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Beliefs about Mental Illness: The Influence Of
Gender-Roles on What We Take From Television

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Abstract

There were two main purposes to this study. The first was to investigate if the variance associated with attitudes and beliefs regarding mental illness can be explained better by participant sex or *gender-role endorsement* (GRE). University students (n = 258) filled out questionnaires assessing both mental health-related attitudes and GRE. Multiple regression analyses indicated that the variance explained by sex was almost entirely accounted for by participant GRE. The second part of the study assessed how GRE may moderate the effects television exposure has on our mental illness attitudes. Using a mixed design (n = approximately 19/group), attitudes were measured approximately one week before, and immediately after watching one of four episodes of a therapy-based HBO drama. The results suggested that exposure to this series may increase positive attitudes regarding mental illness. Additionally, our findings indicated a non-significant trend that gender stereotypic portrayals in this series decrease negative attitudes regarding the hygiene of those with mental illness, while non-gender stereotypic portrayals increase negativity.

Beliefs about Mental Illness: The Influence of Gender Roles on What We Take From Television

Research has estimated that in a given year 26% of adults have a diagnosable mental illness (Kessler, Chiu, Demler, & Walters, 2005), however studies have also shown that only 11% of these adults actually seek help (Vogel, Wade, & Hackler, 2007). Moreover, those who do seek help will often drop out of treatment preemptively. Insufficient treatment results in negative consequences at both an individual level (e.g., worsened symptoms or missed work) and a societal level (e.g., a greater medical and financial burden) (Ruggeri, et al., 2007). For example, in Canada, depression was estimated to cost \$2.6 billion due to work-related productivity cost (Stephens & Joubert, 2001). Failure to seek help and dropping out of treatment come as surprises, as by definition these ailments are associated with significant distress and impairment (American Psychiatric Association, 2000). Furthermore, diverse means of treatment (including pharmaco- and psycho-therapies), for many of these illnesses, have been empirically validated (Corrigan, 2004; Gibbs & Grambrill, 2002; Torrey, et al., 2001).

Identifying barriers to treatment is critical. Mansfield, Addis, and Courtenay (2005) have categorized help-seeking barriers as either (a) physical limitations, such as financial or accessibility issues or (b) intrinsic limitations, involving attitudes and beliefs. Clarke (2007) asserts that the intrinsic barriers are the greater obstacles to help seeking. Included in this category are commonly held negative misunderstandings of mental illness. This collection of false beliefs and attitudes, known as stigma, results from how humans structure their knowledge about social groups (Rüsch, Angermeyer, & Corrigan, 2005). Popular contemporary models, such as that of Corrigan (2000, 2004), characterize stigma through social-cognitive processes often involving *stereotypes*, *prejudice*, and *discrimination*.

Stereotypes are efficient, widely endorsed knowledge structures applied to persons that are often negative and inaccurate (Corrigan, et al., 1999; Mullen & Rice, 2003; Mullen, Rozell, & Johnson, 2000). For instance, individuals with mental disorders may be viewed as violent, incompetent, and to blame for their symptoms (Corrigan, 2004). Stereotype endorsement may lead to negative emotions, thoughts, and evaluation, known collectively as *prejudice*. Acting upon prejudice, that is, behaving in accord with the negative thoughts and emotions, is known as *discrimination*.

This discrimination is often associated with drastic consequences, illustrating how stigma is problematic in ways other than reduced help-seeking. For instance, Hiday, Swartz, Swanson, Borum, and Wagner (1999) found the rate of violent criminal victimization to be two and a half times greater for those with severe mental illness than the general public; 8.2% versus 3.1%, respectively (see also Choe, Teplin, & Abram, 2008; Goodman, et al., 2001). Other more frequent reactions to mental illness include the unfair denial of day-to-day opportunities such as employment (Link & Phelan, 2001) and increased likeliness of arrest by police officers (Teplin, 1984).

The barrage of negative culture surrounding mental illness may also cause individuals who suffer from mental disorders to internalize false and negative beliefs (i.e., self-stigma), diminishing their personal sense of value (Holmes & River, 1998). This self-stigma is also a help-seeking barrier, and thus symptoms may continue or worsen. This may, in turn, exacerbate public stigma, thus demonstrating the interactive nature of a complex problem.

Given the diverse consequences of stigma, including reduced help-seeking, it is important to understand its source and nature. One such source is the presence of *external* factors that exist outside individuals and help to maintain their attitudes and beliefs. The media, for instance, is a

major source of information regarding mental illness (Stuart, 2006; Pirkis, Blood, Francis, & McCallum, 2006). Research indicates that television (TV) is especially influential, specifically in regards to false and negative beliefs and attitudes (Diefenbach, 1997). For example, Diefenbach and West (2007) found that as TV viewing increases, tolerance for associating with individuals with mental illness decreases. Numerous other researchers have found similar negative correlations (Granello & Pauley, 2000; Pirkis et al., 2006; Vogel et al., 2008). This is worth addressing, as Canadians, on average, watch 21.4 hours of TV a week (Statistics Canada, 2006). Because drama accounts for 28.7% of viewing hours it is noteworthy that fictional drama series are more likely to contain mental health issues than other genres, such as sports or science-fiction (Diefenbach & West, 2007).

Concerning the actual degree to which mental illness is portrayed on-screen, Diefenbach (1997) found that in a one week sample, 9% of US prime time TV shows featured a mental health professional. Stuart (2006) reported that in New Zealand, almost half of all programs aimed at children under 10 years of age contained one or more references to persons with mental illness. Moreover, these characters were most often portrayed as objects of fear or amusement, and in many cases were associated with a loss of control. In addition, Diefenbach and West (2007) found that those with mental illness were portrayed as 10 to 20 times more violent than the actual US population of those suffering from mental disorders. Such stereotypic portrayals may lead to prejudicial attitudes and discriminatory behaviors.

While it is evident that external factors such as TV are associated with stigma, it is important to acknowledge that *internal* factors are also associated with negative attitudes and beliefs. Internal factors, in regards to mental illness, are aspects of individuals associated with stigma towards the mentally ill, and are thus sometimes called “perceiver characteristics.”

Examples of internal factors include level of education, ethnicity, and sex, which have all been linked with stigma endorsement (Corrigan & Watson, 2007).

Sex is of particular interest, as research has provided some support that males tend to hold somewhat more negative and stigmatizing attitudes (e.g., Corrigan & Watson, 2007; Swim, Aiken, Hall, & Hunter, 1995). This is potentially useful knowledge, as it may tell us which demographics to target in efforts to reduce stigma. Unfortunately, the evidence for the association of sex and stigma is inconsistent, as a number of other studies have found that sex did *not* account for a significant difference in attitudes (e.g., Zeldow, 1976; Farina, 1981)

It is likely that these inconsistent results are, at least in part, due to methodological differences. For instance, Corrigan and Watson (2007) may have detected a sex difference due to the large size of their nationally representative sample ($N = 968$). Given that their effect size was small, it is likely that other studies have lacked the experimental power to detect a statistically reliable difference.

Alternatively, recent research has suggested that observed sex differences in attitudes might be secondary to individuals' expressions of gender-roles. This internal characteristic can be described as *gender-role endorsement* (GRE), and indicates the degree to which men and women's attitudes and behaviors are in accord with the traditional norms of their sex. Traditional masculinity is associated with concepts such as aggression, dominance, and goal-driven behavior (Levant et al., 2007), while traditional femininity is exemplified by social empathy, personal integration, and emotional expression (Ward, Thorn, Clements, Dixon, & Sanford, 2006).

Research suggests that GRE characterized by traditional masculinity is associated with stigmatizing attitudes about mental illness, as well as lower levels of treatment-seeking (Addis & Mahalik, 2003; Mansfield et al., 2005). Subsequently, male GRE has been the focus of extensive

research and the inverse relationship between it and mental health attitudes has been implicated by several measures of traditional masculinity (e.g., *Male Role Norms Inventory*, Levant et al., 2007; *Gender Role Conflict Scale*, Berger, Levant, McMilland, Kelleger, & Sellers, 2005; *Personal Attributes Questionnaire*, Butler, Giordano, & Neren, 1985).

A large motivation for studying GRE is to further examine its potential explanatory role concerning the inconsistently observed relationship between individuals' sex and their attitudes and beliefs about mental health disorders. That is, research has suggested that this relationship may be spurious and reflects the influence of a third variable. Specifically, it has been suggested that GRE accounts for the relationship between sex and mental health-related attitudes. For instance, Hinkelman and Granello (2003), after controlling for GRE, found that all sex differences in attitudes towards mental illness disappeared. Furthermore, because men and women endorse each other's gender norms (i.e., some men may subscribe to gender roles that are traditionally considered female and vice versa), it is suggested that GRE may account for the individual differences in mental health-related attitudes more consistently than sex (Magovcevic & Addis, 2005).

Interestingly, the focus of GRE research has paid little attention to the relationship between traditional feminine ideology and mental health-related attitudes and beliefs. For instance, while Butler et al. (1985) reported that female GRE, as measured by the *Femininity* subscale of the *Extended Personal Attributes Questionnaire* (1981), was associated with higher levels of treatment-seeking, little to no research has examined the potential of femininity as a predictor of lessened stigma or more positive attitudes. In other words, the understanding that male GRE may involve *more negative* attitudes has done little to prompt consideration of whether or not female GRE promotes *more positive* attitudes. In a preliminary effort to better

understand how female GRE relates to stigma, dimensions of femininity were measured in this study (see Methods).

Having considered TV and GRE as external and internal factors relating to stigma, respectively, it is interesting to consider if and how the two may interact. One approach is to consider how portrayals of gender-roles affect “what we take” from TV. That is, does the gender-role expressed by on-screen characters moderate the effect TV has on our attitudes and beliefs about mental illness? To our awareness, no research to date has considered how or if this interaction occurs. Interestingly, Vogel and associates (2007, 2008) have considered both TV and GRE as predictors of negative mental illness attitudes, but have not studied their conjoint influence.

The present research addresses this limitation from both a correlational and experimental approach. First, participants’ mental health-related attitudes are measured alongside GRE. Because two measures of GRE (*MRNI-R*, Levant et al., 2007; *Personal Attributes Questionnaire-18*, Ward et al., 2006), involving dimensions of both traditional masculinity and femininity are included, the two can be considered concurrently. It is expected that, similar to previous research, masculine GRE will inversely correlate with these attitudes. Based partly on the findings of Butler et al. (1985) it is expected that feminine GRE will be associated with more positive mental health attitudes. Moreover, it is expected that these attitudes will be better accounted for by GRE than sex.

This study also addresses a second limitation of previous studies, this being a frequent reliance upon correlational designs/methods (e.g., Diefenbach, 1997; Vogel et al., 2008). While correlational research is valuable, causation cannot be inferred, and thus the direction of the relationship between TV and attitudes cannot be investigated directly.

An exception to correlational research is Wahl and Lefkowitz' study (1989), that compared participants' attitudes after watching either a movie that portrayed mental illness violently, or a biographical movie containing general content related to mental health. The attitudes of those exposed to the violent movie were significantly more negative than those in the control group. The present study used a similar design to that of Wahl and Lefkowitz', but attempted to compensate for some of their limitations. Specifically, they compared randomly assigned groups without measuring their attitudes *prior* to media exposure. This opens the door to alternate explanations for group differences. The present study assessed participants' attitudes before *and* after they watched a selected episode from a contemporary TV drama series (which is centered around a client and therapist), thereby allowing direct assessment of changes in attitudes.

Additionally, this study offers the first look at how individuals' mental health-related attitudes may be influenced by the nature of on-screen content. This interaction is manipulated by which one of four episodes of the therapy-based TV drama series *In Treatment* is shown to participants. The selected episodes can be described in terms of the clients' sex and their level of therapeutic engagement (i.e., how involved and willing the clients are in terms of their treatment). In the early episodes, both the male and female clients are relatively unengaged in the therapeutic process. In contrast, they are both considerably more involved in the later episode. Alternatively, these episodes may be conceptualized by the degree to which the clients' adhere to traditional and sex-congruent gender stereotypes. For example, the female client in one episode is portrayed converse to the female stereotype (e.g., she is emotionally detached and aggressive). Conversely, the second episode occurs later in therapy. By this point, she has opened up emotionally and is now acting more in accord with the female stereotype. The episodes

following the male character are similar, however, he is stereotypically masculine in the early episode, and non-stereotypic in the later episode (e.g., he is emotionally vulnerable).

The rationale for conceptualizing the different episodes in relation to the gender stereotypic content was based on the possibility that seeing characters act in or out of synchrony with their gender norms can influence how the mental health-related attitudes of participants are affected. It must again be asserted that this aspect of the study was exploratory, and so it was difficult to predict which direction participants were influenced in. For example, seeing the male character act *out* of stereotype (i.e., emotionally vulnerable and engaged in therapy) might influence a viewer in one of two opposing directions: (a) by reinforcing stigma, having seen a “weak, sissy” male, or (b) by creating awareness that men feel a broad range of emotions and that stereotypes are often inaccurate. Overall, it was expected that concurrent consideration of TV and the nature of gender-role depictions (i.e., non- vs. gender stereotypic) would enhance understanding of mental illness stigma.

In summary, two primary research goals are considered. The first is to extend previous research supporting GRE’s predictive ability in regards to mental health-related attitudes. This will be achieved in two ways: (a) by examining the influence of both masculine and feminine GRE, and (b) by comparing the relative influence of sex and GRE in explaining these attitudes and beliefs. It is predicted that GRE will better account for these attitudes than participants’ sex. The second goal is to examine how the congruency of portrayals of characters with gender stereotypes may influence the effects of TV on mental health-related attitudes. For example, would a gender stereotypic portrayal of a female being treated by a mental health professional increase or decrease the negativity of mental health-related attitudes? What about a *non*-gender stereotypic portrayal? This manipulation is accomplished by including episodes featuring both

sexes portraying varying gender stereotypes and levels of therapeutic engagement, thus tapping a spectrum of potential interactions between viewers and characters.

Method

Phase I

Participants.

Participants were 258 undergraduate psychology students (84 men and 174 women) recruited through SONA, the on-line Psychology department participant pool. Participants were also recruited through announcements to several psychology classes. One extra course credit, applied to a psychology class of their choice, was offered as incentive. Participation was restricted to those at least 17 years of age. While English was not necessarily their first language, all students were able to read and write in English at a grade 7-level. Ages ranged from 17 to 61 years ($M = 20.0$, $SD = 3.9$). The ethnic distribution was as follows: 79.5% identified as Caucasian, 13.2% identified as Asian, .8% identified as Aboriginal, and 6.2% identified as “other”.

Measures.

A short demographic questionnaire was administered to help characterize the sample (see Appendix A). Specifically, questions concerning age, sex, ethnicity, level of education, and marital status were asked.

The *Male Roles Norms Inventory-Revised* (MRNI-R; Levant et al., 2007) is a 53-item measure of traditional masculine gender role ideology (see Appendix A). It consists of the following seven subscales: Avoidance of Femininity (8 items); Fear and Hatred of Homosexuals (10 items); Extreme Self-Reliance (7 items); Aggression (7 items); Dominance (7 items); Non-Relational Sexuality (6 items); and Restrictive Emotionality (8 items). Cronbach’s alphas were

used to measure the reliability of items within subscales, and ranged from .78 to .91 in the data reported by Levant et al. (2007). Participants indicated their degree of agreement or disagreement to statements about traditional masculine ideology (e.g., “A man should be allowed to openly show affection for another man.”) using a 7-point Likert-type scale (i.e., 1 = Strongly Disagree; 7 = Strongly Agree).

The *Personality Attributes Questionnaire-18* (PAQ-18; Ward et al., 2006) is an 18-item scale and is used to assess three dimensions of masculine/feminine personality attributes: Agency (6 items), Communion (7 items), and Emotional Vulnerability (5 items) (see Appendix A). Cronbach’s alphas were .76, .79, and .74, respectively, in the data reported by Ward et al. (2006). Each item consists of opposing adjectives (e.g., Very passive-very active). Participants were asked to rate themselves on each pair of adjectives using a 5-point scale (e.g., 1 = Not at All Aggressive; 5 = Very Aggressive).

The *Mental Illness Stigma Scale* (MISS; Day, Edgren, & Eshleman, 2007) served as a dependent measure in regards to participants’ attitudes and beliefs about mental health disorders (see Appendix A). The MISS is a recently developed, theory-based measure of such attitudes. A brief vignette explaining the significance of mental illness from both a historic and cross-cultural perspective was presented. Participants were then asked to indicate their level of agreement, using a 7-point Likert-type scale (i.e., 1 = Completely Disagree; 7 = Completely Agree), with 28 statements. Items 8, 9, 11, 13, and 20 were reverse scored. These statements form four subscales that measure negative attitudes, and three subscales that measure positive attitudes and beliefs regarding mental illness. Additionally, the negative attitude subscales tend to deal with more acute consequences and issues related to mental illness (e.g., level of tolerance towards those with mental illness), while the positive attitude subscales address about treatment and recovery,

issues that are more distal (i.e., not as immediate). The negative attitude subscales are Anxiety (7 items), Relationship Disruption (6 items), Hygiene (4 items), Visibility (4 items), and the positive attitude subscales are Treatability (3 items), Professional Efficacy (2 items), and Recovery (2 items). Cronbach's alphas ranged from .71 to .90 in the data reported by Day, Edgren, and Eshleman (2007).

The *Level of Contact Report* (LCR; Holmes, Corrigan, Williams, Canar, & Kubiak, 1999) was used to assess the type of experiences participants have had with mental illness (see Appendix A). It consists of 11 statements regarding possible experiences with someone suffering from a mental illness, which are either direct (e.g., "I have a severe mental illness) or indirect (e.g., "I have watched a documentary on television about severe mental illness"). This questionnaire was modified slightly for purpose of the present study. Specifically, a 12th item was included, which asked participants if they had taken a course dealing with abnormal psychology.

The *Mental Health Inventory* (MHI; <http://www.rand.org/health>) consists of two subscales from the Rand Medical Outcome survey (see Appendix A). This measure was used to assess the mental health status of the participants. The subscales consist of Psychological Well-being I (10 items) and Psychological Distress I (12 items). Participants are asked how much of the time over the past month they have experienced psychological well-being or distress on a 6-point scale (1 = All of the Time; 6 = None of the Time). Higher scores on the two subscales indicate better mental well-being and less mental distress.

The *Personal Reaction Inventory* (PRI; Crowne & Marlowe, 1960) is a 33-item scale that measures one's tendency to respond in a socially desirable way (see Appendix A). It was included in this study to identify how the response style of participants might have influenced

their responses to the various attitudinal measures. The scale involves indicating whether or not statements about personal attitudes, traits, and behaviors are an accurate description of self.

Other Measures: This study was part of a large scale, multi-faceted research project. As such, a number of measures that were not germane to the present report were included in the survey. These measures, which are presented in Appendix B, are the Attitudes about Depression Scale (ADS; Wolkenstein & Meyer, 2008), the Active Viewing Questionnaire (AVQ; Ward and Ribadeneyra, 1999), the Disclosure Expectation Scale (DES; Vogel & Wester, 2003), three versions of the Indirect Measure of Attitudes (IMA; Szostak & Whidden, in preparation), the Inventory of Attitudes towards Seeking Mental Health Services (IASMHS; MacKenzie, Knox, Gekosko, & Macaulay, 2004), the Perceived Television Realism scale (PRTV; Ward, Merriwether, & Caruthers, 2006), the Television Usage and Behaviors Evaluation (TUBE I & II), and the Viewing Motivations and Television scale (VMTH; Ward, 2002).

Procedure.

Phase I consisted of a series of on-line questionnaires. Participants were first directed from SONA to the “Drama of Television” study’s website, located on the UBC-O server (<http://people.ok.ubc.ca/cszostak/DramaTV.htm>). General information concerning the research project and researchers, and the study’s consent form (see Consent Form I in Appendix C) were presented. Participants who completed the consent form were then directed automatically to the study, which was hosted on Survey Monkey, a United States-based server. Just prior to the presentation of the questionnaires, all participants created a personal Research Identification Code (RID) that was used to track participants’ data, both within Phase I and, where appropriate, across Phase II of the study.

Due to constraints associated with Survey Monkey, the measures were presented in a fixed order for all participants. The order was chosen so that similar measures (e.g., MRNI-R and PAQ-18) were not presented sequentially. The 15 measures were presented in the following order: Demographics, IMA, TUBE, MRNI-R, MHI, VMTV, IASMHS, PAQ-18, PRI, ADS, PRTV, DES, LCR, AVQ, and MISS. After completion of the Phase I survey, all participants were informed that they were eligible, if interested, to participate in Phase II of the study.

Phase II

Participants.

Participants were 76 undergraduate psychology students (23 men and 53 women) recruited using the same procedures described in Phase I. To participate in Phase II, it was necessary that participants had completed Phase I. Ages ranged from 17 to 61 years ($M = 20.2$, $SD = 5.4$). The ethnic distribution was as follows: 85.3% identified as Caucasian, 10.7% identified as Asian, and 4.0% identified as other.

Apparatus.

All on-screen material was presented with an LCD projector and screen within a designated research area. Four episodes from Season One of the HBO drama *In Treatment* (i.e., 7, 8, 27, & 38) were used. Each episode was approximately 22 minutes in length. The episodes differed with regards to the sex of the depicted client and the length of time they had spent in treatment (i.e., Alex-Early, Sophie-Early, Alex-Late, or Sophie-Late). Additionally, the episodes differed regarding gender stereotypic portrayal. In the Alex-Early episode, the client was presented as stereotypically masculine, while in the Alex-Late episode he was presented as veering from the masculine stereotype (e.g., emotionally vulnerable). The opposite was true of the Sophie episodes, in that the early episode presented her as behaving contrary to the feminine

stereotype (e.g., unrelenting and emotionally closed off), while the late episode presented her as stereotypically feminine. It should be noted that Episode 8 was slightly edited; a scene depicting the therapist arguing with his wife was removed. This was due to the irrelevance of the scene, and with its exclusion all episodes depicted almost only client/therapist interactions. The one exception involved a brief scene in which Sophie speaks with her mother as she is dropped off for her therapy session.

Measures.

Participants again completed the MISS (see Phase I measures). Additional interrelated measures that were irrelevant to the present study included the ADS, IASMHS, DES and TUBE 2. The IMA 2 and 3 were also administered, but were not analyzed for purpose of this report. These above measures are presented in Appendix B.

Procedure.

Phase II consisted of two sessions, however only the first session was pertinent to this report. Accordingly, Session II, which occurred approximately one week later, is not described, as the data were not considered for this report.

Prior to the first session, participants were assigned to one of four conditions such that the groups were similar in terms of sample size and gender. Each condition was distinguished by the specific episode of *In Treatment* presented during the first session and the nature of the second session (i.e., in-person vs. on-line) (see Figure 1).

Phase I: Baseline – initial assessment of perceiver characteristics, GRE, and mental health-related attitudes.

Phase II: *In Treatment* exposure – Reassessment of mental health-related attitudes.

	Session 1	Session 2
<u>Condition A</u>	In-person session “Alex/early” (i.e., Episode 7)	In-person session “Alex/late” (i.e., Episode 27)
<u>Condition B</u>	In-person session “Sophie/early” (i.e., Episode 8)	In-person session “Sophie/late” (i.e., Episode 38)
<u>Condition C</u>	In-person session “Alex/late” (i.e., Episode 27)	On-line session (Similar to Phase I)
<u>Condition D</u>	In-person session “Sophie/late” (i.e., Episode 38)	On-line session (Similar to Phase I)

Figure 1. Flowchart depicting the Phase II Research Design.

Session I of Phase II took place in-person. Group size ranged from one to seven people, depending upon the availability of participants. All test sessions took place in a designated research room with one researcher present, and were approximately one hour in length.

The purpose of the project, along with research procedures, was described initially. Participants were then given an opportunity to ask any questions. Written informed consent was then obtained (see Consent Form II in Appendix D). Participants were then shown the assigned episode of *In Treatment*. Afterwards, participants were asked to complete the IMA 2 or 3, depending upon the assigned episode, and then the Tube 2. Next, they completed the MISS, along with three questionnaires not related to this report (i.e., the ADS, the IASMHS, and the DES). The latter four measures varied in their presented order, so as to control for potential order

effects. After completing all measures, participants were given instructions for Session II. Specifically, they were told whether their second session was to be in-person or on-line. As stated, however, Session II is irrelevant to this report and a description is thus omitted.

Results

Phase I

Characterization of the sample.

The mean years of education was 13.9 ($SD = 1.0$), with 47.7% of the participants being in their first year of university, and 28.7% being in their second year. While all participants were currently taking at least one psychology course, only 27.2% of the sample had taken a class with a specific focus on abnormal psychology (i.e., mental illness-related content). Unmarried participants made up 93% of the sample, while the remainder was either married (5.8%) or in an alternate arrangement (1.2%). All participants reported some experience with mental illness; 45.1% described having only indirect contact (e.g., seeing a movie with mental illness related content) while 54.9% reported having direct contact (e.g., having a mentally ill relative). The scores on the Psychological Well-being I and the Distress I subscales of the MHI were 61.82 and 71.14 (SD 's = 13.99 and 15.10, respectively). While mental distress is comparable to the mean reported by Hays et al. (1995) (67.14), their sample's mean for mental well-being (50.29) was somewhat lower. This may indicate relatively high levels of mental well-being in the present sample. The average score on the PRI, a measure of one's tendency to respond in socially desirable way, was 15.91 ($SD = 4.57$). These results are comparable to those reported by Crowne and Marlow (1960) ($M = 13.72$, $SD = 5.78$).

Gender-role endorsement.

Prior to addressing our hypotheses, inter-item reliability for the MRNI-R was assessed. Cronbach's alphas were calculated as a function of sex and for the total sample (see Table 1). Overall, reliability was quite high. The scales were slightly more reliable when completed by female participants, likely reflecting the greater number of women in our sample. For most of the MRNI-R subscales, estimates of internal consistency were slightly stronger than those reported by Levant et al. (2007). Overall, it appears that reliability was acceptable both in terms of present alphas and in comparison with literature in this area (e.g., Levant et al., 2007).

Table 1

Cronbach's Alphas for the MRNI-R Subscales by Sex and for Total Sample

Scale	Men (n=84)	Women (n=174)	Total Sample (n=258)
Avoidance of Femininity	.88	.90	.91
Fear and Hatred of Homosexuals	.92	.90	.92
Extreme Self-Reliance	.77	.84	.84
Aggression	.80	.87	.88
Dominance	.89	.82	.86
Non-relational Sexuality	.76	.74	.79
Restrictive Emotionality	.79	.87	.88

Inspection of the MRNI-R subscale scores indicates a relatively weak endorsement of traditional masculinity by both male and female participants (see Table 2). For both men and women, the weakest expressed aspect of traditional masculinity was Fear and Hatred of Homosexuals, indicating a general tolerance for homosexuality. This may reflect a more liberal nature of university students' attitudes. As expected, males did, however, obtain somewhat

higher scores, on average, than female participants. The males also scored relatively high on the Aggression subscale, suggesting that the men in our sample expressed a somewhat stronger need to be forceful and combative.

It is also noteworthy that the present sample's scores tended to be somewhat lower than those of the sample described by Levant et al. (2007), whose means ranged from 2.60 (Restrictive Emotionality) to 3.98 (Aggression) ($SD = .29$ to $.48$). This is interesting, as our sample was comprised of proportionately more males than was theirs (48% vs. 29%). As such, one might have expected stronger expression of traditional masculinity.

Table 2

Means (\pm Standard Deviations) and Range of Scores for the MRNI-R as a Function of Participant Sex and for Total Sample

MRNI-R Subscale	Male	Female	Total Sample
Avoidance of Femininity	3.84 \pm 1.43 1-6.38	2.51 \pm 1.26 1-5.5	3.18 \pm 1.35 1-6.38
Fear and Hatred of Homosexuals	2.77 \pm 1.39 1-5.25	1.91 \pm .98 1-5	2.34 \pm 1.19 1-5.25
Extreme Self-Reliance	3.84 \pm 1.24 1-5.57	2.96 \pm 1.25 1-5.86	3.40 \pm 1.25 1-5.86
Aggression	4.32 \pm 1.18 1-6.57	2.86 \pm 1.30 1-6	3.59 \pm 1.24 1-6.57
Dominance	3.16 \pm 1.42 1-6	1.92 \pm .99 1-5.25	2.54 \pm 1.21 1-6
Non-Relational Sexuality	2.87 \pm 1.05 1-5.5	2.26 \pm .98 1-5.17	2.57 \pm 1.02 1-5.5
Restrictive Emotionality	2.95 \pm 1.07 1-5.38	2.09 \pm .92 1-5	2.52 \pm 1.00 1-5.38

Note. Items scored on a 1-7 response scale; 1 = Strongly Disagree, 7 = Strongly Agree.

This may be partially explained by the inverse correlation of the PRI and several of the MRNI-R subscales, which suggest that these scores underestimate the true views of participants. These correlations included Avoidance of Femininity, $r(254) = -.18, p < .01$, Aggression, $r(254) = -.19, p < .01$, Dominance, $r(253) = -.17, p < .01$, and Non-relational Sexuality, $r(253) = -.13, p < .05$.

Because this study examined individual differences, it is also critical to note that our sample was very heterogeneous in terms of their responses. Even with a generally weak mean masculine GRE overall, as measured by the MRNI-R, almost the full spectrum of traditional masculine ideologies was endorsed (see Table 2).

A Pearson's correlation matrix was generated to assess the inter-relationships between the various subscales of the MRNI-R (see Table 3). The strength of these correlations ranged from moderate to strong, r 's(255-258) = .35 to .83, p 's < .01, illustrating that this questionnaire measures several different but inter-related sub-facets of traditional masculinity. It should be noted that the Avoidance of Femininity and Aggression subscales correlated the strongest $r(258) = .83, p < .01$.

Table 3

Inter-correlations of PAQ-18 & MRNI-R Subscales

Measure	Subscales	1	2	3	4	5	6	7	8	9
PAQ	1. Agency	—								
	2. Communion	.24**	—							
	3. Emotional Vulnerability	-.20**	.25**	—						
MRNI-R	4. Avoidance of Femininity	.06	.30**	-.19**	—					
	5. Fear and Hatred of Homosexuals	.03	.32**	-.10	.65**	—				
	6. Extreme Self-reliance	.07	-.14*	-.15*	.71**	.36**	—			
	7. Aggression	.04	.22**	-.13*	.83**	.58**	.79**	—		
	8. Dominance	.03	.31**	-.10	.73**	.77**	.40**	.62**	—	
	9. Non-relational Sexuality	.05	.29**	-.13*	.74**	.63**	.60**	.73**	.70**	—
	10. Restrictive Emotionality	-.02	.38**	-.23**	.76**	.69**	.55**	.72**	.72**	.73**

Note. * = $p < .05$, ** = $p < .01$

To assess the inter-item reliability of the PAQ-18 subscales Cronbach's alphas were again generated (see Table 4). Estimates of reliability of the Agency, Communion, and Emotional Vulnerability subscales in the present study were all in the acceptable range and comparable to that of Ward et al. (2006). Notably, however, Emotional Vulnerability was somewhat lower than the other two subscales.

Table 4

Cronbach's Alphas for the PAQ-18 as a Function of Sex and for Total Sample

<i>N</i> Scale	Men 84	Women 174	Total Sample 258
Agency	.74	.80	.81
Communion	.79	.82	.84
Emotional Vulnerability	.72	.67	.75

Means and standards deviations for the three subscales of the PAQ-18 are presented in Table 5. Both men and women scored quite high on the Agency subscale—a measure of a masculine personality trait associated with competitive, goal-driven thoughts and behaviors. Additionally, men and woman scored high on the Communion subscale, which measures a feminine personality trait associated with empathy, social integration, and consideration of others. Finally, participants endorsed, on average, moderate emotional vulnerability (i.e., a feminine personality trait), which may suggest relatively low affective need/insecurity.

The three mean scores for the PAQ-18 subscales were relatively high compared to the sample of Ward et al. (2006) ($M = 20.80, 18.13, \text{ and } 9.03$ for Agency, Communion, and Emotional Vulnerability, respectively), suggesting that our sample may have higher levels of these three traits. Caution should be taken interpreting scores on Communion and Emotional Vulnerability, however, as both correlated with a tendency to respond in a socially desirable manner, $r's(254) = .26$ and $-.14, p's < .05$, respectively. Specifically, higher scores on the personal integration measured by the Communion subscale were associated with higher socially desirable response, thus suggesting an overestimation of this trait. Conversely, scores on

Emotional Vulnerability correlated inversely with social desirability, which may imply an underestimation of affective sensitivity.

Table 5

Means (\pm Standard Deviations) and Ranges of Scores of PAQ-18 Subscales

PAQ-18 subscale	Men	Women
Agency	26.43 \pm 3.57 19-34	25.67 \pm 4.00 12-34
Communion	23.60 \pm 3.89 8-30	25.07 \pm 3.17 13-30
Emotional Vulnerability	14.00 \pm 3.26 6-22	17.76 \pm 3.46 7-25

Note. Possible scores ranged from 0 to 32 with higher scores indicating stronger expression.

It is interesting that participants, at times, tended to simultaneously score high on Agency (i.e., a masculine trait) and Communion (i.e., a feminine trait). This helps to demonstrate that these characteristics do not exist as opposites on a continuum, but represent independent constructs. This is further exemplified by a positive correlation between the two (see Table 3).

Once again, it is important to stress the tremendous variability within our sample. Similar to the MRNI-R, almost the full range of PAQ-18 responses was captured. These ranges of scores are presented in Table 5.

To determine similarities of the constructs measured by the MRNI-R and PAQ-18, correlations between the two measures were calculated (see Table 3). To understand these associations, however, it must be recognized that there are differences in how these two questionnaires measure GRE. For instance, the MRNI-R assesses socially learned ideology akin to traditionally masculine norms. These are knowledge structures that involve how individuals

perceive how men should conduct themselves both personally (e.g., believing a man should work hard even when injured) and socially (e.g., believing men should not display emotion around others). The Agency subscale of the PAQ-18, however, measures more enduring masculine personality traits that characterize thought processes themselves, rather than thought content. The above considered, it is not surprising that Agency did not significantly correlate with any of the MRNI-R subscales.

The Communion and Emotional Vulnerability subscales of the PAQ-18 measure feminine dimensions that again are better conceptualized as personality traits, as opposed to learned social ideologies. Because Communion measures feminine characteristics, it is difficult to explain why it correlated positively with almost all of the MRNI-R subscales (see Table 3). This may be due, in part to the wording of these two measures. For instance, Communion asks participants to describe themselves, whereas the MRNI-R asks participants to describe how men should act. It is thus possible that participants who describe themselves in terms of traditional femininity may *also* believe men should be more masculine. This explanation may be supported, as our sample consisted of more females than males.

It was appropriate, given its social nature, that Communion correlated inversely with Extreme Self-reliance (see Table 3). Weak inverse correlations were also obtained between Emotional Vulnerability and most of MRNI-R subscales (with the exception of Fear and Hatred of Homosexuals and Dominance). Again, this makes sense, given the converse nature of the MRNI-R items.

Taken together, these descriptives and correlations indicate that, on average, our sample expressed quite weak masculine social ideology. That is, traditional beliefs and attitudes surrounding how men should think and act (e.g., the belief that men should work hard despite

injury) were not strongly endorsed by our participants. Our data also show moderately strong expression masculine (e.g., the drive for success) and feminine (e.g., an understanding of others) personality traits.

Attitudes about mental health.

Inter-item reliability of the MISS subscales was assessed, again through the use of Cronbach's alphas. The estimates for each subscale ranged from .77 to .93, with the exception of Treatability, which had an alpha of .64. This relatively weak alpha is similar, however, to the reliability coefficient reported by Day et al. (2007) and likely reflects the fact that this subscale consists of only two items.

Means and standard deviations of the MISS subscale scores are presented in Table 6. Scores on the negative attitude subscales (i.e., Anxiety, Relationship Disruption, Hygiene, and Visibility) were of intermediate strength for both men and women. Conversely, participants scored relatively high on the positive attitude subscales (i.e., Treatability, Professional Efficacy, and Recovery). Taken together, it appears that the present sample, on average, had relatively positive attitudes and beliefs. It is also noteworthy that the men scored slightly higher than the women on the negative attitude subscales, and lower on the positive attitude subscales. This finding is consistent with previous research (e.g., Corrigan & Watson, 2007) and suggests slightly more negative attitudes on the part of male participants. However, these differences were not statistically tested and may not be significant. Scores on the Anxiety and Relationship Disruption MISS subscales may underestimate negativity of participants' attitudes, as the PRI was inversely related to both, r 's(254 & 256) = -.21 and -.14, p 's <.01 respectively).

Table 6

Means ± Standard Deviations for MISS Subscales

MISS subscale	Men	Women
Anxiety	3.33 ± 1.25	2.88 ± 1.33
Relationship Disruption	3.59 ± 1.67	3.05 ± 1.29
Hygiene	3.17 ± 1.27	2.44 ± 1.12
Visibility	4.21 ± 1.09	3.73 ± 1.11
Treatability	5.14 ± .93	5.37 ± 1.06
Professional Efficacy	4.64 ± 1.40	4.92 ± 1.32
Recovery	5.11 ± 1.36	5.34 ± 1.25

Note. Scores were based on a Likert-type scale: 1 = Strongly Disagree; 7 = Strongly Agree.

The pattern of inter-correlations for the MISS subscales is congruent with their conceptual nature (see Table 7). Specifically, the first four subscales, in which higher scores imply more negative attitudes, correlated positively with one another. For example, the correlation between Anxiety and Relationship Disruption suggests that one who reports feeling nervous around mentally ill individuals is also more likely to believe that it is difficult to maintain a relationship with these same persons. In a similar vein, the three subscales in which higher scores imply more positive beliefs also correlated directly with each other. This may imply that one who believes mental illness is treatable may also believe individuals *with* mental illness are capable of recovering. Finally, for the most part, the positive and negative attitude subscales correlated inversely with each other, suggesting a diametric nature of these subscales. Exceptions include Professional Efficacy, which correlated with none of the negative attitude subscales, and Visibility, which correlated with none of the positive attitude subscales.

Table 7

Inter-correlations of MISS Subscales

Subscales	1	2	3	4	5	6
1. Anxiety	—					
2. Relationship Disruption	.75**	—				
3. Hygiene	.57**	.64**	—			
4. Visibility	.23**	.21**	.32**	—		
5. Treatability	-.37**	-.43**	-.42**	-.06	—	
6. Professional Efficacy	-.02	-.08	-.05	.07	.42**	—
7. Recovery	-.44**	-.42**	-.38**	-.00	.47**	.19**

Note. * $p < .05$; ** $p < .01$.

Bivariate correlations of predictor variables and mental health-related attitudes.

A series of bivariate correlation tests was conducted to determine the relationship between various perceiver characteristics (e.g., level of contact with mental illness) and mental-health related attitudes. These tests were also conducted with sex, GRE and mental health attitudes to help understand how all these variables relate. The results guided subsequent analyses, as detailed later in this report.

Spearman's tests of correlation revealed correlations between male sex and the four negative attitude subscales of the MISS (see Table 8). This indicates that men had consistently more negative attitudes in terms of a number of constructs measured by the MRNI-R. These included general discomfort around those perceived as mentally ill, as well as the expectation that social relations with mentally ill individuals would be problematic. Additionally, male gender was associated with the assumption that mentally ill individuals present as unkempt and slovenly. Interestingly, sex failed to correlate with positive mental health attitudes suggesting

gender may be limited in its predictive value to the negative attitude constructs. It is also possible that the positive attitude subscales are not as sensitive in terms of detecting sex differences.

Spearman's tests of correlations also revealed that participants who had taken a course that focused upon mental health disorders tended to have less negative attitudes regarding mental illness (see Table 8). Additionally, it was found that having taken such a course was associated with more positive beliefs about the treatability of mental disorders and the effectiveness of mental health professionals in doing so. These correlations, however, were quite weak.

Inverse correlations between the extent of contact with mental illness, as measured by the LCR, and the Anxiety and Relationship Disruption subscales of the MISS were also observed (see Table 8).

Table 8

Inter-correlations of Participant Sex, Abnormal Psychology Class Exposure, Level of Contact with Mental Illness, and the MISS Subscales

Subscales	Sex	Abn Psyc	LCR
1. Anxiety	-.17**	-.13*	-.13*
2. Relationship Disruption	-.22**	-.08	-.14*
3. Hygiene	-.28**	-.02	-.07
4. Visibility	-.20**	-.01	.03
5. Treatability	.12	.18**	.12
6. Professional Efficacy	.09	.16**	.03
7. Recovery	.08	.04	.12

Note: * $p < .05$; ** $p < .01$.

While this may suggest increased contact with mental illness relates to reduced anxiety and perceived relationship disruption around individuals with mental illness, the magnitude of the correlations were small.

A weak negative correlation was also obtained between mental well-being and distress and three negative attitude constructs regarding mental health (see Table 9). These included apprehensiveness about being around mentally ill individuals, and the presumption that such interactions would take more effort than their worth. Also, the two aspects of mental well-being and distress related inversely with expectation of slovenly personal caretaking of those with mental disorders. It is important to remember that higher scores on both of the MHI subscales indicate generally better mental health (i.e., greater well-being and less distress). Additionally, a weak positive association was indicated between both Personal Well-being I and Distress I and the Recovery subscale of the MISS. Taken together, the above suggests better mental health relates to less negative and more positive attitudes.

Almost every subscale of the MRNI-R correlated with each of the MISS subscales (see Table 10). Moreover, these correlations were in the predicted direction. Specifically, correlations were positive in the case of negative attitude subscales (e.g., Anxiety), and inverse in the case of positive attitude MISS subscales (e.g., Treatability). These correlations are congruent with the part of the first hypothesis proposing that stronger endorsement of traditional masculine gender roles is associated with more negative mental health-related attitudes.

Table 9

Inter-correlations of MHI Subscales and the PRI with the MISS Subscales

Subscales	MHI Wellbeing	MHI Distress	PRI
1. Anxiety	-.14*	-.15*	-.21**
2. Relationship Disruption	-.17**	-.13*	-.14*
3. Hygiene	-.15*	-.16*	-.03
4. Visibility	-.05	-.02	.01
5. Treatability	.10	.12	-.02
6. Professional Efficacy	.01	.03	.01
7. Recovery	.19**	.17**	.07

Note: * $p < .05$; ** $p < .01$.

Surprisingly, Agency did not correlate with any of the MISS subscales (see Table 11). This again illustrates how masculine personality traits, such as competitiveness, differ from the traditional masculine social ideologies measured by the MRNI-R. Specifically, this suggests that masculine personality characteristics do not offer explanatory value regarding the variance of mental health-related attitudes, whereas male GRE ideologies do.

The Communion subscale of the PAQ-18 was inversely correlated with three of the four negative attitude subscales of the MISS (see Table 11). This makes sense as Communion measures latent traits such as empathy and understanding, which are aspects of traditional femininity that one might associate with positive mental-health related attitudes. Communion did not correlate with Visibility, however. Additionally, Communion correlated positively with the

three positive attitude MISS subscales, suggesting that social integration and acceptance is associated with more positive mental health-related attitudes.

Emotional Vulnerability, which measures affect-related traits (e.g., need for security and approval), correlated only weakly with Professional Efficacy (see Table 11). Its weak association with Professional Efficacy suggests that individuals who are higher in terms of emotional sensitivity/need may have slightly greater confidence in mental health professionals than those with lower levels of emotional responsiveness.

Table 10

Inter-correlations of MRNI-R and MISS Subscales

MISS Subscales	MRNI-R Subscales						
	AVFEM	HOMO	SELF	AGGR	DOM	ATTSEX	RESTEM
Anxiety	.34**	.36**	.24**	.38**	.36**	.36**	.39**
Relationship Disruption	.39**	.41**	.30**	.39**	.38**	.40**	.41**
Hygiene	.37**	.42**	.30**	.41**	.33**	.37**	.42**
Visibility	.28**	.23**	.25**	.29**	.21**	.24**	.25**
Treatability	-.25**	-.26**	-.20**	-.22**	-.26**	-.26**	-.29**
Professional Efficacy	-.18**	-.17**	-.11	-.07	-.17**	-.14*	-.16*
Recovery	-.27**	.19**	-.22**	-.26**	-.23**	-.26**	-.28**

Note. * $p < .05$; ** $p < .01$. AVFEM = Avoidance of Femininity, HOMO = Fear and Hatred of Homosexuals, SELF = Extreme Self-reliance, AGGR = Aggression, DOM = Dominance, ATTSEX = Non-relational Sexuality, RESTEM = Restrictive Emotionality.

Taken together, it appears that mental health-related attitudes are associated with several distinct perceiver characteristics. To name a few, taking a university course focusing on abnormal psychology related to more positive attitudes. A similar association was obtained

between level of contact with mental illness and less negative attitudes. Also notable, better mental health correlated with less stigmatizing attitudes.

Table 11

Inter-correlations of PAQ-18 and MISS subscales

MISS Subscales	PAQ-18 Subscales		
	Agency	Communion	Emotional Vulnerability
Anxiety	-.09	-.29**	.05
Relationship Disruption	-.04	-.29**	-.04
Hygiene	-.08	-.26**	-.07
Visibility	.11	.04	-.03
Treatability	.05	.24**	-.01
Professional Efficacy	.05	.13*	.16*
Recovery	.01	.27**	.02

Note. * $p < .05$; ** $p < .01$.

It is particularly interesting that sex correlated with the negative attitude subscales while GRE correlated with those measuring both positive and negative attitude constructs. Additionally, the correlation coefficients for GRE were consistently stronger than those between sex and attitudes (see Tables 8, 10, and 11). This suggests that part of our first hypothesis is supported, in that GRE may have greater explanatory value regarding mental health-related attitudes, relative to the sex of the participant.

Explaining mental health-related attitudes.

To determine the proportion of variance in mental health-related attitudes that can be accounted for by GRE above and beyond that accounted for by sex of the participants, a series of hierarchical multiple regression (HMR) analyses was conducted. Mental health-related attitudes were measured by the seven MISS subscales, while GRE was measured by the MRNI-R along with the Communion subscales of the PAQ-18. The Agency subscale was not included in these analyses since it did not correlate with any of the negative attitude subscales.

For most of these analyses, the first block included those perceiver characteristics that were significantly correlated with the specific subscale of the MISS (i.e., abnormal psychology class exposure, MHI subscales, LCR, and PRI). The second block included those variables plus participants' sex, while the final block included the variables from the second block plus the measures of GRE that were associated with the dependent variable. Exceptions to this order of entering variables occurred when none of the variables within a given block correlated with the dependent variable. For instance, in some analyses, sex did *not* correlate significantly with mental health-related attitudes, and thus was excluded from the HMR analyses.

Various assumptions underlying HMR analyses were tested initially. All independent variables were assessed for univariate and multivariate outliers. Four participant univariate scores were excluded from all analyses, all of which were from the MRNI-R (two from Fear of Homosexuals, one from Dominance, and one from Non-relational Sexuality). Multivariate outliers were assessed using Mahalanobis distance. The scores of two participants, $df's = 15$, $\chi^2 = 41.0$ and 45.39 , deviated significantly from the centroid, $\chi^2 (df = 15) = 37.7$, and thus their data, along with the previously mentioned four, were excluded from the analysis.

Explaining negative attitudes and beliefs. The results of the HMR analyses on the four negative attitude MISS subscales are presented in Table 11. The dependent variable of the first HMR analysis was the MISS Anxiety subscale. The initial block included PRI, LCR, and the two MHI subscales. Together, these variables accounted for 7% of the variance in MISS Anxiety scores (see Table 11). As predicted, the inclusion of sex in Block 2 was significant. The R^2 change was significant, $F(1, 244) = 4.95, p < .05$, and indicated that an additional 2% of the variance was accounted for by sex. The addition of GRE measures (i.e., all MRNI-R subscales and the PAQ-18 Communion subscale) to the equation accounted for an additional 15% of the variance, $F(8, 236) = 6.00, p < .001$. Examination of the semi-partial correlations revealed that, as predicted, the unique variance accounted for by sex was no longer statistically significant, $\beta = .09, t = 1.25, p = .212$. Taken together, these results suggest that the various measures of GRE account for not only more variance than sex, but also accounted for a large portion of the variance sex *had* accounted for in Block 2. Moreover, it appears that high scores on Communion were associated with lower scores in terms of mental health-anxiety, as it accounted for statistically significant unique variance ($\beta = -.14, t = -2.06, p < .05$).

The dependent variable for the second HMR analysis was the Relationship Disruption subscale of the MISS. Again, the perceiver characteristics measured by the PRI, LCR, and the two MHI subscales were entered into Block 1, and together accounted for close to 6% of the variance (see Table 11). Similar to the previous analyses, sex (i.e., Block 2) accounted for an additional 4% of the variance, $F(1, 244) = 10.73, p < .01$. Moreover, inclusion of the GRE measures (i.e., all MRNI-R subscales and the Communion subscale of the PAQ-18) in Block 3 accounted for an additional 16% of the variance, $F(8, 236) = 6.31, p < .001$. The homophobic ideology measured by Fear and Hatred of Homosexuals accounted for significant unique

variance when all other variables were controlled for, $\beta = .19$, $t = 2.01$, $p < .05$. This suggests that homophobia may predict beliefs that persons with mental illness have difficulties establishing and maintaining personal relationships. It is possible that the underlying social aspect of these

Table 11

Overall Results for the HMR Analyses Conducted on the Negative Attitude MISS Subscales

Subscale		R ²	R ² change	F statistics (overall significance)
Anxiety	Block 1	.074	–	$F(4, 245) = 4.87, p < .01$
	Block 2	.092	.018*	$F(5, 244) = 4.95, p < .001$
	Block 3	.245	.153***	$F(13, 236) = 5.91, p < .001$
Relationship Disruption	Block 1	.056	–	$F(4, 245) = 3.66, p < .01$
	Block 2	.096	.040**	$F(5, 244) = 5.19, p < .001$
	Block 3	.255	.159***	$F(13, 236) = 6.23, p < .001$
Hygiene	Block 1	.024	–	$F(2, 249) = 3.06, p < .05$
	Block 2	.112	.088***	$F(3, 248) = 10.44, p < .001$
	Block 3	.260	.148***	$F(11, 240) = 7.66, p < .001$
Visibility	Block 1	.035	–	$F(1, 252) = 9.26, p < .01$
	Block 2	.096	.061*	$F(7, 246) = 3.74, p < .01$

Note. * = $p < .05$; ** = $p < .01$; *** = $p < .001$

two constructs can, in part, explain their association. That is, they both relate to a general disapproval of other individuals. It should also be noted that after inclusion of GRE, sex no longer accounted for a significant proportion of unique variance, $\beta = .002$, $t = .02$, $p = .981$.

In the third analysis, the dependent variable was the Hygiene subscale of the MISS. Only the MHI subscales were included in the first block. Together, they accounted for 2% of the

variance (see Table 11). Inclusion of sex in the analysis accounted for an additional 9% of the variance, $F(1, 248) = 24.63, p < .001$. Finally, the inclusion of the GRE measures (i.e., all MRNI-R subscales and PAQ-18 Communion subscale) accounted for an additional 15%, $F(8, 240) = 5.98, p < .001$. Once again, examination of the semi-partial correlations revealed that Fear and Hatred of Homosexuals accounted for significant unique variance, $\beta = .28, t = 3.02, p < .01$. This suggests that homophobia may *also* help to explain variance associated with the belief that those with mental disorders have poor hygiene habits. After GRE inclusion, sex no longer accounted for significant unique variance, $\beta = -.12, t = -1.80, p = .073$.

The fourth analysis, wherein the Visibility MISS subscale was the dependent variable, consisted only of two blocks since none of the perceiver characteristics were found to correlate with the Visibility subscale. Sex was thus entered into the first block, and accounted for 4% of the variance (see Table 11). The second block included only the MRNI-R subscales. The inclusion of these GRE measures accounted for an additional 6% of the variance, $F(6, 246) = 2.76, p < .05$. None of these variables, however, accounted for significant unique variance in mental health-related attitudes. As found with the previous HMR analyses, sex no longer accounted account for significant unique variance in the second block, $\beta = -.07, t = -1.02, p = .310$.

In summary, some of the included perceiver characteristics helped to explain the individual differences in stigmatizing attitudes, as measured by the four negative MISS subscales. The most consistent of these was good psychological health, which explained significant unique variance on all negative attitude subscales aside from Visibility. In terms of anxiety and perceived relationship difficulties with mentally ill individuals, social desirability and level of contact also accounted for some variance. Above and beyond the variance accounted

for by these perceiver characteristics, sex explained significant unique variance in the case of all four negative attitude subscales. Notably, these effects were small (2-9%). As predicted, GRE accounted for significant variance in the case of all negative attitude subscales. Additionally, our hypothesis was supported in that this accountability was greater than that originally explained by sex. Moreover, the contribution of sex only accounted for significant variance in these attitudes so long as GRE was not included in each model. Our inclusion of the feminine GRE construct Communion was merited, as it helped to explain variance in several negative attitude dimensions. Most notably, higher levels of this trait were associated with lower levels of mental illness anxiety. Taken together, our hypothesis was supported in that traditional femininity can account for variance associated with positive attitudes.

Explaining positive attitudes and beliefs. The final three analyses regressed the three positive attitudes subscales on several predictor variables (see Table 12). Similar to the previous HMR analyses, the first block included perceiver characteristics whose relationship to mental health-related attitudes was statistically significant. Participants' sex failed to correlate with any of the positive attitude subscales, and, as such, was excluded from all models. Thus, the second block consisted of the various measures of GRE and the Block 1 variables.

In the first HMR analysis, which regressed the Treatability MISS subscale, only abnormal psychology class exposure was included in the first block. It accounted for significant variance (3%), implying that experience with classes that focus specifically on mental health-related subject matter is associated with more positive beliefs about the treatability of mental disorders (see Table 12). All of the MRNI-R subscales and the PAQ-18 Communion subscale were entered in the second block. GRE explained significant additional variance of the Treatability subscale scores, 11%, $F(8, 241) = 3.80, p < .001$. Interestingly, the Communion

subscale was the only measure of GRE that accounted for significant unique variance, $\beta = .16$, $t = 2.45$, $p < .05$.

The second analysis used Professional Efficacy as the dependent variable. Once again, abnormal psychology class exposure was the only perceiver characteristic entered into Block 1. Interestingly, none of the MRNI-R subscales correlated with beliefs concerning the effectiveness of mental health professionals. The Communion and Emotional Vulnerability subscales of the PAQ-18 *did* correlate however, and were

Table 12

Overall Results for the HMR Analyses Conducted on the Positive Attitude MISS Subscales

Subscale		R ²	R ² change	F statistics (overall significance)
Treatability	Block 1	.027	–	$F(1, 249) = 6.91, p < .01$
	Block 2	.136	.109***	$F(9, 241) = 4.21, p < .001$
Professional	Block 1	.021	–	$F(1, 252) = 5.54, p < .05$
	Block 2	.057	.035*	$F(3, 250) = 4.99, p < .01$
Recovery	Block 1	.039	–	$F(2, 251) = 5.05, p < .01$
	Block 2	.146	.108**	$F(8, 245) = 5.26, p < .001$

Note. * = $p < .05$; ** = $p < .01$; *** = $p < .001$

entered in the second block. Experience with a course concerning abnormal psychology (i.e., Block 1) accounted for 2% of the variance, while inclusion of the two GRE subscales (i.e., Block 2) accounted for an additional 4%, $F(2, 250) = 4.64, p < .01$ (see Table 12). In Block 2, both abnormal psychology class exposure and the emotional vulnerability of participants as measured by the PAQ-18, accounted for significant unique variance, $\beta = .15$, $t = 2.46$, $p < .05$ and $\beta = .13$, $t = 2.00$, $p < .05$, respectively.

The final analysis used the Recovery subscale of the MISS as the dependent variable. Only the two subscales of the MHI were included in the first block. Together, they accounted for 4% of the variance (see Table 12). The Communion subscale of the PAQ-18 and all of the MRNI-R subscales except for Fear and Hatred of Homosexuals and Dominance were entered into the second block. These variables accounted for an additional 11% of the variance, $F(6, 245) = 5.16, p < .001$. Again, Communion was the only GRE subscale to account for significant unique variance, $\beta = .16, t = 2.35, p < .05$.

In summary, we again saw that included perceiver characteristics accounted for significant variance in mental health-related attitudes. In these latter analyses, abnormal psychology class exposure was the most consistent predictor, explaining significant variance in beliefs about the treatability of mental disorders and the effectiveness of mental health professionals. Additionally, psychological well-being was associated with positive expectations/beliefs about the likelihood of recovery. Sex failed to correlate with any of the positive mental health-related attitude subscales. GRE, on the other hand, consistently accounted for variance associated with these attitudes. Moreover, in all cases, when all other variables were controlled for, the unique variance accounted for by all subscales measuring feminine personality traits (i.e., Communion for Treatability and Recovery, and Emotional Vulnerability for Professional Efficacy) was statistically significant. This is notable, as it supports the prediction that feminine GRE is associated with more positive mental health-related attitudes.

Taken together, there were several interesting findings associated with our HMR analyses. For instance, quite consistently, a strong sense of psychological well-being explained variance associated with less negative attitudes. Additionally, perceiver characteristics such as abnormal psychology class exposure and contact with mental illness related to more positive

mental health-related attitudes. More importantly, our hypothesis was supported regarding the superior ability of GRE, relative to sex, to explain individual differences in mental health-related attitudes. Furthermore, traditional feminine personality traits explained a significant portion of the variance of these attitudes. Also notable, is that there was a general contrast between the two subscales in terms of participants' sex.

Phase II

The characteristics of Phase II participants were similar to those of Phase I, and thus likely constitute a representative sub-sample. Table 14 summarizes the demographic characteristics for each of the four groups, all of which are similar to the age and years of education of Phase I participants. Furthermore, the characteristics of these groups are very similar to each other as well.

Table 13

Demographic characteristics (mean \pm SD) of Phase II participants

	Alex-Early	Alex-Late	Sophie-Early	Sophie-Late
Age	19.7 \pm 3.0	19.3 \pm 1.7	21.7 \pm 9.5	19.9 \pm 2.7
Education*	13.7 \pm 1.0	13.5 \pm 0.6	14.25 \pm 1.12	13.9 \pm 1.1

*years of education

To determine the effects of viewing one of the four selected *In Treatment* episodes on mental health-related attitudes a series of 3-factor mixed model analyses of variance (ANOVAs) was conducted on each of the MISS subscales. Specifically, there were two between-group factors: Character (i.e., Sophie vs. Alex) and Episode (i.e., early vs. late). Time (pre- vs. post-

episode assessment) was a within-subject factor. It is important to note that though there may be interesting implications that stem from the following data, the sample size was small and therefore the results are best considered exploratory.

No significant main effects or interactions were obtained when the Anxiety, Relationship Disruption, or Visibility subscales of the MISS were analyzed, F 's < 1 . Analysis of the Hygiene subscale yielded a significant three way interaction, $F(1, 72) = 4.40, p < .05$. That is, the individual effects of Time, Episode, and Character were not significant, p 's $> .05$. Rather, the effect on attitudes appears to have been a synergistic result of all three independent variables (see Table 14).

To determine the specific basis for this complex interaction, the simple interactions comprising the 3-way effect were analyzed. It is important to note that although none of the simple interactions were significant, the trends observed in the means suggest that there is potential for interesting findings in future research with a larger sample size. For instance, the simple interaction of Time \times Episode for each character suggested that attitudes became slightly less stigmatizing after viewing the early episode of the male client (i.e., Alex), in which he was not therapeutically engaged (i.e., Time 1 vs. Time 2) (see Table 14). Conversely, exposure to the late episode in which the male client *was* therapeutically engaged, resulted in slightly more negativity of attitudes. Interestingly, the opposite trend was obtained with the episodes involving the female client (i.e., Sophie). That is, viewing of the early episode in which she was *not* therapeutically engaged, was associated with a worsening of attitudes, while exposure to the later episode in which she *was* therapeutically engaged caused a decrease in negativity.

Table 14

Means (\pm Standard Deviations) for Effects of In Treatment Exposure on Hygiene Attitudes

	Episode			
	Early		Late	
	Time 1	Time 2	Time 1	Time 2
Alex	2.54 (\pm 1.24)	2.29 (\pm 1.10)	2.61 (\pm 1.27)	2.84 (\pm 1.29)
Sophie	2.68 (\pm 1.33)	2.36 (\pm 1.13)	2.44 (\pm 1.29)	2.29 (\pm 1.39)

As previously indicated, the four selected episodes can also be conceptualized in terms of the gender stereotypic nature of the depictions of the two clients. This may facilitate understanding of the above-described interaction. That is, exposure to either of the episodes in which the clients behaved in a manner congruent with their respective gender stereotypes (i.e., Early-Alex and Late-Sophie) resulted in more positive attitudes. In contrast, exposure to the episodes that contradicted the gender stereotypes (i.e., Late-Alex and Early-Sophie) resulted in more negative attitudes.

There was a significant main effect of Time when the Professional Efficacy subscale was analyzed, $F(1, 72) = 15.82, p < .001$ (see Table 15). That is, exposure to any of the four selected episodes of *In Treatment* resulted in more positive beliefs regarding the capabilities of mental health professionals, regardless of the sex of the client or how engaged the client was in the depicted therapy session (see Table 15). None of the other main effects or interactions were significant for this subscale, p 's $> .05$.

Table 15

Means (± Standard Deviations) for Effects of In Treatment Exposure on Professional Efficacy Attitudes

	Episode			
	<u>Early</u>		<u>Late</u>	
	Time 1	Time 2	Time 1	Time 2
Alex	4.81 (± 1.20)	5.06 (± 1.22)	4.68 (± 1.22)	5.13 (± 1.23)
Sophie	4.68 (± 1.22)	5.42 (± 1.10)	5.04 (± 1.52)	5.47 (± 1.52)

A significant main effect of Time was also obtained with the Treatability subscale (see Table 16), $F(1, 72) = 7.18, p < .01$. Again, this demonstrates that beliefs about the treatability of mental disorders became more positive after seeing any of the selected episodes from this TV show. There were no other significant main effects or interactions for this subscale, p 's $> .05$. Finally, analysis of the Recovery subscale failed to yield any significant main effects or interactions, F 's < 1 . The trend, in terms of mean attitude values for the effects of Time, however, was similar to that of Treatability and Professional Efficacy. This may suggest that a statistically significant effect would be present with a larger sample size.

In summary, positive attitudes concerning the treatability of disorders, as well as confidence in mental health professionals, increased as a function of seeing *In Treatment*. These effects are fitting, as the episodes that participants were exposed to *did* focus specifically on content of this nature. These effects are also encouraging in that they both indicate that television can have a positive influence on mental health-related attitudes, particularly those concerning treatment. Additionally, the 3-way interaction of Time, Character, and Episode on attitudes

Table 16

Means (\pm Standard Deviations) for Effects of In Treatment Exposure on Treatability Attitudes

	Episode			
	<u>Early</u>		<u>Late</u>	
	Time 1	Time 2	Time 1	Time 2
Alex	5.33 (\pm 1.06)	5.48 (\pm 1.01)	5.60 (\pm 1.17)	5.80 (\pm 0.85)
Sophie	5.40 (\pm 1.16)	5.68 (\pm 1.00)	5.45 (\pm 1.17)	5.65 (\pm 0.93)

surrounding mental disorders and personal hygiene was quite interesting—especially when considered in relation to the gender stereotypic nature of the characters. What our data may suggest is that this stereotypic nature moderates the way in which our attitudes are affected (i.e., positively or negatively) by TV viewing. Though all tests of simple interactions were non-significant, the general trend suggests that with stronger statistical power, as achieved through a larger a sample, we would have preliminary evidence that sex-norm portrayals may indeed influence our attitudes and beliefs regarding mental health.

Discussion

The multi-phase research project detailed in this report used both correlational and experimental methodologies to examine factors that influence individuals' mental health-related attitudes. Central to our hypotheses were specific attitude-influencing factors that were categorized as either internal (i.e., sex and gender-role endorsement) or external (i.e., television exposure). The association between mental health attitudes and several additional perceiver characteristics (e.g., personal mental well-being) was also evaluated. The above research goals were approached with a multiphase design, and in doing so, the study was divided as follows.

In the first phase of this study, we aimed to extend the knowledge base of how sex and gender-role endorsement (in terms of both traditional masculine and feminine norms) relate to attitudes and beliefs regarding mental illness. Additionally, the relative explanatory value of sex versus GRE was assessed. In the second phase of the study, the direct influence of television, an external contributor to stigmatizing attitudes, was examined. This was accomplished by measuring beliefs and attitudes both before and after exposure to selected episodes from the series *In Treatment*.

Before discussing our findings, it is important to describe our sample in terms of various perceiver characteristics. Just over half of the sample had had direct experience with mental illness, while the remainder reported experiencing at least indirect contact. Additionally, the sample reported relatively high mental well-being and low mental-distress. Our participants' may have under-reported how negative their attitudes were in terms of anxiety and perceived relationship difficulties with mentally ill individuals. This was indicated by a positive relationship between higher scores in terms of these two "negative" attitude constructs and socially desirable response.

Additionally, there were issues regarding the sample's homogeneity in terms of several demographic variables. With more than 75% of the participants in their first or second year at university, a mean age of 20, and a predominantly Caucasian composition, our data is likely not fully representative of the general population. Though this is not uncommon for research projects sampling a university population, it will be important to increase sample variability in future research by extending recruitment beyond an academic environment.

Understanding Mental Health-related Attitudes (Phase I)

This portion of the study addressed the internal characteristics of sex and GRE in relation to mental health-related attitudes. The sample tended to express quite positive mental health attitudes relative to other research (e.g., Day et al., 2007). This may be explained, in part, by the fact that the sample was somewhat well educated and that all participants were taking at least one psychology course. Previous research suggests that individuals with such a background tend to hold less stigmatizing attitudes and beliefs about mental illness (Corrigan & Watson, 2007; Wittig, 1998). Even considering the sample's generally accepting attitudes, nearly the entire spectrum of responses for both GRE and mental health-related attitudes was expressed by our participants.

We were interested in how or if the sex of our participants could help explain their mental health-related attitudes. As some previous research has suggested (e.g., Mansfield, Addis, & Courtenay, 2008), men were found to express more stigmatizing attitudes in regards to several constructs measuring "negative" aspects of mental health attitudes (i.e., anxiety, social relations, personal care-taking, and perceptibility of condition). The size of this effect, however, was quite small (i.e., 2%). Interestingly, sex failed to account for significant variance in the case of specific "positive" attitude constructs (i.e., treatability of disorders, capability of therapists, and potential to recover from mental illness).

The above illustrates a pattern seen in research in this area. That is, sex has been an inconsistent predictor of mental health-related attitudes (e.g., Farina, 1981 vs. Corrigan & Watson, 2007). This inconsistency may be, in part, dependent on methodology. To this end, the explanatory value of sex appears to often be dependent on effect sizes. For example, larger sample sizes (e.g., Taylor & Dear, 1981) may favor the finding that sex helps explain mental health-related attitudes, while the same may not be true of studies with fewer participants (e.g.,

Zedlow, 1976). Our data further suggests that the inconsistency of sex as a predictor may also be a function of the specific type of mental health attitudes being evaluated. That is, certain attitudes (e.g., those measured by the MISS's negative attitude subscales) may be easier discerned by sex than others (e.g., those measured by the MISS's positive attitude subscales).

It is then curious *why* our positive attitude constructs would be less discernable by sex. One potential explanation involves the fact that the negative attitude subscales concern more immediate aspects of mental illness, while the positive subscales focus on more distal issues, including those that are more long-term and recovery based. Perhaps the negative subscales are more sensitive to sex differences based on their direct and concrete content. For instance, beliefs surrounding the appearance and personal hygiene of mentally ill individuals may be more “cut and dry,” and thus easier to conceptualize and draw conclusions about. Alternatively, positive mental health attitudes may be shaped by more factors and thus have greater complexity. Beliefs concerning how individuals recover from mental illness may also be more ambivalent and harder to reach a firm decision on.

Our next research goal involved the GRE of our participants, which we conceptualized as two related, but different styles: (a) Masculine social ideologies, or attitudes and behaviors largely learned over participants' lives, and (b) aspects of masculinity (i.e., agency) and femininity (i.e., communion and emotional vulnerability) better conceptualized as personality traits than beliefs learned from society.

In terms of masculine social ideologies our participants tended to score somewhat low compared to related literature (e.g., Levant et al., 2007). It is possible that this reflects our sample's relatively young age. That is, research has demonstrated a positive relationship between younger age and lower adherence to traditional masculine sex-norms (Young, 1996).

As expected, traditional masculine GRE ideology helped explain stigmatizing attitudes in the case of all mental health-related attitudes measured (with the exception of confidence in the efficacy of mental health professionals). This supports previous research that has found masculine ideology to be a relatively robust predictor of stigmatizing mental health attitudes (e.g., Addis & Mahalik, 2003; Magovcevic & Addis, 2005).

An interesting finding in terms of the negative attitude subscales was that homophobia, as assessed by the MRNI-R, was associated with the expectation that mentally ill individuals are incapable of maintaining social relationships. Because these two constructs involve social exclusion, perhaps their association is explained by a third underlying variable based on a general fear of associating with “others”. Homophobia also correlated with negative beliefs regarding the ability of people with a mental disorder to take general care of themselves. This association is hard to explain, though personal grooming habits may help to define how others are perceived socially. In any case, further research is necessary to clarify the above relationships.

Our second approach to GRE measurement (i.e., personality traits) explored how dimensions of femininity related to mental health-related attitudes. This was novel, as feminine GRE has been considered to a much smaller extent than that of traditional masculinity. Participants’ scores were high in terms of agency and communion, demonstrating that individuals can express strong masculine and feminine personality traits simultaneously. Scores were moderate in terms of emotional vulnerability.

While the masculine personality trait “agency” did not help to explain mental health attitudes, our results *did* meet expectations that strong feminine GRE would be associated with more positive attitudes. This association was particularly strong in the case of lower anxiety

concerning mental illness, which related to the “feminine” qualities of empathy and personal integration (i.e., communion). Other mental health-related attitudes in which communion accounted for significant unique variance were beliefs in how treatable mental disorders are, and how likely that one may recover from them. Emotional vulnerability, our other feminine GRE construct, related to confidence in the skills of mental health professionals. Researchers are thus encouraged to consider using feminine GRE to help explain attitudes and beliefs about mental illness.

The above findings help to validate extant (albeit sparse) research that has looked at the association of feminine GRE and mental health-related attitudes. A closely related example is a study conducted by Butler et al. (1985) that suggested feminine GRE is associated with higher levels of treatment seeking. Intuitively, one might expect that those utilizing mental health support systems would believe that mental illness is treatable, can be recovered from, and that mental health professionals are capable of facilitating the process. To this end, our future research will include data previously collected that relates to treatment seeking.

Having furthered the empirical value of traditional femininity through use of personality trait measures, the next step for future research is to include measures of feminine GRE social ideology, similar to that used in terms of masculine GRE (i.e., the 7 MRNI-R subscales). By examining all combinations of masculine and feminine ideologies and personality traits, a more complete understanding of how both ideological and trait-based GRE associates with mental health-related attitudes may be attained. To this end, a measure worth considering is the Femininity Ideology Scale (Levant, Richmond, Cook, House, & Aupont, 2007). This is a recently developed five-factor measure of feminine GRE ideology that shows promising reliability and validity. Given Levant’s work with the MRNI-R (Levant et al., 2007), and its well

established use in associating masculine GRE with mental health-attitudes (e.g., Levant, Wimer, Williams, Smalley, & Noronha, 2009), it is hopeful that this measure will offer similar value.

While the above considered how GRE ideologies and personality traits each related separately to mental health attitudes, there were certain trends that occurred across both aspects of GRE. For instance, we observed in the case of positive attitudes, that GRE effect sizes for both ideology and personality traits were smaller than those involving the negative attitude subscales. Once again, this may reflect the potentially more complex nature of positive attitudes. Regardless, the uncertainty surrounding specifically *how* these two types of attitudes differ indicates a need for further research directed at understanding the nature of both “positive” and “negative” mental health-related beliefs.

A distinct pattern was also evident in terms of our participants’ confidence in recognizing that individuals have a mental disorder. Of all the GRE variables, only masculine ideology (all MRNI-R constructs except non-relational sexuality) accounted for variance in scores on this subscale. Moreover, effects were notably smaller compared to the other three negative attitude subscales. This suggests that the effect of GRE on attitudes surrounding how easily mentally ill individuals can be identified is generally small. This may also be supported by the fact that the feminine personality trait “communion,” aside from this one, explained variance in every other subscale. Small effects may also be due in part to differences in what this subscale measures. Specifically, its items ask participants how confident *they* are that they can spot a mentally ill individual (e.g., “I probably wouldn’t know that someone has depression unless I was told.”). This contrasts with the other items, which are more often worded in a way that directly assesses participants’ opinions of mentally ill individuals themselves (e.g., “People with depression tend to neglect their appearance.”).

The present study also considered the relative roles of sex versus GRE in explaining mental health related-attitudes. In doing so, several lines of evidence emerged that GRE is better able to explain these individual difference than sex. First, there were several dimensions of mental illness attitudes that did not correlate with sex (i.e., all of the positive MISS subscales). This was *not* the case with GRE, as at least one measure of GRE always correlated with mental health-attitudes. Secondly, both masculine and feminine GRE correlated more strongly with these attitudes than sex. Thirdly, the conjoint influence of sex and GRE was evaluated using hierarchical multiple regression analyses. In the case of the negative attitude subscales, while sex originally accounted for a significant proportion of variance in these stigmatizing attitudes, the unique contribution of sex was no longer statistically significant when measures of GRE were also included. An implication of this may be that the variance sex accounts for is almost entirely accounted for by GRE. Overall, our data supports previous research suggesting that GRE is the better predictor of mental health-related attitudes (e.g., Hinkelman & Granello, 2003).

In terms of other related perceiver characteristics, some interesting findings emerged. For instance, our data indicated that students who had taken an abnormal psychology class endorsed more positive attitudes regarding the treatability of mental illnesses and the ability of mental health professionals to work effectively. This association with less negative attitudes is consistent with Corrigan's views regarding the stigma-diminishing capabilities of education (e.g., Corrigan 2004; Corrigan & Watson, 2007). Similar to Corrigan's research however, we were unable to infer causation. We have thus considered several possibilities. The most immediate are binary causal relationships, in that either (a) taking these classes reduces stigma, or (b) that those with more positive attitudes are naturally attracted to taking such classes. It could also be the case, however, that a third variable helps to explain both. One possibility is that

level of contact with mental illness influences the likelihood of taking an abnormal psychology class and mental health attitudes. Because we included measures of this third variable, this possibility will be explored in future analyses.

Another helpful approach would involve methodology similar to that of Costin and Kerr (1962), who measured participants' attitudes before and after exposure to an abnormal psychology class and reported a significant change in mental health-related attitudes. The attitudes they measured, however, were not directly related to stigma (e.g., beliefs involving how preceding life events lead to mental illness). It would thus be useful for future research to include pre- and post-class measurements of mental health attitudes.

Overall, our Phase I findings were exciting in several ways. Foremost, we supported previous research that has identified masculine GRE ideology as valuable in the explanation of mental illness stigma (e.g., Addis & Mahalik, 2003). In the case of masculine ideology, homophobia stood out as a particularly strong explainer of various negative attitude constructs, including low expectations of social and personal care-taking abilities of mentally ill individuals. Secondly, we furthered research concerning mental illness stigma by demonstrating that feminine GRE personality traits associate with positive mental health-related attitudes. Thirdly, we helped to clarify that GRE is a stronger, more reliable explaining variable of mental health attitudes than sex. Finally, we identified the relationship between abnormal psychology class exposure and more positive mental health attitudes.

The above considered, researchers may now better understand mental health-related attitudes, and more specifically, how sex and GRE can help to explain them. Given that sex can only help explain *some* types of mental health attitudes (in this case, "negative" attitudes), and in these cases with generally small effect sizes, researchers might implement GRE measures

instead. In doing so, our study provides support that masculine GRE ideologies help to explain an array of attitudes, both positive and negative. Moreover, we suggest researchers consider the use of feminine GRE personality traits, such as empathy and acceptance, as it is evident that they relate to more positive mental health beliefs and attitudes.

In terms of practical application of our data, important implications emerge from our findings. For instance, anti-stigma campaigns, which have frequently targeted audience in terms of their sex (e.g., NIMH's campaign, "Real men, real depression", n.d.), may be better directed to using GRE to explain mental health-related attitudes. For example, rather than specifically aiming to influence men's attitudes, campaigns may provide objective knowledge applicable to *both* sexes. This might present as television commercials featuring both men and women who are seen endorsing stigma, thus providing a more accurate model of how negative and inaccurate attitudes are endorsed by both sexes.

TV, Gender-stereotypes and Understanding Mental Health-related Attitudes (Phase II)

The second phase of the study focused specifically on the direct influence of TV on mental health-related attitudes. To this end, mental health attitudes were measured before and after exposure to one of the four selected episodes from the therapy-based TV drama, *In Treatment*.

There were two critical findings in this phase of the study: (a) That mental health-related attitudes can be directly influenced in a positive manner by watching one episode of a TV series, and (b) that the portrayed gender-stereotype of on-screen characters may influence the direction in which participants' attitudes are affected concerning the hygiene of mentally ill individuals.

Though several of the analyses failed to yield statistically significant findings, it is notable that exposure to any of the selected episodes of *In Treatment* significantly increased the

positivity of mental health attitudes concerning hygiene, treatability, and perceived efficacy of mental health professionals. These effects occurred independently of the other conditions (i.e., the characters' sexes and level of therapeutic engagement).

Given that the series dealt with a skilled mental health professional, it makes sense that these specific attitudes were altered. Moreover, the way in which the therapy-interactions are presented gives the viewer the feeling that the clients are on the brink of making, or have made, significant progress. For this reason, along with the fact that the show did not deal with severe mental illness, participants' may have been influenced to perceive mental disorders as relatively treatable. Finally, the clients featured may defy stereotypes of poor hygiene involving mentally ill individuals. The male client, Alex, in particular comes across as very capable of taking care of himself.

Notably, the above observed effects were small. This is not surprising, as this is common for media effects (e.g., Diefenbach & West, 2007; Pirkis et al., 2006). Also, mental health attitudes are complex, and TV is far from the only influence (Vogel et al., 2008). Moreover, the manipulation was relatively weak. That is, participants were exposed to only one relatively short episode.

That said, the importance of these findings must not be downplayed. That is, the present results demonstrate that mental health-related attitudes can be impacted by watching one episode of a TV series. This is particularly valuable knowledge, as until now, research on mental health attitudes and TV viewing has largely focused on cumulative effects (e.g., Diefenbach, 1997). For example, Diefenbach and West (2007) worked with the cultivation hypothesis, which involves how repeated exposure to TV contributes to the way in which our perceptions of reality are shaped.

Our study is also novel in that it contrasts the correlational nature of research involving cumulative TV effects. Accordingly, there is limited evidence outside our project in terms of how media-content may directly impact mental health-related attitudes. As previously mentioned, among the few known cases of direct media-attitude manipulation was the study conducted by Wahl and Lefkowitz (1989). In this study, it was found that the mental health attitudes of participants who had been exposed to a film that portrayed mental illness in a violent manner to have significantly increased in negativity. Our approach was similar, in that attitudes were directly manipulated by media exposure.

There were two key differences however, between the two studies. Foremost, Wahl and Lefkowitz' study was limited in that attitudes were measured only between groups who had or had not been exposed to media content. The present study better controlled for potential pre-existing group differences, as attitudes were measured before *and* after TV exposure. Secondly, our results differed in that attitudes were affected positively. This, of course, may not be surprising, as the content of our presented media differed radically from that used by Wahl and Lefkowitz. In our case, it is likely that the overall positive nature of this series, coupled with not dealing with severe mental illness, helped affect attitudes in this direction. The positive effect of television drama on mental health attitudes has critical implications. For instance, this positive influence provides encouraging support for researchers who have proposed that by decreasing the stigma of media-portrayals, the mental health-related attitudes of the general public will too become more positive (e.g., Pirkis et al., 2006).

Because *In Treatment* (or at least specific episodes) can not only influence attitudes positively, but be highly acclaimed, award winning, and popular, it is apparent that mental health content need not be negative and inaccurate to be entertaining. Moreover, because such a large

audience can potentially be reached, those involved with TV broadcasting have a unique opportunity to correct widespread stigmatizing beliefs.

In a similar vein, our positive effects were likely related to the four episodes that were carefully selected given the research interests of those involved in the present study. That is, it is quite likely that selecting other episodes, given differences in content, would influence attitudes differently. For instance, it is possible that by exposing participants to episodes in which Sophie was being particularly belligerent, or episodes surrounding the turbulent personal life of the therapist, that attitudes would become *more* stigmatizing. That considered, executives in this domain have the choice to either contribute to the worsening or improvement of mental illness-stigma.

In addition to the general effects described above, preliminary evidence was obtained that the effect TV has on attitudes may be moderated by gender-stereotypic content. Particularly interesting was the three-way interaction of Time, Episode, and Character on attitudes and beliefs concerning how well mentally ill individuals can take care of themselves. For instance, exposure to stereotypic depictions (i.e., Alex-Early and Sophie-Late) resulted in slightly more positive beliefs relative to our baseline measurement. Conversely, viewing a non-stereotypic depiction (i.e., Alex-Late or Sophie-Late) resulted in slightly more *negative* hygiene attitudes. This implies, at least in the context of this TV series, that seeing characters on-screen act in accordance with their gender-stereotypes (i.e., men deal with mental disturbance by “toughing it out,” while women cope through emotional expression) may decrease negativity of mental health-related attitudes (in this case, personal caretaking, living habits, etc.). Conversely, non-stereotypic portrayals may increase negativity.

Providing an explanation for this interaction is difficult. It is possible that because this show dealt with psychotherapy (with relatively strong intensity), it may have come as a relief for participants to see the on-screen clients dealing with their issues in ways they would expect given the sex of the character. For example, seeing the male client stoically declare, with the determination expected of a “true man” that psychological issues are completely manageable may help to reinforce the beliefs of those who have internalized traditional masculine ideology. Additionally, Alex presents as well-kempt, confident, and accomplished, which may have slightly reduced stigmatizing attitudes, as he appears quite capable of taking care of himself. Overall, this effect is interesting, as it may imply that gender-stereotype beliefs can be reinforced while stigmatizing attitudes are relinquished. A similar trend occurred with the female client, as seeing Sophie deal with her issues through emotional searching and tearful expression decreased the negativity of attitudes. Her coping method may have also reinforced beliefs concerning how women “typically” deal with mental turmoil.

These results are intriguing, however, as a recent study reported seemingly incongruent findings. Wirth and Bodenhausen (2009) reported that, in response to case summaries involving people of either sex with mental disorders, respondents displayed more negative attitudes and affect, as well as less sympathy to those with disorders in sync with their gender stereotype. This potential incongruence makes it clear that the manner in which gender-roles, stereotypes, TV, and mental health attitudes inter-relate requires further examination.

A limitation of Phase II was the small sample size that resulted in low statistical power. In this regard, we expect that significant effects would have been obtained with several of the other subscales had we had a larger sample. Additionally, we expect that the small effect sizes of analyses that *were* significant would have been more reliable. While a three-way interaction,

possibly related to gender-stereotype was observed, the effects were relatively weak. Again, this is not surprising, as our research was exploratory, our manipulation was limited, and media effects are generally quite small. These effects *did* however, appear reliable, suggesting that a larger sample size would have increased sensitivity to detecting differences, thus resulting in significant effects in other ANOVAs.

It is important to note the likely possibility that not everyone was affected in the same way or to the same extent by the *In Treatment* exposure. As such, future research, with a larger sample size, could begin to examine the nature of individual differences. One possibility is that the effects that TV has on our attitudes are influenced by the sex and GRE of individuals. To this end, we eventually hope to assess how congruency between participants' gender-roles and the gender-stereotype of characters may interact. Finally, we aim to consider specific factors surrounding the way in which individuals watch TV, such as the level of personal involvement, motivations for watching, and perceived realism of an episode.

It may also be important to look at the effects of viewing multiple episodes (e.g., viewing the early episode, then at a future date, the late episode). It may eventually even be worth considering the effects of viewing the entire series, as this may offer a better model of how the general public is affected by repeated TV exposure with the advantage of direct experimentation. Such an approach would contribute to research with a focus on cultivation effects (e.g., Diefenbach & West, 2007). This is particularly exciting given that we found positive effects, as cultivation hypothesis research has focused mainly, if not exclusively, on long-term negative effects (e.g., Vogel et al., 2008).

Summary.

In sum, mental health-stigma continues to complicate and worsen the lives of those with mental illness. This is not only due to direct stereotyping, prejudice, and discrimination, but also because stigma is a barrier to help-seeking (Corrigan, 2004). It is thus imperative that contributors to such attitudes, both internal and external, are understood to the greatest extent possible. Only through such an understanding may we begin addressing the complex problems that are associated with stigmatizing attitudes.

In this vein, the results of the present study supported the association of masculine and feminine GRE with mental health-related attitudes. Additionally, we demonstrated that this relationship is stronger and more reliable than that of sex. Our study also presented empirical evidence that TV content can increase the positivity of mental health attitudes. Considering the relationship between *In Treatment*, and positive mental health-related attitudes, our findings provide a dramatically positive contrast to the nearly exclusive focus of researchers on the relationship between media-content and negative mental health attitudes (e.g., Vogel et al., 2008).

This report also provides an exploratory look at how gender-stereotypic portrayals may moderate the effects of TV on mental health-related beliefs and attitudes. Specifically, in certain circumstances, gender-stereotypic portrayal may decrease negative mental health-attitudes, while non-gender stereotypic content may *increase* negativity. This exciting finding highlights the necessity for an empirical focus on how gender-roles, gender-stereotypes, and mental health attitudes relate to one another.

As our research expands, we encourage all investigators in this area to pursue an eclectic appreciation of how mental health attitudes are formed and maintained. More specifically, by including dimensions of feminine gender-role endorsement, we may better grasp how attitudes

can be influenced in terms of positivity. Our encouragements extend beyond the empirical realm as well, as media executives may now understand that more realistic, accurate depictions of mental health-related content can be both accepted and entertaining. In the long-term we hope for one broad goal: That our collective concept of mental illness will shift from patterns of stigma and misconception to understanding and acceptance.

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Appendix A – Phase I & II Measures – Perceiver Characteristics

Please provide the following demographic information.

1. Date of birth _____month _____ year

2. Sex Male
 Female

3. Education First year undergraduate
 Second year undergraduate
 Third year undergraduate
 Fourth (or more) year undergraduate
 Graduate Studies Please specify highest level completed: _____

Have you ever taken a psychology course that focused upon mental health/
psychological disorders (e.g., Abnormal Psychology)? No
 Yes

4. Marital Status Single
 Married or common-law
 Separated or divorced
 Other

5. Ethnicity Caucasian
 Aboriginal
 Asian
 Other Please specify: _____

Appendix A – Phase I & II Measures – MRNI-R

Please complete the questionnaire by circling the number that indicates your level of agreement or disagreement with each statement. Give only one answer for each statement.

	Strongly Disagree 1	Disagree 2	Slightly Disagree 3	No Opinion 4	Slightly Agree 5	Agree 6	Strongly Agree 7				
1. Homosexuals should never marry.					1	2	3	4	5	6	7
2. The President of the US should always be a man.					1	2	3	4	5	6	7
3. Men should be the leader in any group.					1	2	3	4	5	6	7
4. A man should be able to perform his job even if he is physically ill or hurt.					1	2	3	4	5	6	7
5. Men should not talk with a lisp because this is a sign of being gay.					1	2	3	4	5	6	7
6. Men should not wear make-up, cover-up or bronzer.					1	2	3	4	5	6	7
7. Men should watch football games instead of soap operas.					1	2	3	4	5	6	7
8. All homosexual bars should be closed down.					1	2	3	4	5	6	7
9. Men should not be interested in talk shows such as Oprah.					1	2	3	4	5	6	7
10. Men should excel at contact sports.					1	2	3	4	5	6	7
11. Boys should play with action figures not dolls.					1	2	3	4	5	6	7
12. Men should not borrow money from friends or family members.					1	2	3	4	5	6	7
13. Men should have home improvement skills.					1	2	3	4	5	6	7
14. Men should be able to fix most things around the house.					1	2	3	4	5	6	7
15. A man should prefer watching action movies to reading romantic novels.					1	2	3	4	5	6	7
16. Men should always like to have sex.					1	2	3	4	5	6	7
17. Homosexuals should not be allowed to serve in the military.					1	2	3	4	5	6	7

	Strongly Disagree 1	Disagree 2	Slightly Disagree 3	No Opinion 4	Slightly Agree 5	Agree 6	Strongly Agree 7				
18.	Men should never compliment or flirt with another male.				1	2	3	4	5	6	7
19.	Boys should prefer to play with trucks rather than dolls.				1	2	3	4	5	6	7
20.	A man should not turn down sex.				1	2	3	4	5	6	7
21.	A man should always be the boss.				1	2	3	4	5	6	7
22.	A man should provide the discipline in the family.				1	2	3	4	5	6	7
23.	Men should never hold hands or show affection toward another.				1	2	3	4	5	6	7
24.	It is ok for a man to use any and all means to "convince" a woman to have sex.				1	2	3	4	5	6	7
25.	Homosexuals should never kiss in public.				1	2	3	4	5	6	7
26.	A man should avoid holding his wife's purse at all times.				1	2	3	4	5	6	7
27.	A man must be able to make his own way in the world.				1	2	3	4	5	6	7
28.	Men should always take the initiative when it comes to sex.				1	2	3	4	5	6	7
29.	A man should never count on someone else to get the job done.				1	2	3	4	5	6	7
30.	Boys should not throw baseballs like girls.				1	2	3	4	5	6	7
31.	A man should not react when other people cry.				1	2	3	4	5	6	7
32.	A man should not continue a friendship with another man if he finds out that the other man is homosexual.				1	2	3	4	5	6	7
33.	Being a little down in the dumps is not a good reason for a man to act depressed.				1	2	3	4	5	6	7
34.	If another man flirts with the women accompanying a man, this is a serious provocation and the man should respond with aggression.				1	2	3	4	5	6	7
35.	Boys should be encouraged to find a means of demonstrating physical prowess.				1	2	3	4	5	6	7
36.	A man should know how to repair his car if it should break down.				1	2	3	4	5	6	7
37.	Homosexuals should be barred from the teaching profession.				1	2	3	4	5	6	7

	Strongly Disagree 1	Disagree 2	Slightly Disagree 3	No Opinion 4	Slightly Agree 5	Agree 6	Strongly Agree 7				
38.	A man should never admit when others hurt his feelings.				1	2	3	4	5	6	7
39.	Men should get up to investigate if there is a strange noise in the house at night.				1	2	3	4	5	6	7
40.	A man shouldn't bother with sex unless he can achieve an orgasm.				1	2	3	4	5	6	7
41.	Men should be detached in emotionally charged situations.				1	2	3	4	5	6	7
42.	It is important for a man to take risks, even if he might get hurt.				1	2	3	4	5	6	7
43.	A man should always be ready for sex.				1	2	3	4	5	6	7
44.	A man should always be the major provider in his family.				1	2	3	4	5	6	7
45.	When the going gets tough, men should get tough.				1	2	3	4	5	6	7
46.	I might find it a little silly or embarrassing if a male friend of mine cried over a sad love story.				1	2	3	4	5	6	7
47.	Fathers should teach their sons to mask fear.				1	2	3	4	5	6	7
48.	I think a young man should try to be physically tough, even if he's not big.				1	2	3	4	5	6	7
49.	In a group, it is up to the men to get things organized and moving ahead.				1	2	3	4	5	6	7
50.	One should not be able to tell how a man is feeling by looking at his face.				1	2	3	4	5	6	7
51.	Men should make the final decision involving money.				1	2	3	4	5	6	7
52.	It is disappointing to learn that a famous athlete is gay.				1	2	3	4	5	6	7
53.	Men should not be too quick to tell others that they care about them.				1	2	3	4	5	6	7

Appendix A – Phase I & II Measures – PAQ-18

The items below inquire about what kind of person you think you are. Each item consists of a PAIR of characteristics, and the numbers 1 through 5. For example:

Not at all artistic					Very artistic
1	2	3	4	5	

Each pair describes contradictory characteristics - that is, you cannot be both at the same time, such as very artistic and not at all artistic.

The numbers form a scale between the two extremes. You are to choose a number that describes where YOU fall on the scale. For example, if you think that you have no artistic ability, you would choose 1. If you think that you are pretty good, you might choose 4. If you are only medium, you might choose 3, and so forth.

1.	Not at all independent				Very independent
	1	2	3	4	5
2.	Not at all excitable in a major crisis				Very excitable in a major crisis
	1	2	3	4	5
3.	Very passive				Very active
	1	2	3	4	5
4.	Not at all able to devote self to others				Able to devote self completely to others
	1	2	3	4	5
5.	Not at all helpful to others				Very helpful to others
	1	2	3	4	5
6.	Not at all competitive				Very competitive
	1	2	3	4	5

7.	Not at all kind				Very kind
	1	2	3	4	5

8.	Indifferent to others' approval				Highly needful of others' approval
	1	2	3	4	5
9.	Feelings not easily hurt				Feelings easily hurt
	1	2	3	4	5
10.	Not at all aware of feelings of others				Very aware of feelings of others
	1	2	3	4	5
11.	Give up very easily				Never give up easily
	1	2	3	4	5
12.	Never cry				Cry very easily
	1	2	3	4	5
13.	Not at all self-confident				Very self confident
	1	2	3	4	5
14.	Feel very inferior				Feel very superior
	1	2	3	4	5
15.	Not at all understanding of others				Very understanding of others
	1	2	3	4	5
16.	Very cold in relations with others				Very warm in relations with others
	1	2	3	4	5

17.	Very little need for security 1	2	3	4	Very strong need for security 5
18.	Go to pieces under pressure 1	2	3	4	Stand up well under pressure 5

Appendix A – Phase I & II Measures – MISS

Please indicate the extent to which you agree or disagree with the statements listed below using the following scale:

1	2	3	4	5	6	7
Completely disagree						Completely agree

_____	1.	There are effective medications for depression that allow people to return to normal and productive lives.
_____	2.	I don't think that it is possible to have a normal relationship with someone with depression.
_____	3.	I would find it difficult to trust someone with depression.
_____	4.	People with depression tend to neglect their appearance.
_____	5.	It would be difficult to have a close meaningful relationship with someone with depression.
_____	6.	I feel anxious and uncomfortable when I'm around someone with depression.
_____	7.	It is easy for me to recognize the symptoms of depression.
_____	8.	There are no effective treatments for depression.
_____	9.	I probably wouldn't know that someone has depression unless I was told.
_____	10.	A close relationship with someone with depression would be like living on an emotional roller coaster.
_____	11.	There is little that can be done to control the symptoms of depression.
_____	12.	I think that a personal relationship with someone with depression would be too demanding.
_____	13.	Once someone develops depression, he or she will never be able to fully recover from it.

- _____ **14.** People with depression ignore their hygiene such as bathing and using deodorant.

Appendix A – Phase I & II Measures – MISS

1	2	3	4	5	6	7
Completely disagree						Completely agree

- | | |
|-------|---|
| _____ | 15. Depression prevents people from having normal relationships with others. |
| _____ | 16. I tend to feel anxious and nervous when I am around someone with depression. |
| _____ | 17. When talking with someone with depression, I worry that I might say something that will upset him or her. |
| _____ | 18. I can tell that someone has depression by the way he or she acts. |
| _____ | 19. People with depression do not groom themselves properly. |
| _____ | 20. People with depression will remain ill for the rest of their lives. |
| _____ | 21. I don't think that I can really relax and be myself when I'm around someone with depression. |
| _____ | 22. When I am around someone with depression I worry that he or she might harm me physically. |
| _____ | 23. Psychiatrists and psychologists have the knowledge and skills needed to effectively treat depression. |
| _____ | 24. I would feel unsure about what to say or do if I were around someone with depression. |
| _____ | 25. I feel nervous and uneasy when I'm near someone with depression. |
| _____ | 26. I can tell that someone has depression by the way he or she talks. |
| _____ | 27. People with depression need to take better care of their grooming (bathe, clean teeth, use deodorant). |
| _____ | 28. Mental health professionals, such as psychiatrists and psychologists, can provide effective treatments for depression. |

Please read each of the following statements carefully. After you have read all of the statements below, place a check by EVERY statement that represents your experience with persons with a severe 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 severe mental illness.

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

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

_____ I have a severe mental illness.

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

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

_____ A friend of the family has a severe mental illness.

_____ I have taken a course at school about mental illness.

_____ I have a relative who has a severe mental illness.

_____ I have watched a documentary on television about severe mental illness.

_____ I live with a person who has a severe mental illness.

Appendix A – Phase I & II Measures – MHI

The following questions are about how you feel and how things have been with you *during the past month*. For each question, please circle a number for the one answer that comes closest to the way you have been feeling.

1. How happy, satisfied, or pleased have you been with your personal life during the past month?

Extremely happy, could not have been more satisfied or pleased 1	Very happy most of the time 2	Generally satisfied, pleased 3	Sometimes fairly satisfied, sometimes fairly unhappy 4	Generally dissatisfied, unhappy 5	Very dissatisfied, unhappy most of the time 6
--	--	---	--	--	---

2. During the past month, how often did you feel there were people you were close to?

Always 1	Very often 2	Fairly often 3	Sometimes 4	Almost never 5	Never 6
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3. During the past month, how much of the time have you generally enjoyed the things you do?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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4. How much of the time, during the past month, has your daily life been full of things that were interesting to you?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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5. During the past month, how much of the time have you felt loved and wanted?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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6. How much of the time, during the past month, have you been a very nervous person?

7. During the past month, how much of the time did you feel depressed?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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8. During the past month, how much of the time have you felt tense or "high-strung"?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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9. During the past month, how much of the time have you been in firm control of your behavior, thoughts, emotions, feelings?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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10. During the past month, how much of the time did you feel that you had nothing to look forward to?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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11. How much of the time, during the past month, have you felt calm and peaceful?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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12. How much of the time, during the past month, have you felt emotionally stable?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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13. How much of the time, during the past month, have you felt downhearted and blue?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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14. During the past month, how much of the time did you feel that your love relationships, loving and being loved, were full and complete?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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15. During the past month, how much of the time has living been a wonderful adventure for you?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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16. How much of the time, during the past month, have you felt so down in the dumps that nothing could cheer you up?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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17. During the past month, how much of the time have you felt restless, fidgety, or impatient?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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18. During the past month, how much of the time have you been moody or brooded about things?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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19. During the past month, how much of the time have you been anxious or worried?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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20. During the past month, how much of the time have you been a happy person?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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21. During the past month, how much of the time have you been in low or very low spirits?

All of the time 1	Most of the time 2	A good bit of the time 3	Some of the time 4	A little of the time 5	None of the time 6
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22. How much of the time, during the past month, have you felt cheerful, lighthearted?

All of the
time
1

Most of
the time
2

A good bit
of the time
3

Some of
the time
4

A little of
the time
5

None of
the time
6

Appendix A – Phase I & II Measures – PRI

Personal Reaction Inventory

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the treatment is *true* or *false* as it pertains to you personally.

1.	Before voting I thoroughly investigate the qualifications of all the candidates.	T	F
2.	I never hesitate to go out of my way to help someone in trouble.	T	F
3.	It is sometimes hard for me to go on with my work if I am not encouraged.	T	F
4.	I have never intensely disliked anyone.	T	F
5.	On occasion I have had doubts about my ability to succeed in life.	T	F
6.	I sometimes feel resentful when I don't get my way.	T	F
7.	I am always careful about my manner of dress.	T	F
8.	My table manners at home are as good as when I eat out in a restaurant.	T	F
9.	If I could get into a movie without paying and be sure I was not seen I would probably do it.	T	F
10.	On a few occasions, I have given up doing something because I thought too little of my ability.	T	F
11.	I like to gossip at times.	T	F
12.	There have been times when I felt like rebelling against people in authority even though I knew they were right.	T	F
13.	No matter who I'm talking to, I'm always a good listener.	T	F
14.	I can remember "playing sick" to get out of something.	T	F
15.	There have been occasions when I took advantage of someone.	T	F
16.	I'm always willing to admit it when I make a mistake.	T	F
17.	I always try to practice what I preach.	T	F
18.	I don't find it particularly difficult to get along with loud mouthed, obnoxious people.	T	F

19.	I sometimes try to get even rather than forgive and forget.	T	F
20.	When I don't know something I don't at all mind admitting it.	T	F
21.	I am always courteous, even to people who are disagreeable.	T	F
22.	At times I have really insisted on having things my own ways.	T	F
23.	There have been occasions when I felt like smashing things.	T	F
24.	I would never think of letting someone else be punished for my wrong-doings.	T	F
25.	I never resent being asked to return a favor.	T	F
26.	I have never been irked when people expressed ideas very different from my own.	T	F
27.	I never make a long trip without checking the safety of my car.	T	F
28.	There have been times when I was quite jealous of the good fortune of others.	T	F
29.	I have almost never felt the urge to tell someone off.	T	F
30.	I am sometimes irritated by people who ask favors of me.	T	F
31.	I have felt that I was punished without a cause.	T	F
32.	I sometimes think when people have a misfortune they only got what they deserved.	T	F
33.	I have never deliberately said something that hurt someone's feelings.	T	F

Appendix B

Unrelated Measures

The *Attitudes about Depression Scale* (ADS; Wolkenstein & Meyer, 2008) asks participants to read a vignette that describes a person who is currently experiencing an episode of DSM-IV diagnosable Major Depressive Disorder (though this is not indicated). Participants are asked to indicate how they think most Canadians would react to the person described in the vignette. Though the original ADS was worded “most people,” we chose to use “Canadians” as it refers to a population with which our sample was more familiar. Items describe 29 possible emotional (14 items), cognitive (8 items), and behavioral reactions (7 items). Each item is rated using a 5-point Likert-type scale (0 = definitely not the case, 4 = definitely the case). Participants were also asked to indicate the extent to which their personal views/reactions would be similar to those of most people. There was also an opportunity to describe how their personal responses differ from those of most people. Though this was not present in the original ADS, it was added for a prospective qualitative view of participants’ attitudes.

The *Active Viewing Questionnaire* (AVQ; Ward and Rivadeneyra, 1999) assesses how active or passive a participant is as a TV viewer. It is a 24-item instrument that evaluates 3 types of activities: Selectivity in seeking specific TV programming, involvement during exposure, and post-exposure use. Participants are asked to indicate the extent to which they agree with each statement using a 6-point Likert-type scale that ranges from “not at all like me” to “very much like me”.

The *Disclosure Expectations Scales* (DES; Vogel & Wester, 2003, was developed to assess participants’ expectations of difficulty, vulnerability, and benefit that would result from

disclosing personal information to a counselor. It comprises 8 items, each using a 5-point Likert-type scale (i.e., 1 = Not At All, 5 = Very).

The *Indirect Measure of Attitudes* (IMA I; Szostak & Whidden) was designed to indirectly measure attitudes about mental illness. Participants are asked to take 5-10 minutes and write a short story about the person described in a short vignette. The symptoms described in the vignette meet DSM-IV criteria for an episode of Major Depressive Disorder. Various emotional, cognitive, and structural components (e.g., differential use of positive and negative emotion words, total number of words, number of social words, pronoun use, etc.) of the generated stories are taken into consideration in the analysis of the IMA.

The *Indirect Measure of Attitudes 2 and 3* (IMA-2 and IMA-3) are story-telling measures, developed by the researchers for the purpose of this study. They were designed to provide an indirect measure of participants' attitudes about mental illness and psychotherapy. Participants are asked to write a short story about the client depicted in the episode just viewed. Though emotional, cognitive, and structural components were targeting for analysis, the scope of the project was necessarily narrowed, resulting in the exclusion of data gathered from these measures.

The *Inventory of Attitudes towards Seeking Mental Health Services* (IASMHS; MacKenzie, Knox, Gekoski & Macaulay, 2004) measures participants' feelings towards mental health professionals, stigma associated with mental illness, and willingness to discuss mental health with others. It consists of 24 statements that participants indicate their level of agreement, using a 5-point Likert-type scale (i.e., 0 = Disagree, 4 = Agree). The items are divided into three factors: Psychological openness; Help-seeking propensity; and Indifference to stigma.

The *Perceived Television Realism* (PRTV; Ward, Merriwether, & Caruthers, 2006) measure consists of 28 statements that assess the extent to which participants believe that various aspects of TV shows (e.g., characters, storylines) are realistic. Using a 5-point Likert-type scale, participants indicate the extent to which they agree or disagree with each statement.

The *Television Usages and Behavior Evaluation – General* (TUBE; Szostak & Weber) was developed recently to assess both quantitative (e.g., number of hours watched) and psychological (i.e., psychological involvement, perceived realism, and role identification) aspects of participants' viewing habits and preferences. The version of the TUBE that was used in this study consists of the 35 questions that pertain to general viewing habits (e.g., number of hours/week) and habits concerning TV drama series, typically the most popular type of TV show watched on a regular basis. Response options vary across questions. However, for most questions, participants are asked to indicate their response using a 5-point Likert-type scale.

The *Viewing Motivations & Television* scale (VMTV; Ward, 2002) (see attached): This scale consists of 22 items that assess two distinct motivations for viewing TV: learning vs. entertainment. Participants are asked to indicate the extent to which they agree or disagree with each statement using a 6-point Likert-type scale.

Appendix C – Informed Consent-Phase I

THE UNIVERSITY OF BRITISH COLUMBIA



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Irving K. Barber School of Arts and Sciences
Psychology and Computer Science
3333 University Way
Kelowna, BC Canada V1V 1V7

Consent Form

The Drama of Television – Phase I

Principal Investigator: Carolyn Szostak, Associate Professor of Psychology, UBCO, 250-807-8736.

Co-investigators: Carson Kivari, Undergraduate Student (Psychology), UBCO
Stephanie Smithson, Undergraduate Student (Psychology), UBCO
Ashley Whidden, Undergraduate Student (Psychology), UBCO

Purpose: People's attitudes and beliefs about mental health-related issues are informed by many different sources of information and types of experiences. Research suggests that television (TV) is a strong source of influence for many people. In addition, one's attitudes and beliefs may be determined, in part, by psychosocial characteristics, or trait-like features, of the individual.

The present study is a two-phase project designed to address a series of questions concerning peoples' attitudes and beliefs about mental health-related issues. The first phase of the study will examine the nature of these attitudes and beliefs. Specifically, we are interested in evaluating the extent to which people's attitudes and beliefs about mental health disorders and treatment are shaped by psychosocial characteristics and TV viewing habits. The second phase of the study will evaluate the effects of viewing specific episodes from a contemporary TV drama series on attitudes and beliefs about mental health-related issues.

This study is the basis of two undergraduate Honours Theses (Carson Kivari and Stephanie Smithson) and one undergraduate Directed Study (Ashley Whidden). It is anticipated that the final results will be submitted for publication in a peer-reviewed psychology journal.

Study Procedures: You have been asked to participate in a single research session. However, it is important that you know that this study, in fact, consists of up to two phases. The first phase (i.e., this one) involves completing an on-line survey. It will take approximately 60 minutes to complete this survey.

If you participate in Phase I, you may choose to also participate in Phase II of this study. Phase II will consist of two 60 minute sessions, separated by approximately 7 days. The first Phase II session will involve watching a single episode of a contemporary TV drama and filling out a series of self-report questionnaires. The second session will either be similar to the first Phase II session, or it will involve completing an on-line survey, similar to the Phase I survey. Please note that you do not have to decide about participating in Phase II at this time.

Contact for the concerns of research participants: If you have any questions or concerns about your treatment or rights as a research participant, you may contact the Research Subject Information line in the UBC Office of Research Services at 604-822-8598 or if long distance e-mail to RSIL@ors.ubc.ca.

Consent: Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time without penalty.

Your signature below indicates that you have received a copy of this consent form for your own records.

Your signature indicates that you consent to participate in this study.

Participant Signature

Date

Printed Name of Participant

Appendix D – Informed Consent-Phase II

THE UNIVERSITY OF BRITISH COLUMBIA



Irving K. Barber School of Arts and Sciences
Psychology and Computer Science
3333 University Way
Kelowna, BC Canada V1V 1V7

Consent Form

The Drama of Television Study – Phase II

Principal Investigator: Carolyn Szostak, Associate Professor of Psychology, UBCO,
250-807-8736.

Co-investigators: Carson Kivari, Undergraduate Student (Psychology), UBCO
Stephanie Smithson, Undergraduate Student (Psychology), UBCO
Ashley Whidden, Undergraduate Student (Psychology), UBCO

Purpose: The purpose of "The Drama of Television" study is to evaluate the relationships between TV viewing habits and experiences, psychosocial characteristics, and attitudes and beliefs about mental health-related issues. As you may recall, this study consists of two phases. You have already participated in the first phase. The purpose of Phase II is to assess the individual differences in people's reactions to and perceptions of selected episodes of a contemporary TV drama series.

This study is the basis of two undergraduate Honours Theses (Carson Kivari and Stephanie Smithson) and one undergraduate Directed Study (Ashley Whidden). It is anticipated that the final results will be submitted for publication in a peer-reviewed psychology journal.

Study Procedures: To participate in Phase II of the study, you must have participated in Phase I. The information that you provide in this session will be linked to the data that you provided in Phase I.

As a volunteer participant in Phase II of this study, you will be asked to participate in two sessions, separated by approximately 7 days. In the first session (i.e., this one), you will be asked to watch one of four episodes of a TV drama and then complete a set of self-report questionnaires. The specific episode that you watch will be randomly determined. The questionnaire packet will include questions designed to assess your perceptions of and responses to the TV episode, and also mental health issues. It will take approximately 60 minutes to watch the episode and complete the questionnaires.

The second session of Phase II will take place either in-person and follow the same format as described above for the current session, or it will involve completing an on-line survey, similar to which you completed during Phase I of this study. Half of Phase II participants will be assigned to the in-person type of session, and the other half will be assigned to the on-line condition. You will be told which type of session you have been assigned to at the end of the present session.

Please note that there are no right or wrong answers to any of the questions. We are interested in your honest answers regarding your attitudes, beliefs, and experiences. While we ask that you try to answer all questions, if there are any questions that you do not feel comfortable answering, you are free to leave those questions blank.

You will not receive any financial compensation for your participation. However, given that you are registered in a psychology course, and you volunteered through SONA, you will receive up to 2 marks in an eligible psychology class for participating in Phase II of this study (i.e., 1 mark for participating this session; 1 mark for participating in the Session 2 (of Phase II)).

You should also know that none of the researchers conducting this study are involved in any related conflicts of interest.

Confidentiality: Your participation and all information you provide will be kept confidential. All completed questionnaires will be kept in a secure location that is accessible only to the researchers involved in this study. Information from the completed questionnaires will be transferred to password-protected computer files for the purpose of data analysis. Again, only individuals directly involved in this study will have access to these computerized files.

The information that you provide will not be anonymous. That is, the researchers will know who provided what information. However, we will not identify you, or connect your name with your responses, to anyone not directly involved in this project. Moreover, in all publications and presentations of the research findings, no information that would allow someone to identify specific participants will be released. In addition, your individual responses will not be released.

It is also important for you to know that "Survey Monkey", a web-survey company that is located in the USA, is the host of the on-line Session 2. This company is subject to U.S. laws; in particular, the US Patriot Act that allows authorities access to the records of internet service providers. Survey Monkey's servers record incoming IP addresses - including that of the computer that you use to access the survey. However, no connection is made between your data and your computer's IP address. If you choose to participate in the survey, you understand that your responses to the survey questions will be stored and accessed in the USA. The security and privacy policy for the Survey Monkey can be found at the following link: http://www.surveymonkey.com/Monkey_Privacy.aspx.

Risk and Benefits of Participating in this Study: There are minimal risks associated with participating in this project. All episodes being used in this study have been aired on TV during primetime. Given network requirements, it is unlikely that these episodes contain harmful content. However, it is important that you are aware that the episodes may include explicit scenes about sensitive emotional issues. Some individuals may find these scenes mildly distressing for a brief time. If you are concerned about viewing this type of content, please know that you do not have to participate in this study. You may leave now or at any time during the session, without penalty. While there are no direct benefits associated with your participation, it is possible that your awareness of issues related to health attitudes and media usage may be enhanced, leading to indirect health-related benefits.

Contact for information about the study: If you have any further questions about the study you may contact Carolyn Szostak at 250-807-8736 or by email at Carolyn.Szostak@ubc.ca.

Contact for the concerns of research participants: If you have any questions or concerns about your treatment or rights as a research participant, you may contact the Research Subject Information line in the UBC Office of Research Services at 604-822-8598 or if long distance e-mail to RSIL@ors.ubc.ca.

Consent: Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time without penalty.

Your signature below indicates that you have received a copy of this consent form for your own records.

Your signature indicates that you consent to participate in this study.

Participant Signature

Date

Printed Name of Participant

