9% indicated that females are more susceptible, and 62% indicated that males and females
205 are equally susceptible. From the female participants, 15% indicated that males are more susceptible,
206 17% indicated that females are more susceptible, and 68% indicated that males and females are equally
207 susceptible, see Figure 4. There was a significant association between perceived sex susceptibility and
208 protagonist sex, $\chi^2(2, N = 373) = 35.70, p < .001, \phi = .31$. From the participants who received a male
209 protagonist vignette, 29% indicated that males are more susceptible, 6% indicated that females are
210 more susceptible, and 65% indicated that males and females are equally susceptible. From the
211 participants who received a female protagonist vignette, 9% indicated that males are more susceptible,
22% indicated that females are more susceptible, and 69% indicated that males and females are equally susceptible, see Figure 5.

Discussion

This study explored whether the mental health literacy of members of the general public was influenced by (a) the type of mental illness, (b) the sex of the individual experiencing the symptoms of mental illness, and (c) the sex of the individual identifying and appraising the mental illness.

Participants read a vignette describing either a male or female experiencing clinically significant symptoms of depression, anxiety, or psychosis. Participants were then asked a number of questions in order to assess various aspects of their mental health literacy. The results were consistent with the hypothesis that some aspects of mental health literacy are influenced by the type of mental illness, sex of the participant, and sex of the protagonist.

As hypothesized, the type of mental illness directly influenced participants’ abilities to accurately identify the presenting symptoms, with depression resulting as the most readily identifiable mental illness (85.7%), followed by anxiety (56.5%), and then psychosis (41.5%). These findings suggest that the general public is relatively good at identifying symptoms of depression, but find it significantly more difficult to identify anxiety and psychosis. This is consistent with previous research that has shown depression to be more readily identifiable by the general public than psychosis (e.g., Jorm et al., 1997). A number of factors may contribute to the increased recognition of depression over anxiety and psychosis. First, a greater prevalence of depression and anxiety in Australia compared to psychosis may result in members of the general public having greater exposure and experience with such mental illnesses. Second, the term depression is more readily used in the Australian vernacular and is associated with fewer and milder social stigmas. Finally, compared to depression and anxiety, which refer to broad categories of psychological symptoms, psychosis refers to a more specific set of
psychological symptoms outlined in the *DSM-V*, subsequently making it more difficult to accurately identify (APA, 2013; ABS, 2009).

Across the measures of level of seriousness, participants showed the greatest level of concern towards individuals with psychosis, followed by depression, and anxiety. This is in line with evidence that has shown that psychosis and depression are associated with increased levels of morbidity and mortality compared to the general population, in particular, relating to serious cardiovascular events (Casey et al., 2004; Musselman, Evans & Nemeroff, 1998; Wulsin, Vaillant & Wells, 1999). Similarly, psychosis and depression are associated with increased levels of suicide attempts compared to the general population. In fact, suicide is the leading cause of premature death among individuals with schizophrenia (Fenton, 2010). These findings suggest that the general public have accurate perceptions of the seriousness of mental illnesses and support the finding by Jorm et al. (2006) which identified a growing trend of improved mental health literacy of the general public over the past decade. The current study appears to support this contention of increased improvement.

As hypothesized, a significant difference existed between each participant sex and their respective ability to accurately identify the presenting symptoms, with 64% of females able to correctly identify the mental illness provided compared to 52% of males. Across the measures of level of seriousness, females displayed an overall tendency to perceive the symptoms of mental illness as more serious compared to males.

These findings are congruent with previous studies suggesting that when compared with females, males display a poorer ability to correctly identify mental illness as well as more restrictive attitudes towards the various aspects of mental illness (Cotton et al., 2006; Kaneko & Motohashi, 2007). One possible explanation for these findings is that females may be inherently more psychologically minded, introspective, and emotionally aware, thus increasing the likelihood that they would (a) engage in conversations relating to emotional and psychological difficulties, (b) have contact or interactions with
individuals who have a mental illness, and/or (c) participate in studies relating to mental health literacy (Petrides, Furnham & Martin, 2004).

Finally, as hypothesized, the sex of the protagonist presented in the vignette provided had an influence on a number of aspects of mental health literacy including the perceived level of seriousness, degree of personal control, and sex susceptibility. Individuals who received a male protagonist vignette displayed a tendency to report marginally higher levels of perceived seriousness compared to individuals who read about a female protagonist. Furthermore, of the individuals provided with a male protagonist vignette, 29% indicated that males were more likely to be susceptible to mental illness compared to 6% of individuals who indicated that females were more likely. Conversely, when presented with a female protagonist vignette the opposite trend was observed, with 22% indicating that females were more likely to be susceptible to mental illness compared to 9% of individuals who indicate that males were more likely.

Further findings indicated that when provided with a female protagonist vignette, males displayed a tendency to perceive a higher level of personal control over mental illness than females. However, when provided with a male protagonist vignette no sex differences were observed. These results are consistent with, and build upon, preliminary evidence obtained by Jorm et al. (1997) by suggesting that protagonist sex may influence mental health literacy not only through self-reported beliefs, but also as a result of innate perceptions regarding mental illness.

**Limitations**

Similar to other research conducted regarding mental health literacy, this research adopted the use of a brief written vignette. The use of such a vignette presents two distinct complications. First, it is uncertain whether a written description of symptoms of mental illness elicits the same attitudes and perceptions as obtaining the same information from face-to-face observations and verbal communication. It is likely that overt body language and non-verbal communication (i.e., facial
expressions, eye contact, tone of voice) would provide additional information from which to identify and evaluate an individual’s symptoms of mental illness.

Second, it is unknown whether the level of concern expressed towards a vignette of mental illness is comparable or equivalent to that expressed towards a real person and whether there are any differences in the subsequent therapeutic actions taken from such concern (i.e., help seeking behavior). Some research has shown that a discrepancy exists between what behaviors, interventions, and professionals an individual believes are helpful and what therapeutic actions he or she actually employs (Jorm et al., 2000). Similarly, differences are also demonstrated between what an individual believes will help another person and what actions they would take for themselves (Raviv, Sills, Raviv & Wilansky, 2000).

About 72% of the participants in the present study were females. This is consistent with other research on mental health literacy that has shown males are less likely than females to participate in studies relating to mental health literacy (e.g., Burns & Rapee, 2006; Jorm et al, 1997; Link et al., 1999). Such a discrepancy may have potentially created an overrepresentation of female beliefs and attitudes when performing comparisons based on the entire sample. However, there were no statistically significant sex related interactions except for need for treatment.

The vignettes employed in this study depicted three different mental illnesses clearly distinguishable from each other through the absence of overlapping symptoms or comorbid diagnoses involving substance abuse, medical conditions, trauma, personality disorders, or intellectual difficulties. Comorbidity among mental illness is extremely high and would inevitably have a large impact on an individual’s ability to accurately identify and evaluate mental illness. As such, the findings from this study may not be extrapolated to apply to common situations whereby comorbidity is present (Kessler et al., 2005). Similarly, the vignettes utilized in this study described the protagonists as being 30 years of age in order to maintain consistency. Unique age-related difficulties in younger
(e.g., puberty) and older populations (e.g., cognitive decline) may potentially complicate the
identification of mental illness (Bartels, 2004; Pottick, Hansell, Gutterman & Raskin-White, 1995).

Future research on mental health literacy may consider several issues: (a) considering whether
the trends displayed using vignettes are comparable to ‘real life’ symptoms (b) the extent to which
expressed concerns towards mental illness equate to therapeutic action (c) the influence of comorbidity
towards mental health literacy (d) the influence of the age of the protagonist, (e) the effect of utilizing a
vignette describing sub-clinical everyday problems as a comparison, (f) exploration of the possible
reasons behind participants’ mental health literacy, and (g) examining comparisons between the mental
health literacy of youths, adolescents, and adults.

Conclusions

The findings from this study suggest that the Australian general public is relatively proficient at
correctly identifying mental illness, in particular symptoms of depression. The general public also
displayed relatively accurate perceptions of the severity and seriousness of symptoms of depression,
anxiety, and psychosis. Males exhibited poorer mental health literacy skills than females, with males
being less likely to correctly identify the type of mental illness, displaying a tendency to rate symptoms
as being less serious, and perceiving greater personal control over mental illness. These findings help
to identify numerous areas of public mental health literacy that may be improved in the Australian
general public, namely education programs targeted towards increasing awareness of mental illness in
the male population.
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Table 1 (on next page)

Between Groups ANOVAs for the Effects of Illness, Gender, and Protagonist Gender on Perceived Seriousness, Need for Treatment, Risk of Self-harm, and Personal Control
Table 1

Between Groups ANOVAs for the Effects of Illness, Sex, and Protagonist Sex on Perceived Seriousness,
Need for Treatment, Risk of Self-harm, and Personal Control

<table>
<thead>
<tr>
<th>Measures</th>
<th>Perceived Seriousness</th>
<th>Need for Treatment</th>
<th>Risk of Self-harm</th>
<th>Personal Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Partial η²</td>
<td>F</td>
<td>Partial η²</td>
</tr>
<tr>
<td>Illness type (I)</td>
<td>69.74***</td>
<td>.28</td>
<td>49.81***</td>
<td>.22</td>
</tr>
<tr>
<td>Sex (S)</td>
<td>6.19*</td>
<td>.02</td>
<td>18.29***</td>
<td>.05</td>
</tr>
<tr>
<td>Protagonist sex (PS)</td>
<td>4.73*</td>
<td>.01</td>
<td>1.04</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>I × S</td>
<td>2.01</td>
<td>.01</td>
<td>3.11*</td>
<td>.02</td>
</tr>
<tr>
<td>I × PS</td>
<td>0.02</td>
<td>&lt;.01</td>
<td>0.16</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>S × PS</td>
<td>2.22</td>
<td>.01</td>
<td>0.006</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>I × S × PS</td>
<td>0.76</td>
<td>&lt;.01</td>
<td>0.44</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>

Note. *p < .05, **p < .01, ***p < .001
Table 2 (on next page)

Means and Standard Deviations for Condition, Gender of participants and protagonist by the Perceived Seriousness, Need for Treatment, Risk of Self-Harm, and Personal Control
Table 2

*Means and Standard Deviations for Condition, Sex of Participants and Protagonist by Perceived Seriousness, Need for Treatment, Risk of Self-harm, and Personal Control*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Perceived Seriousness</th>
<th>Need for Treatment</th>
<th>Risk of Self-harm</th>
<th>Personal Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Illness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>5.57 (1.04)(^a)</td>
<td>5.13 (1.10)(^a)</td>
<td>4.53 (1.42)(^a)</td>
<td>3.81 (1.37)(^a)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>4.87 (1.18)(^b)</td>
<td>4.67 (1.21)(^b)</td>
<td>3.82 (1.42)(^b)</td>
<td>4.04 (1.48)(^a)</td>
</tr>
<tr>
<td>Psychosis</td>
<td>6.46 (0.75)(^c)</td>
<td>6.09 (0.90)(^c)</td>
<td>5.58 (1.21)(^c)</td>
<td>2.86 (1.56)(^b)</td>
</tr>
<tr>
<td><strong>Participant</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5.46 (1.30)(^a)</td>
<td>4.94 (1.26)(^a)</td>
<td>4.47 (1.53)(^a)</td>
<td>3.87 (1.49)(^a)</td>
</tr>
<tr>
<td>Female</td>
<td>5.72 (1.14)(^b)</td>
<td>5.46 (1.19)(^b)</td>
<td>4.73 (1.53)(^a)</td>
<td>3.43 (1.57)(^b)</td>
</tr>
<tr>
<td><strong>Protagonist</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5.74 (1.20)(^a)</td>
<td>5.36 (1.21)(^a)</td>
<td>4.73 (1.53)(^a)</td>
<td>3.56 (1.64)(^a)</td>
</tr>
<tr>
<td>Female</td>
<td>5.57 (1.19)(^b)</td>
<td>5.26 (1.25)(^a)</td>
<td>4.60 (1.54)(^a)</td>
<td>3.55 (1.48)(^a)</td>
</tr>
</tbody>
</table>

*Note.* Values within variables in columns that share a subscript are not different by alpha criterion of .05 (Sidak adjusted).
Figure 1 (on next page)

Image of need for treatment expressed by male and female participants towards the three types of mental illness.

Need for treatment expressed by male and female participants towards the three types of mental illness.
**Figure 1.** Need for treatment expressed by male and female participants towards the three types of mental illness.
**Figure 2** (on next page)

Image of perceived level of personal control over mental illness for each protagonist gender as rated by each participant gender.

Perceived level of personal control over mental illness for each protagonist gender as rated by each participant gender.
Figure 2. Perceived level of personal control over mental illness for each protagonist gender as rated by each participant gender.
Figure 3 (on next page)

Image of number of participants who indicated each gender as being more susceptible to depression, anxiety, and psychosis.

Number of participants who indicated each gender as being more susceptible to depression, anxiety, and psychosis.
Figure 3. Number of participants who indicated each gender as being more susceptible to depression, anxiety, and psychosis.
Figure 4 (on next page)

Image of number of male and female participants who indicated each gender as being more susceptible to mental illness.

Number of male and female participants who indicated each gender as being more susceptible to mental illness.
**Figure 4.** Number of male and female participants who indicated each gender as being more susceptible to mental illness.
Figure 5 (on next page)

Image of number of participants for each protagonist gender who indicated each gender as being more susceptible to mental illness.

Number of participants for each protagonist gender who indicated each gender as being more susceptible to mental illness.
Figure 5. Number of participants for each protagonist gender who indicated each gender as being more susceptible to mental illness.