

MODIFYING ESSENTIALIST BELIEFS TOWARD MENTAL ILLNESS: AN ALTERNATIVE
FOCUS FOR ANTI-STIGMA INTERVENTIONS

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by
Fredrick T. Chin
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Accepted by the faculty of the College of Science and Technology, Morehead State University, in partial fulfillment of the requirements for the Master of Science degree.

David A. Butz
Director of Thesis

Master's Committee: _____, Chair
David A. Butz

Shari L. Kidwell

Gilbert Remillard

Date

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Fredrick T. Chin, M.S.
Morehead State University, 2014

Director of Thesis: _____

David A. Butz

Abstract

Psychological essentialism is a worldview in which social categories are mistakenly identified as having a fixed, naturally occurring, and homogenous nature inherent to them (Haslam, 1998; Rothbart & Taylor, 1992). Furthermore, essentialist cognitions are believed to be composed of two independent factors – beliefs that social groups are naturally occurring, fixed, and unchanging (i.e., natural kinds beliefs) and beliefs that the group is homogenous and inherently distinct from other groups (i.e., entitative beliefs). Previous research has demonstrated that individuals with stronger essentialist beliefs toward social classes (e.g., race, sexual orientation, mental illness) tend to exhibit more prejudice against these groups (Haqanee, Lou, & Lalonde, 2014; Haslam & Levy, 2006; Verkuyten, 2003). The current study aimed to further clarify essentialist cognitive frameworks toward mental illness by examining the efficacy of essentialist-inconsistent educational interventions on stigma reduction. More specifically, 62 participants were recruited to participate in a study to ostensibly review a mental illness informational pamphlet. Participants completed an initial series of measures assessing their attitudes toward schizophrenia, and were assigned one of three informational pamphlets (correcting entitative beliefs, natural kinds beliefs, or neither) during a follow-up session. It was predicted that participants assigned to the entitative belief condition would show significantly greater reductions in mental illness stigma, compared to the participants in both the natural kinds and

control conditions. Contrary to this prediction, participants in the control condition tended to show the greatest reduction in mental illness stigma, particularly involving beliefs about the dangerousness of individuals with schizophrenia. The present study also examined the malleability of essentialist beliefs (i.e., whether exposure to written material would be sufficient in lowering essentialist beliefs). Participant endorsement of both natural kinds and entitative beliefs of schizophrenia showed significant reductions, independent of the intervention condition to which they were assigned. Results and future directions are discussed.

Accepted by: _____, Chair

David A. Butz

Shari L. Kidwell

Gilbert Remillard

Introduction.....	1
Method	7
Results.....	13
Discussion.....	17
Conclusions.....	24
References.....	26
Figures and Tables	34
Appendices.....	38

Modifying Essentialist Beliefs Toward Mental Illness: An Alternative Focus for Anti-Stigma Interventions

Social stigma is the devaluation and dehumanization of a person or group of people based on shared characteristics that separate them from other members of society (Crocker & Quinn, 2003; Goffman, 1963). The presence of social stigma has far-reaching consequences on the lives of persons with mental health issues. For example, mental illness stigmatization has been shown to cause detrimental effects in the workplace, resulting in fewer promotions, job offers, and less friendly behavior from both supervisors and co-workers (Corrigan, 2007; Farina & Felner, 1973; Hinshaw & Cicchetti, 2000). Link, Struening, Neese-Todd, Asmussen and Phelan (2001) have found that individuals with mental illnesses who were exposed to negative stigma have shown significant decreases in self-esteem. Additionally, stigma has been linked to exacerbated symptomatology via increased depression and pessimism (Link, 1987; Ritsher, Otilingam, & Grajales, 2003; Sibitz et al., 2011). Sirey et al. (2001) have found that increased perceptions of stigmatization among mental health clients has been linked to higher non-compliance rates as measured by both treatment attendance and medication adherence. Mental health clients with particularly stigmatized disorders (e.g. schizophrenia, bipolar disorder) report that the stigma they face is worse than the illness itself (Lincoln, Arens, Berger, & Rief, 2008).

Stigma arises from the connection of negative, biased stereotypes to those characteristics that distinguish individuals from other members of society. Print and televised news outlets often depict mental illness in a violent and dangerous content (Cross, 2004; Magli, Buizza, & Pioli, 2004; McGinty, Webster, & Barry, 2013). Televised media, in particular, can also model negative reactions to mental illness by promoting fear, rejection and misunderstanding (Stuart, 2006). These unflattering portrayals may lead to an inaccurate understanding of mental illness among

the lay public. In addition, Hiday (1995) suggests that social factors typically associated with mental illness (e.g., substance abuse, poverty, and exposure to violence) may be more strongly associated with violence than the presence of the mental illness *per se*.

The frequency of these stereotyped messages strengthen the specious link between bizarre, dangerous, and aggressive behaviors to mental illness. For example, Link (1987) found in his sample of participants with psychiatric symptoms that those who were labeled mentally ill experienced demoralization from the community, even in the absence of dangerous or aberrant behavior. This may, in part, be due to the fact that the term “mental illness” brings to mind a distinct, homogenous group among lay public members. This “groupness”, otherwise referred to as entitativity, is the extent to which a group of people is considered a meaningful unit with deep commonalities (Campbell, 1958), and is theorized to be a component of a broader cognitive bias termed essentialist beliefs.

Essentialist Beliefs

Psychological essentialism is a cognitive bias in which certain social categories are misunderstood as having a fixed, underlying and homogenous nature, and certain categories are more natural than others (Haslam, 1998). Allport (1954) suggested that this rigid, essentialized mindset was the basis for prejudiced attitudes. Indeed, essentialist beliefs have been shown to moderate thinking about various groups of people, including ethnic minorities (Gil-White, 2001), race (Verkuyten, 2003), sexual orientation (Haslam & Levy, 2006) and personality (Haslam, Bastian, & Bissett, 2004). Rothbart and Taylor (1992) developed a fundamental theory suggesting that essentialism involves a misunderstanding of social categories as “natural kinds,” i.e. groups that develop through historical and social contexts are misrepresented as biological categories or species. They further speculated that natural kinds beliefs are comprised of two

sub-beliefs: that members of essential categories cannot lose their membership in that category (immutability), and that the essential category allows individuals to induce qualities that members of that category share (inductive potential). For example, an individual maintaining an essentialist belief toward a schizophrenic would subsequently endorse the beliefs that schizophrenia is incurable, and that aspects of the schizophrenic's identity could be inferred based on the inclusion in the “schizophrenia” group.

Further research by Haslam, Rothschild, and Ernst (2000) has demonstrated a two-factor model of essentialist thinking that elucidates the Rothbart and Taylor model. The first factor, *natural kinds*, combines beliefs of immutability, biological basis, discreteness, historical invariance and defining features of a category. The second factor, *entitativity*, is composed of beliefs that a category has an underlying, inherent basis, is homogenous, and offers inductive potential about category members. Subsequent research has provided empirical support on the validity of the two-factor model with a variety of social categories, including race, gender, sexual orientation, and mental illness (Haqanee, Lou, & Lalonde, 2014; Haslam & Ernst, 2002; Haslam & Levy, 2006; Haslam, Rothschild, & Ernst, 2002).

Essentialist Beliefs and Mental Illness Stigma

Research has demonstrated that the degree of entitativity and natural kinds belief individuals hold toward a certain group affect their prejudice toward that group. For example, Haslam, Rothschild, and Ernst (2000, 2002) have found that entitativity self-report ratings were negatively correlated with evaluations of various social groups, including evaluations directed toward those with mental illness. Similarly, Phelan (2005) has shown that when participants were provided vignettes that portray mental illness as being caused by genetics (i.e., natural kinds), participants reported an increased desire for social distance. Finally, sexual, gender, and racial

groups that are subject to prejudice (e.g. homosexuals, women, and Jews) were rated higher than control groups (e.g. heterosexuals, males, and Christians) on at least one essentialist factor (Haslam, Rothschild, & Ernst, 2000).

These findings have also been supported in mental illness stigma research. Haqanee, Lou, and Lalonde (2014) found that entitativity beliefs are a significant predictor of prejudice toward schizophrenia, over and above predictions based on previous contact and natural kinds beliefs. Similarly, Phelan (2005) exposed participants to vignettes that depicted schizophrenia or depression as either genetically caused (i.e. providing support for natural kinds) or not. Participants who were led to believe that the mental illnesses had a genetic component showed a stronger desire for social distance than those that did not receive the manipulation. These same genetic causal attributions of mental illness have also been linked to poor prognosis of treatment and more recommendations for mental hospitalizations (Phelan, Yang, & Cruz-Rojas, 2006).

Anti-stigma Interventions

Many anti-stigma interventions have been based on the “medical model” of mental illness (Guze, 1992; Laing, 1971), which suggests that “mental illness is an illness just like any other.” These interventions have been implemented in various countries (Becker & Vazquez-Barquero, 2001; Crisp, 2000; Sartorius, 1997). However, the lay public has largely rejected this model of intervention (Angermeyer & Dietrich, 2006; Read, Haslam, Sayce, & Davies, 2006). Additionally, public health researchers have called the medical model into question (Albee & Joffe, 2004; Luchins, 2004; Schnitker, 2008). Despite the lack of reduction in stigmatic attitudes, anti-stigma interventions have been shown to modify or otherwise change the ways in which the lay public conceptualizes mental illness (Angermeyer & Dietrich, 2006). For example, a meta-analysis of national representative population samples by Schomerus et al. (2012) has shown that

over time, the public has become increasingly more knowledgeable of biomedical models of mental illness.

By suggesting that mental illness is attributable to medical causes, researchers argue, lay people have been led to believe that individuals with mental illnesses have no control over their thoughts or behaviors (Read, Haslam, Sayce, & Davies, 2006). This hypothesis may explain why attitudes toward the mentally ill have not improved despite these interventions (Green, McCormick, Walkey, & Taylor, 1987; Trute, Tefft, & Segall, 1989). Indeed, information attributing biological causes to mental illness has been found to increase perceptions of dangerousness (Lam, Salkovskis, & Warwick, 2005) and unpredictability (Read & Law, 1999).

Other psychoeducational interventions, focusing on educating the public about severe mental illness and correcting existing myths on mental illness, have been more successful at improving attitudes toward mental illness (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999; Morrison, Coccozza, & Vanderwyst, 1980; Penn, Kommana, Mansfield, & Link, 1999). Although longer (i.e. semester-long) courses tend to have larger effect sizes, even brief information sessions have shown to result in significant reductions in stigmatization (Thornton & Wahl, 1996).

The Present Research

As evidenced by previous research, stigma and prejudice toward schizophrenia may be predicted by the degree to which an individual holds entitative beliefs about the disorder (Haqanee, Lou, & Lalonde, 2014). However, certain natural kinds beliefs (most notably, naturalness) have also been shown to influence attitudes toward mental illness (Phelan, 2005; Phelan, Yang, Cruz-Rojas, 2006). As of yet, however, there is a dearth of research evidence exploring the relative strengths of entitative and natural kinds beliefs in predicting mental illness

stigmatization. The present research sought to clarify the effects of manipulating entitative beliefs and natural kinds beliefs on stigma toward a specific mental disorder (schizophrenia). More specifically, manipulation of essentialist beliefs was conducted using a brief mental illness informational brochure. This method of education is a particularly attractive one, given the ease of delivery to the population, and the relatively low costs associated with implementation and delivery. Furthermore, pamphlet interventions are already in frequent use, and have been found to significantly influence public attitudes of general medical health issues (Huttner, Goossens, Verheij, & Harbath, 2010) and psychological issues (Hammer & Vogel, 2010).

The present research consisted of an experiment in which participants reported pre-existing stigmatizing attitudes regarding schizophrenia. Participants then read informational pamphlets contradicting essentialist beliefs, and again rated their stigma beliefs about schizophrenia, allowing for assessment of attitude change as a result of exposure to essentialism-inconsistent information. Because essentialism has been shown to be related to stigmatic beliefs across a variety of prejudiced groups (Haslam, Rothschild, & Ernst, 2000), I hypothesized that participant self-report of stigma would be significantly reduced following exposure to the essentialism-inconsistent pamphlets. Furthermore, the present study utilized two separate intervention pamphlets, addressing either entitative or natural kinds beliefs, allowing for a more nuanced understanding of the role that each belief type plays on mental illness stigmatization.

The design of the present research also allowed for a replication and expanded understanding of previous research by demonstrating the associations between essentialist beliefs and stigma. On the basis of previous research by Haqanee, Lou, & Lalonde (2014), I hypothesized that stigma towards the mentally ill is more strongly predicted by entitative beliefs than natural kinds beliefs. Furthermore, I hypothesized that an individual's natural kinds beliefs

would correlate with an endorsement of genetic causal attributions for schizophrenia. In particular, examining this relationship in the context of a mental illness pamphlet could further elucidate the degree to which presentation of essentialism-inconsistent information could change an individual's preexisting beliefs about mental illness.

Method

Participants and Design

Sixty-two Introductory Psychology students (46 female, 16 male; $M_{age} = 18.85$ years, $SD = 1.84$ years, range: 18-28 years) from a small-sized southern university were recruited to participate in the present study in exchange for partial fulfillment of their research credit in a psychology course. In some instances, per course instructor discretion, students were offered extra credit in lieu of research credit fulfillment. The study employed a 3(anti-stigma intervention: entitative beliefs vs. natural kinds beliefs vs. control) x 2(time: pre-test vs. post-test) mixed design with the latter factor assessed as within subjects.

Procedure

Participants first provided consent by signing an informed consent form (Appendix A), which was subsequently stored in a secure location to ensure confidentiality and anonymity. As part of the consent process, participants were told that they would be taking part in a pilot study examining the effectiveness of a new mental illness information pamphlet that would be distributed at the university counseling center. Participants were informed prior to the initial session that the study would require them to return at a later date to evaluate the pamphlet. Participants then completed a demographics questionnaire (Appendix B) and read a short informational briefing regarding schizophrenia (Appendix C). This briefing listed the primary

symptoms of schizophrenia in non-technical terms, consistent with the DSM-IV diagnostic criteria (American Psychiatric Association, 1994), and contained paraphrased information from an undergraduate level textbook (Weiten, Dunn, & Hammer, 2012).

Essentialist beliefs. A primary focus of this study was to examine the malleability of essentialist beliefs following exposure to anti-stigma interventions that challenge those essentialist beliefs. Haslam and Levy (2006) developed a scale measuring essentialist beliefs for use with homosexuality, similar to one used by Haslam and Ernst (2002) in their study of essentialist beliefs toward mental illness, but including measures adapted from Hegarty and Pratto (2001) measuring the biological basis, fixity, and cross-cultural universality. Both the scale used by Haslam and Levy (2006) and the one used by Haslam and Ernst (2002) were combined in the present study to explore a broader understanding of essentialism (Appendix D). Additionally, an item used by Haqanee, Lou, and Lalonde (2014) was included to explore the entitativity belief of exclusivity. This scale was then separated into two subscales measuring entitativity (four items, e.g., “Schizophrenia is a category that is exclusive; such a category does not allow a person to belong to other categories”), and natural kinds beliefs (seven items, e.g., “Schizophrenia is caused by biological factors, such as genes or hormones”), given the theorized two-factor theory of essentialist beliefs (Haslam, Rothschild, & Ernst, 2002). A third set of non-essentialist stigma items were included to examine belief change among control participants. Participants responded to the items using a five-point Likert scale with anchors at 1 (*Very strongly disagree*) and 5 (*Very strongly agree*).

This scale was used as a manipulation check to determine whether participants' essentialist beliefs toward mental illness had changed, and was administered at two time points: the initial session and following participant exposure to the anti-stigma pamphlet. Responses

were then coded and averaged across each subscale to create three composite scales such that higher numbers reflect greater entitative, natural kinds, and general stigma beliefs. Reliability scores for the entitativity items pre-intervention was poor (Cronbach's $\alpha = .59$), and unacceptable for both the natural kinds items ($\alpha = .27$) and control items ($\alpha = .27$). Post-intervention reliability scores were acceptable for the entitativity items ($\alpha = .63$), but similarly unacceptable for both the natural kinds items ($\alpha = -.05$; the negative reliability score suggesting weak correlations between items) and control items ($\alpha = .31$). Therefore, a single item, mutability ("A schizophrenic individual can become mentally healthy or completely cured.") was chosen to best represent the natural kinds belief. This item was chosen because it was directly addressed in the natural kinds education condition, and it has previously been shown to be more strongly related to change in other natural kinds essentialist beliefs (Haslam & Ernst, 2002). One participant failed to answer the mutability item during the second session (i.e., after receiving the mental illness pamphlet). Therefore, this participant has been excluded from all manipulation check analyses. Given the low reliability ratings for the entitativity belief items, interpretations of analyses involving entitativity beliefs should be made cautiously.

Stigma measures. Because mental illness stigma is a multifaceted concept of both stereotyped beliefs and prejudicial feelings (Rusch, Angermeyer, & Corrigan, 2005), several measures were utilized to capture a broader picture of stigma. One of the most common measures of stigma used in the literature is the desire for social distance (Angermeyer et al., 2011; Jorm & Oh, 2009), or an individual's willingness to engage in contact with a member of another group in various social contexts. The social distance measure used in this study (Appendix E) was adapted from one used by Link, Cullen, Frank, and Wozniak (1987), which in turn is a modified version of the Bogardus Social Distance Scale (Bogardus, 1925). It consisted

of seven items representing various degrees of social relationships. Using a five-point Likert scale with anchors at 1 (*in no case at all*) to 5 (*in any case*), participants indicated the extent to which they would accept a schizophrenic individual in each social relationship. Responses were then reverse-coded, so that higher scores indicate a greater desire for social distance, implying higher levels of prejudice. A second measure of stigma used in the present study (Appendix F), measuring participant perceptions of dangerousness and dependency, was developed by Angermeyer, Matschinger, and Corrigan (2004). This instrument listed eight personality characteristics depicting dangerousness (i.e. “dangerous,” “unpredictable,” “lacking self-control,” “aggressive,” and “frightening) and dependency (i.e. “dependent upon others,” “helpless,” and “needy”). Participants indicated their beliefs regarding how dangerous and dependent upon others schizophrenic individuals are, using a seven-point Likert scale with anchors at 1 (*definitely not true*) to 7 (*definitely true*). Responses were then averaged to create aggregate measures of dangerousness and dependence beliefs. The items for the dangerousness scale were found to maintain good internal consistency, $\alpha = .85$, while the items used in the dependence measure were also acceptably reliable, $\alpha = .67$. These reliability coefficients are similar to the Cronbach’s alpha of .88 reported in the original study (reliability of the dependency scale was not reported).

Following completion of these measures, participants were thanked for their time, provided research credit, and asked to return in two weeks to complete the second part of the study.

Anti-stigma interventions. Upon return to the second part of the study, participants were randomly assigned to one of three anti-stigma interventions (Appendix H), exposing them to information inconsistent with entitativity beliefs ($n = 20$), natural kinds beliefs ($n = 21$), or a non-

essentialist control condition ($n = 21$). The interventions were designed such that sections of the pamphlets directly corresponded with items from the essentialist belief measure (Appendix D); such items are designated by an asterisk (*). Participants were told that these pamphlets were intended for distribution at the university counseling center, and that the study was focused on evaluating the effectiveness of the pamphlet, in an effort to minimize the effects of social desirability effects. These psychoeducational pamphlets were kept as similar to one another as possible, only differing for the purposes of manipulating the type of essentialist belief. To further disguise the purpose of the study, participants were asked to rate various aspects of the pamphlet, including readability and design (Appendix I).

Social dominance orientation (SDO). Social dominance orientation reflects an individual's attitude toward intergroup relationships, and whether they idealize these relations to be equal or hierarchical. High-SDO individuals prefer social groups that are organized by superiority, while low-SDO individuals prefer a socialist, equal organization. SDO has been found to predict prejudice toward individuals with mental illness, and controlling for SDO has previously elicited stronger correlations between essentialist beliefs and mental illness stigma (Bizer, Hart, & Jekogian, 2012; Haqanee, Lou, & Lalonde, 2014). Therefore, I have included a 15-item measure by Pratto, Sidanius, Stallworth and Malle (1994) that has been used previously in mental illness stigma research (Appendix J). Participants were asked to read a number of statements pertaining to intergroup relationships (e.g., “To get ahead in life, it is sometimes necessary to step on other groups”) and asked to report their agreement with the statement using a 7-point Likert scale with anchors of 1 (*very negative*) and 7 (*very positive*). Seven items reflected statements that indicated equivalent intergroup relations (e.g., “Group equality should be our ideal”) and were subsequently reverse-coded. Reliability analyses revealed that the

responses maintained good internal consistency with one another, $\alpha = .89$. Items were then averaged together to create a mean social dominance score, such that higher numbers indicated a stronger desire for social dominance.

Social desirability. Given that participants may have been motivated to minimize their prejudicial attitudes toward mental illness, the Marlowe-Crowne Social Desirability Scale was included in the study to assess for response bias (Crowne & Marlowe, 1960; Appendix K). This 33-item measure evaluates the extent to which a participant's responses may be a reflection of their desire to appear politically correct, rather than an accurate representation of their own beliefs. Participants were asked to read statements (e.g., "I like to gossip at times") and report whether they felt the statement pertained to them personally by using true or false responses. Responses were then coded such that responses consistent with high social desirability were scored as a 1, while non-socially desirable responses were scored as a 0. The coded responses were found to maintain acceptable internal reliability, $\alpha = .70$. The responses were then summed for each participant, creating a composite score in which higher values represented a stronger tendency toward socially desirable responses.

Causal Attributions. In order to test the hypothesis that natural kinds beliefs of mental illness are associated with the belief that mental illness is caused by biogenetic factors, participants were administered a 9-item measure assessing their attributions for the causes of mental illness (Jorm, et al., 1997; Appendix G). Participants were asked to read statements portraying possible causes of mental illness (e.g., "The recent death of a close friend or relative") and asked to report how likely each was to result in schizophrenia using a 5-point Likert scale with anchors of 1 (*very unlikely*) and 7 (*very likely*). Though the entire measure was included for the sake of posterity, only the item directly assessing biogenetic causes, "Genetics or inherited,"

was used in the present analyses.

Post-test measures. Participants were then reassessed using the essentialist beliefs measure (Appendix D), both as a manipulations check and to measure the degree to which essentialist beliefs may have globally decreased as a result of psychoeducation rather than the specifically targeted entitativity and natural kinds interventions. Participants were also reevaluated on the social distance, dangerousness and dependence stigma measures (Appendices E and F) following exposure to the anti-stigma interventions, in order to measure the degree to which the various interventions decreased stigma. In order to disguise the purpose of study, participants were told that some of the data taken during the first session were lost due to a computer error, and therefore would need to be recollected. Finally, participants were provided a debriefing statement (Appendix L), including an explanation of the deception used in the research and the necessity of the use of deception, provided a second research credit, and thanked for their time.

Results

Manipulation Check

To evaluate whether the manipulation had the intended effect of influencing the targeted belief, a 2 (time: pre vs. post) x 2 (belief type: entitative vs. natural kinds) by 3 (anti-stigma intervention: entitative beliefs vs. natural kinds beliefs vs. control) mixed design ANOVA was conducted with time and belief type as the within-subjects factor and intervention as the between-subjects factor. Mean and standard deviation values are provided in Table 1. There was a significant main effect of time, $F(1, 58) = 14.88, p < .001, \eta_p^2 = .20$, as well as a significant main effect of belief type, $F(1, 58) = 46.81, p < .001, \eta_p^2 = .45$. A marginally significant Belief Type x Intervention two-way interaction was also found, $F(2, 58) = 2.90, p = .063, \eta_p^2 = .09$.

Contrary to prior expectations, there was no significant three-way time x belief type x intervention, $F(2, 58) = 1.97, p = .148, \eta_p^2 = .06$, suggesting that changes in participant beliefs over time did not depend upon the condition to which they were assigned.

Stigma Measures

Social Distance. A 2 (time) x 3 (intervention) mixed-design ANOVA with time as the within-subjects variable and intervention as the between-subjects variable was run on the measure of social distance to determine how social distance varied as a function of pamphlet exposure. A significant main effect of time emerged, $F(1, 59) = 11.96, p = .001, \eta_p^2 = .17, M_{pre} = 3.05, SD = 0.89, M_{post} = 2.81, SD = 0.89$. The predicted time x intervention interaction was not significant, $F(2, 59) = 1.46, p = .240, \eta_p^2 = .05$ (see Figure 1).

Dangerousness. A second 2 x 3 mixed-design ANOVA, with the same independent variables and dangerousness as the dependent variable, revealed a significant main effect of time, $F(1, 59) = 32.80, p < .001, \eta_p^2 = .36$. However, this main effect was qualified by a significant time by intervention interaction effect, $F(2, 59) = 3.18, p = .049, \eta_p^2 = .10$ (see Figure 2). Follow-up simple effects analyses using a pooled error term revealed that among participants exposed to the entitativity pamphlet, perceptions of dangerousness decreased from $M_{pre} = 4.14$ to $M_{post} = 3.64$ ($SDs = 1.13$ and 0.97 , respectively). However, this difference did not reach conventional levels of significance, $F(1, 59) = 3.39, p = .071, MSE = 0.74, \eta_p^2 = .05$. Among participants who received the natural kinds pamphlets, perceptions of dangerousness significantly decreased from $M_{pre} = 3.97$ ($SD = 1.44$) prior to reading the pamphlet to $M_{post} = 3.24$ ($SD = .87$) after reading the pamphlet, $F(1, 59) = 7.66, p = .008, \eta_p^2 = .12$. Participants in the control condition also experienced a significant reduction in perceptions of dangerousness, $F(1, 59) = 28.59, p < .001, \eta_p^2 = .33, M_{pre} = 4.80, SD_{pre} = 1.21, M_{post} = 3.38, SD_{post} = 1.03$ (see Figure 3).

Dependence. A final 2 x 3 mixed design ANOVA was conducted using the average response on the dependence measure as the dependent variable. Participant perceptions of the dependence of schizophrenic individuals significantly decreased from baseline levels ($M = 3.44$, $SD = 1.08$) to their scores after reading the pamphlets ($M = 3.10$, $SD = 1.20$), $F(1, 59) = 4.60$, $p = .036$, $\eta_p^2 = .07$. The results also revealed a marginally significant time by intervention interaction effect, $F(2, 59) = 3.05$, $p = .055$, $\eta_p^2 = .09$. Although the interaction did not reach conventional levels of significance, follow-up simple effects analysis with a pooled error term were conducted to assess the trend of the relationship between essentialism and stigma. Participants who were assigned to the control condition experienced a significant decrease in their perceptions of the dependence of individuals with schizophrenia, $F(1, 59) = 9.38$, $p = .003$, $MSE = 0.73$, $\eta_p^2 = .14$, $M_{pre} = 4.00$, $SD_{pre} = 0.90$, $M_{post} = 3.19$, $SD_{post} = 1.27$. In contrast, participants in the entitative condition did not subsequently show significant reductions in perceptions of dependence, $F(1, 59) = 1.16$, $p = .286$, $\eta_p^2 = .02$. Participants in the natural kinds condition also failed to show a significant reduction in perceptions of dependence, $F(1, 59) = 0.18$, $p = .676$, $\eta_p^2 = .003$.

Given the lack of a significant three-way time x belief type x intervention interaction in the manipulations check analyses, exploratory correlational analyses were conducted between participant evaluations of beliefs of dependence and their adherence to essentialist beliefs of schizophrenia, since changes in essentialist beliefs across time were unrelated to the condition to which participants were assigned. The correlational analyses did not indicate a significant relationship between participant perceptions of dependence post-intervention and participant's natural kinds beliefs of schizophrenia post-intervention, $r(59) = .18$, $p = .168$. Similarly, perceptions of dependence were not significantly associated with post-intervention entitative beliefs, $r(60) = .22$, $p = .090$. However, natural kinds beliefs post-intervention were found to be

significantly correlated with desire for social distance post-intervention, $r(59) = .35, p = .006$. No other significant correlations between essentialist beliefs and stigmatic beliefs after exposure to the informational pamphlet were found ($r_s < |.19|, p_s > .167$). Further exploratory analyses revealed that natural kinds beliefs pre-intervention were also significantly associated with desire for social distance pre-intervention, $r(60) = .40, p = .001$. No other significant correlations between essentialist beliefs and stigmatic beliefs prior to exposure to the informational pamphlet were found ($r_s < |.26|, p_s > .050$).

Natural Kinds Beliefs and Causal Attributions

On the basis of previous research examining the relationship between endorsements of biogenetic causes of mental illness (as measured post-intervention) as predictive of mental illness stigma, Pearson bivariate correlational analyses were conducted to explore whether participant post-intervention beliefs that mental illness is caused by genetic factors might be related to a stronger desire for social distance, or stronger endorsements of the beliefs that individuals with schizophrenia are more dangerous or dependent upon others post-intervention. One participant had failed to answer the genetic causal attribution item, and was therefore excluded from the correlational analyses. The correlations between these variables were non-significant ($r_s < |.15|, p_s > .278$). Similarly, post-intervention beliefs that mental illness is caused by genetic factors was not significantly associated with pre-intervention stigma measures ($r_s < |.23|, p_s > .080$). However, genetic causal attributions were significantly and negatively related to the difference in perceived dependence pre-intervention and post-intervention, $r(59) = -.33, p = .010$.

Subsequently, correlational analyses were conducted to assess whether participant endorsement of biogenetic causes of schizophrenia were associated with either entitative or natural kinds beliefs, both before and after the informational intervention. As predicted, neither

entitative beliefs pre- or post-intervention were significantly correlated with biogenetic attributions ($r_s = -.08$ and $-.04$, $p_s = .544$ and $.750$, respectively). Contrary to predictions, biogenetic causal attributions were also not significantly associated with natural kinds beliefs pre- or post-intervention, ($r_s = -.02$ and $.19$, $p_s = .884$ and $.147$, respectively).

Potential Covariates

Pearson bivariate correlational analyses were conducted to explore the relationship between participant social desirability scores and their responses on the three primary prejudice measures (desire for social distance, perceptions of dangerousness, and perceptions of dependence upon others), both prior to and following the intervention, as well as the difference in scores from pre- to post-intervention. However, social desirability was not significantly associated with the measures ($r_s < |.14|$, $p_s > .28$) and therefore were not included as a covariate in the ANOVAs.

Social dominance orientation, however, was significantly correlated with several individual dependent variables, including participant desire for social distance prior to receiving the information pamphlets ($r(60) = .29$, $p = .021$), as well as desire for social distance after reading the information pamphlets ($r(60) = .39$, $p = .002$), perceptions of dangerousness after receiving the pamphlets ($r(60) = .35$, $p = .005$), and perceptions of dependence after reading the pamphlets ($r(60) = .37$, $p = .003$). However, social dominance was not significantly correlated with the differences in these scores between pre- and post-intervention ($r_s < |.18|$, $p_s > .10$), thus precluding the inclusion of SDO as a covariate in the repeated measures ANOVAs.

Discussion

Stigma Reduction

A primary goal of the present research was to examine methods by which levels of

prejudice towards the mentally ill might be lessened. Public opinions towards the mentally ill have been linked to the care and management of mental illness, including the afflicted individual's degree of embarrassment toward seeking treatment (Greene-Shortridge, Britt, & Castro, 2007), self-management of mental illness symptomatology (Sirey et al, 2001), and the implementation of public policy intended to increase funding and support to aid those with mental illness (Pescosolido et al., 2010). As such, decreasing prejudice represents a fertile avenue by which to effect change, both at the institutional and individual levels. In the present study, participants were provided with informational pamphlets on schizophrenia intended to lessen the degree of stereotyping through the use of psychoeducation. Importantly, the pamphlets were not intended to alter perceptions of schizophrenia by presenting the disorder as an illness like any other, due to the general inefficacy of this model of intervention demonstrated by the extent literature (Albee & Joffe, 2004; Read, Haslam, Sayce, & Davies, 2006; Schnitker, 2008). Rather, the intervention used in the present study rectified common misconceptions of schizophrenia. The results suggest that participant perceptions of social distance significantly decreased over time when averaged across intervention conditions. However, sans inclusion of a control condition with no information about schizophrenia, it is impossible to determine whether this decrease in stigmatic attitudes was due to the pamphlet intervention. Although previous research has demonstrated that brief written informational interventions can effectively reduce prejudice towards mental illness (Thornton & Wahl, 1996), the same can not be assumed in the present study.

The Role of Essentialism in Mental Illness Stigma

A second purpose of the current study was to evaluate the association between essentialism and mental illness stigma as a potential avenue for reducing prejudiced beliefs.

Towards this aim, sections of the intervention pamphlet were devoted to either correcting myths associated with entitative beliefs or natural kinds beliefs associated with schizophrenia.

Participants were then randomly assigned one of the intervention pamphlets to assess the degree to which these two factors of essentialism might be changed as a result of exposure to the educational intervention. Intriguingly, although the degree to which participants essentialized schizophrenia decreased overall, the type of belief change did not depend upon the intervention to which they were assigned. In other words, participants experienced decreases in entitative and natural kinds beliefs of schizophrenia, but these decreases did not differ as a function of the pamphlet the participant read. This finding is especially puzzling given the support for the independence of the entitative and natural kinds constructs (Haslam, Rothschild, & Ernst, 2000). One possibility is that the relationship between essentialism and stigma may be bi-directional; that is, just as reducing essentialist thinking reduces prejudice towards mental illness, so too might lowered prejudice result in lessened essentialized attitudes. As an alternative explanation, it is possible that sections of the intervention unrelated to the essentialism manipulation (i.e., aspects of the pamphlet that were kept constant across conditions) may have had the unintended effect of decreasing entitative and natural kinds beliefs. Though it is not distinctly obvious where such a manipulation might be occurring, it is plausible that a number of the statements may be working to implicitly decrease levels of essentialist beliefs among participants.

Among specific measures of mental illness stigma, it was found that individuals assigned to the natural kinds manipulation showed a significant decrease in perceived dangerousness of individuals with schizophrenia, while those assigned to the entitative condition did not show such a change. Additionally, participants assigned to the control condition also changed their beliefs about the danger that schizophrenic individuals represent to society. Previous research has

shown that schizophrenia is considered by the lay public to be a dangerous disorder (Angermeyer & Matschinger, 2003). Simultaneously, attitudes toward schizophrenia seem to be heavily rooted in both natural kinds beliefs and entitative beliefs (Haqanee, Lou, & Lalonde, 2014). Given the pattern of changes in perceptions of dangerousness observed in the present study, it is feasible that participant beliefs that schizophrenia is a dangerous disorder is linked to beliefs that the immutability and discreteness of the disorder. Furthermore, this finding contradicts those of Haqanee, Lou, and Lalonde (2014), who suggested that prejudice towards schizophrenia is more strongly predicted by entitativity beliefs. These apparently contradictory findings between the present study and extent literature suggest that stigma towards schizophrenia (and likely, mental illness in general) is borne of complex origins, and the relationship between essentialist beliefs and stigma is likely more nuanced than initially thought.

When evaluating stigma via perceptions of dependence, testing of differences across the three conditions only resulted in marginally significant differences. However, simple effects comparisons based upon a priori hypotheses revealed that neither entitative nor natural kinds beliefs seemed to be associated with reductions in perceptions of dependence. The observed data trend suggests that the two factors of essentialist beliefs are relatively independent constructs from the perceived dependency of individuals with schizophrenia, and that there is an unexplored construct (or set of constructs) that drives the belief that individuals with schizophrenia present some sort of societal burden.

The finding that natural kinds beliefs and genetic causal attributions were not significantly associated with each other is an intriguing one, especially given that natural kinds beliefs were assessed by examining participant beliefs of immutability. Previous research by Raman and Gelman (2005) has shown that individuals have a tendency of inferring that

permanent illnesses are inherited (i.e., having their etiology in genetics), while temporary illnesses are more likely to be seen as transmitted through contagion. It is unclear at this point whether mental illnesses are perceived differently from physical illnesses within this context, and future research could serve to clarify this point.

Limitations and Future Directions

Given a general lack of support for the primary hypotheses of the present research, it is important to assess potential limitations stemming from the design and procedure of the present study. An important limiting factor in the present results is the limited sample size, which results in lower power and subsequently, a diminished ability to detect significant main and interaction effects. A further limitation associated with the sample size is the inability to perform factor analyses on the constructs of natural kinds and entitativity. Despite considerable disagreement on the necessary sample size required for adequate factor analyses (MacCallum, Widaman, Zhang, & Hong, 1999), even the most liberal recommendations suggest a minimum of 100 participants (Gorsuch, 1983). Although previous research has suggested that the two factors are indeed independent of one another (Haslam, Rothschild, & Ernst, 2000; Haqanee, Lou, & Lalonde, 2014), it may be necessary to demonstrate the same independence exists in the present population before assessing the changes in prejudice that occur following exposure to information that contradicts the belief of schizophrenia as an essentialized group.

Another potential limitation regarding the present research is the fact that all participants were recruited from a pool of students in introductory psychology courses. Participants were provided measures assessing the degree to which they stigmatized the mentally ill at two separate times, in the hopes that any changes in stigma were a result of the educational pamphlets provided at the second session. However, it is possible (and perhaps even likely) that participants

may have been exposed to information within the context of their psychology course(s) that also influenced the degree to which they endorsed stigmatizing attitudes. Furthermore, pre- and post-intervention sessions were run two to three weeks apart in order to minimize any potential attempts by participants to reproduce the initial data from memory. Although this extended time period was considered necessary to minimize the influence of pre-intervention scores, it also inevitably leads to a greater likelihood that information that participants received from their courses could have been responsible for changes in their responses. Utilizing a more diverse subject pool (i.e., participants not currently enrolled in a psychology course) may eliminate this potential issue.

Similarly, participant demographics were geographically limited to individuals enrolled at a small-sized university located in eastern Kentucky. Recent epidemiological data published by the Substance Abuse and Mental Health Services Administration (SAMHSA, 2014) suggests that the rate of serious mental illness (defined as “a disorder that substantially interfered with or limited one or more major life activities”) in Kentucky was somewhat higher than the rest of the country (4.74% in Kentucky, compared to 3.97% across the country). Although these data do not examine the incidence of schizophrenia specifically, it is plausible that the rates of schizophrenia may be somewhat higher in Kentucky. Given that considerable research has demonstrated that interpersonal contact is predictive of mental illness stigma (Couture & Penn, 2003), it is possible that residents of Kentucky may exhibit lower levels of prejudice toward the mentally ill than the national average. Further complicating this issue is the fact that participants in the present study were college-aged, limiting the generalizability of the results. Therefore, recruiting participants from across the country may elicit more readily generalizable findings.

A surprising finding regarding the present study is the unexpected degree in which the

control condition worked to decrease levels of stigma, compared to both the entitative and natural kinds conditions. Mean comparisons suggest that the control condition was more effective than both the entitative and natural kinds conditions at reducing perceptions of both the dangerousness and dependence of schizophrenic individuals. Retrospective analyses of the text of the control condition revealed that the control intervention listed information that could be construed as depicting individuals with schizophrenia as both not dangerous (i.e., more likely to be victims of violent behavior than to be violent themselves) and not necessarily dependent upon others (i.e., providing examples of accomplished individuals who were diagnosed with schizophrenia). Given this issue, it is unsurprising that participants who were exposed to this condition would be more likely to report decreases in endorsement of the beliefs that individuals with schizophrenia are dangerous or dependent upon others. Including a control intervention in future studies emphasizing a portrayal of schizophrenia as a medical illness like any other may provide compelling insight into the efficacy of altering essentialist beliefs compared to previously implemented stigma-reduction interventions. However, care should be taken to properly inform participants in the debriefing sessions that the information provided in the pamphlets may not be entirely accurate.

In a similar vein, the analyses conducted failed to identify the extent to which changes in both essentialist beliefs and stigmatic attitudes toward schizophrenia were a result of the differences in text of the pamphlet across conditions. In order to maintain internal validity and maximize consistency across conditions, the majority of the pamphlets were comprised of identical text that was designed to raise awareness about schizophrenia. Consequently, it could be argued that changes in participant beliefs may have been a result of this text, which may explain the present finding that reductions in both natural kinds and entitative beliefs occurred

independently of the condition to which participants were assigned. Accordingly, future research could explore the extent to which essentialist beliefs might subtly change after exposure to general educational information, rather than targeted interventions that explicitly seek to alter these beliefs.

Finally, the present study demonstrated that it is relatively easy to induce changes in essentialized beliefs via exposure to written educational pamphlets. However, it is unclear whether these belief changes are stable across time (i.e., would participants gradually revert back to pre-intervention levels of essentialized beliefs of schizophrenia?). Researchers may benefit from conducting longitudinal analyses in order to examine the long-lasting effects of correcting essentialized thinking, as well as assessing whether levels of stigma continue to be reduced as a result of these interventions. Further exploration within this area would be invaluable in providing further avenues of anti-stigma interventions, as well as gleaning a greater understanding into the malleability or rigidity of essentialist beliefs.

Conclusions

The present study sought to extend the work of Haslam, Ernst, and Rothschild (2000, 2002) and Haqanee, Lou, and Lalonde (2014) examining the role of essentialist beliefs in stigma, particularly towards severe mental illness. First, and consistent with predictions, essentialist beliefs about schizophrenia were found to be relatively easy to manipulate in the short-term via written informational pamphlets. However, the present study also showed changes in essentialist beliefs under conditions that were not hypothesized to elicit belief change. Therefore, it is currently unclear how general educational information may impact essentialized beliefs, and future research should seek to elucidate this relationship. Secondly, the present study demonstrated that there does seem to be a positive relationship between stigmatization of

schizophrenia and essentialized thinking, particularly within the natural kinds factor. This finding was inconsistent with previous research (Haslam, Ernst, & Rothschild, 2002; Haqanee, Lou, & Lalonde, 2014), which suggested that entitative beliefs were most strongly predictive of stigmatization of mental illness. However, this finding is consistent with Phelan (2005) and Phelan, Yang, and Cruz-Rojas (2006), who found that beliefs related to natural kinds beliefs (i.e., believing schizophrenia to be caused by biogenetic factors) are associated with stronger levels of prejudice. Furthermore, the present research provides evidence for the link between beliefs of the immutability of schizophrenia (itself a component of natural kinds beliefs) and the desire for social distance from individuals with schizophrenia. Trend level data was also found to support that perceived dangerousness of schizophrenia may also be related to the natural kinds factor of essentialist beliefs. Continued research should be conducted to identify the role in which both natural kinds and entitative beliefs play in the expression of stigma and prejudice towards individuals with mental illness, as well as elucidating the degree to which reductions in essentialized thinking are stable across time.

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Table 1

Mean and SD Values of Manipulation Check Variables as a Function of Assigned Condition and Time

<u>Condition</u>	<u>Time</u>	<u>Entitativity</u>		<u>Natural Kinds</u>	
		<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Entitativity	Pre	2.70	0.78	3.42	1.17
	Post	1.91	0.84	3.21	1.27
Natural Kinds	Pre	2.46	0.77	3.10	1.14
	Post	2.08	0.62	2.43	1.21
Control	Pre	2.64	0.79	3.62	1.12
	Post	2.20	0.63	3.71	0.90

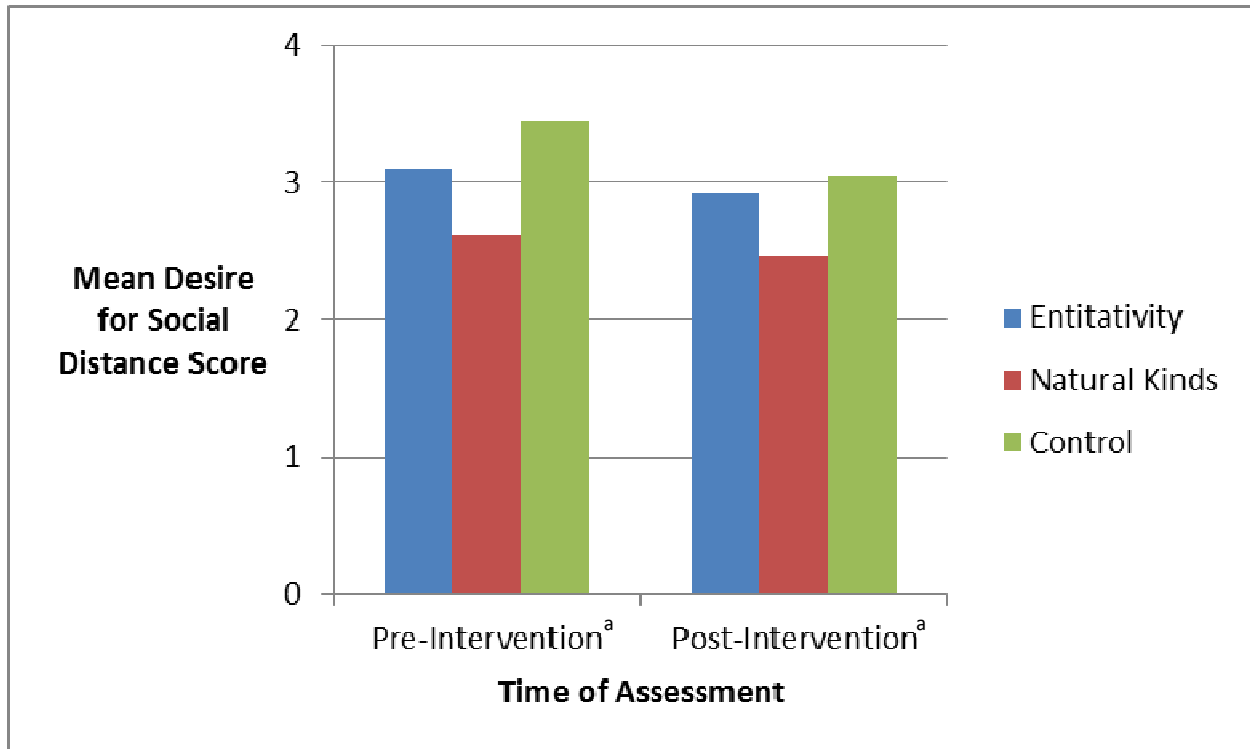


Figure 1. Social Distance scores as a function of time and assigned intervention condition.

^aSocial distance scores averaged across intervention conditions significantly decreased following the intervention, , $p < .005$.

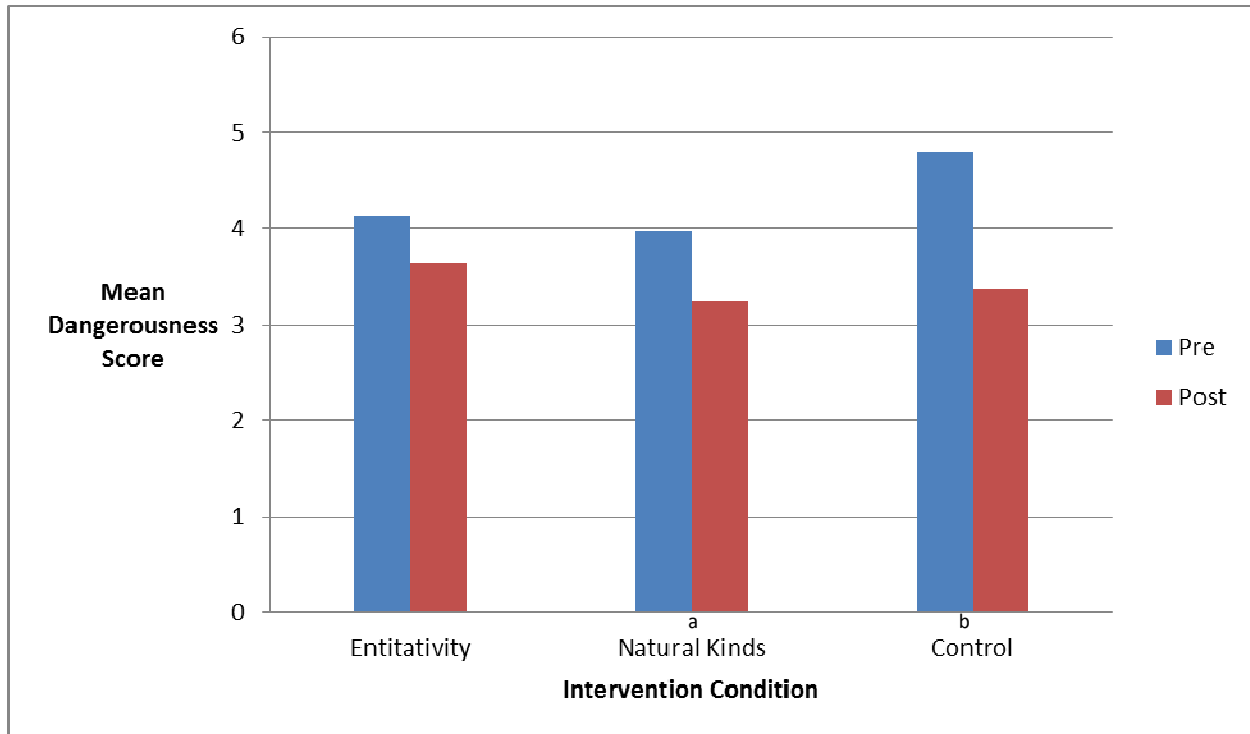


Figure 2. Dangerousness scores as a function of time and assigned intervention condition.

^a Participants assigned to the natural kinds condition exhibited a significant reduction in desire for social distance, $p < .01$.

^b Participants assigned to the control condition exhibited a significant reduction in desire for social distance, $p < .001$.

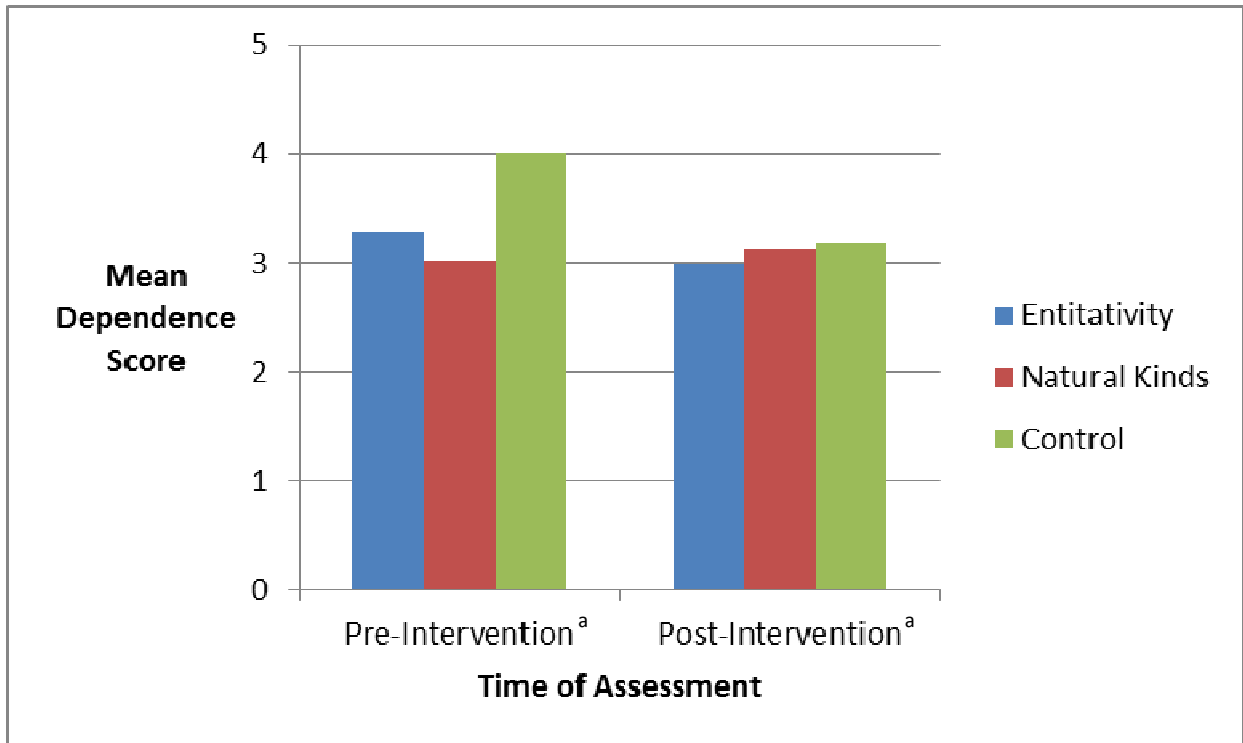


Figure 3. Dependence scores as a function of time and assigned intervention condition.

^aDependence scores averaged across intervention conditions significantly decreased following the intervention, $p < .05$.

Appendix A

Department of Psychology
Morehead State University
Morehead, KY
(606) 783-2981

INFORMED CONSENT STATEMENT:

“Ratings on the Effectiveness of a Mental Illness Informational Pamphlet”

This research is being conducted by David A. Butz and Fredrick T. Chin, researchers in the Psychology department at Morehead State University. You must be at least 18 years of age in order to participate. The present study is an investigation of social attitudes towards a variety of interpersonal issues.

Participation in this study involves answering questions about yourself and your beliefs, and rating the effectiveness of mental illness pamphlets intended for distribution at the Morehead Counseling . The study is composed of two parts – you will be asked to return in 2 weeks to complete the second part. The first part will take approximately 15-30 minutes, and the second will take approximately 30-45 minutes.. We are interested in your honest attitudes and opinions. If you have any questions about how to complete the surveys, you may ask the student assistant in this project. This survey is to be taken at your own pace and individually. Please do not take this survey with anyone else in close proximity. Your responses on the survey will be completely anonymous. Please be as open and honest about the answers as you can while taking the survey. If you have any questions or comments after completion of the study, you may contact the principal investigator, Fredrick Chin, at fchin@moreheadstate.edu

Your participation is totally voluntary and you may stop participation at any time. You are free not to answer specific items or questions, or to complete any part of the survey. You will receive 2 (two) research credits for your participation in this survey. You may stop participation at any point during the survey without penalty. You may choose to do something else for credit in your psychology class in consultation with your instructor.

Your responses today will remain confidential to the extent allowed by law. Aside from the investigators for this project, no one will have access to your questionnaire. Additionally, to ensure anonymity, please do not put your name or other identifying information anywhere on the questionnaire. Your informed consent form will be kept separately from the completed questionnaire, and your name will never be linked with your responses. Any reports generated will only use group averages, rather than individual cases.

We are required by law to report to the proper authorities any information that a person under the age of 18 is being abused or neglected by a family member, and/or that physical abuse has occurred between married persons. Aside from those cases, only members of the research team will have access to your responses. While data are being collected, data will be kept on a secure website. Upon completion of this study, data will be transferred to laboratory computers at Morehead State University and will only be able to be accessed by members of the research team.

This study has been reviewed by the Institutional Review Board at Morehead State University

and has been deemed to pose little or no threat to participants. There appear to be minimal risks or discomfort associated with completing any part of the study. The guidelines for protecting the rights of human subjects that are in operation in this study may be found on the university web site: <http://www2.moreheadstate.edu/irb/>

Questions or concerns regarding your protection and rights as a participant in this study can be referred to Shannon Harr, Director of Research Integrity and Compliance in the Office of Research and Sponsored Programs at Morehead State University, at (606) 783-2307. If you feel discomfort because of your participation in the study, you are encouraged to contact Dr. David Butz at (606) 783-2313, the MSU Counseling and Health Services Center (112 Allie Young) at (606) 783-2123, or Pathways, Inc. in Morehead at (606) 784-4161. Any other questions regarding the study can be referred to the principal investigator, Fredrick Chin, at (606) 356-1155.

Request for signature: Please sign below to signify that you consent to participate in this project. All participants in this study must be 18 years of age or older. Your signature below certifies that you meet this requirement.

I have read and understand the above statement and give my voluntary consent for participation in the study entitled **“Ratings on the Effectiveness of a Mental Illness Informational Pamphlet”** (Please sign below.)

Print Name

Signature

Date

APPENDIX B Demographics

General Instructions: The following section contains items assessing basic demographic information

Age: _____ **Gender** (check one): ___ Female ___ Male

Year in College (check one):

___ Freshman ___ Sophomore ___ Junior
___ Senior ___ Other (please elaborate) _____

Birthplace and Nationality: I was (fill in one):

Born in the U.S. in (town) _____, (state) _____

Born in another country (Please list country) _____

If you were born in another country, how many years have you lived in the U.S.? _____

Religious Group Membership (check one):

___ Protestant ___ Catholic ___ Muslim ___ Jewish
___ Buddhist ___ Agnostic ___ Atheist
___ Other (please specify) _____

How strongly do you identify yourself as a member of the religious group you checked above?

NOT AT ALL 1 2 3 4 5 6 7 VERY MUCH

How would you classify your political ideology?

1	2	3	4	5	6	7
very liberal	liberal	slightly conservative	middle of the road	slightly conservative	conservative	very liberal

How would you classify your political party affiliation?

_____ Democratic _____ Republican _____ Other

APPENDIX C

Schizophrenia Information

Schizophrenia is a disorder marked by disturbances in thought that spill over to affect perceptual, social, and emotional processes. This disorder is marked by cognitive deficits and disturbed thought processes that often lead to various delusions, such as the belief that one's thoughts are being broadcast to the government. Schizophrenics also often suffer from hallucinations, perceiving things that aren't there. For example, many schizophrenics complain of hearing voices in their heads, or seeing famous people in their homes. Schizophrenia may also disrupt emotional expression. Some sufferers show very little emotion, while others may show inappropriate emotions that are inconsistent with the situation or what they are saying. Despite popular misconception, this disorder *should not* be confused with multiple personality disorder.

The following is a quote from an individual with schizophrenia:

"I'm pregnant with the song of God. I work for Epic Records. I'm Joan of Arc. I'm Florence Nightingale. The door between the ward and the porch is the dividing line between New York and California. Divorce isn't a piece of paper, it's a feeling. Forget about Zip Codes."

APPENDIX D
Essentialist Beliefs/Manipulations Check

There are many people in the community who exhibit schizophrenic behaviors. The next few questions are about the nature of these sorts of problems. There are no right or wrong answers to these questions. Rather, you may have to reflect on your intuitions and prior experiences, or “go with your gut.”

** Biological Basis (natural kinds)*

Schizophrenia is caused by biological factors such as genes and hormones.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

** Immutability (natural kinds)*

A schizophrenic individual can become mentally healthy or completely cured. (R)

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

** Discreteness (natural kinds)*

Schizophrenia is a category with clear and sharp boundaries: people are either mentally ill, or they are mentally healthy.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

Fixity (natural kinds)

Whether or not a person will become schizophrenic is pretty much set early on in childhood.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

Defining Features (natural kinds)

Schizophrenic individuals have necessary or defining characteristics, without which they would not be mentally ill.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

Historical Invariance (natural kinds)

Schizophrenia has probably existed throughout history.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

Universality (natural kinds)

Schizophrenia probably only exists in certain cultures. (R)

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

** Informativeness (entitativity)*

Schizophrenia is an informative disorder, so that knowing someone has schizophrenia tells us a lot about the person.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

** Uniformity (entitativity)*

Schizophrenia is a relatively uniform disorder, so that people with schizophrenia are very

similar to one another.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

* *Exclusivity (entitativity)*

Schizophrenia is a category that is exclusive; such a category does not allow a person to belong to other categories.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

Inherence (entitativity)

Schizophrenia is a disorder that has an underlying reality, so behind their symptoms, schizophrenics are inherently the same.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

* *Violence (control)*

People with schizophrenia are often violent, and therefore present a danger to society.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

* *Drugs (control)*

People with schizophrenia use illegal drugs to escape their problems.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

* *Societal burden (control)*

People with schizophrenia are unable to make meaningful contributions to society.

Very strongly disagree 1 2 3 4 5 *Very strongly agree*

APPENDIX E
Social Distance Scale

Please indicate your reaction to each of the following statements by circling the number that most closely corresponds to your opinion about individuals with schizophrenia.

- 1 In no case at all**
2 Probably not, but I would think about it
3 I do not feel strongly one way or another about it
4 I probably would, but may have some reservations
5 In any case

In no case
at all

In any
case

- | | |
|-----------|---|
| 1 2 3 4 5 | How would you feel about renting a room in your home to an individual with schizophrenia? |
| 1 2 3 4 5 | How would you feel about having a schizophrenic as a co-worker? |
| 1 2 3 4 5 | How would you feel about having a schizophrenic as a neighbor? |
| 1 2 3 4 5 | How would you feel about having a schizophrenic as the caretaker of your children for a couple hours? |
| 1 2 3 4 5 | How would you feel about having your son or daughter marrying a schizophrenic? |
| 1 2 3 4 5 | How would you feel about introducing someone with schizophrenia to a young woman you are friendly with? |
| 1 2 3 4 5 | How would you feel about recommending someone with schizophrenia for a job working for a friend of yours? |
| 1 2 3 4 5 | How would you feel about working on a group project for a class with someone who has schizophrenia? |
| 1 2 3 4 5 | How would you feel about sharing a dorm room or apartment with someone who has schizophrenia? |
| 1 2 3 4 5 | How would you feel about being in a long-term relationship someone with schizophrenia? |
| 1 2 3 4 5 | How would you feel about attending a party or social gathering if you know someone with schizophrenia will be there? |
| 1 2 3 4 5 | How would you feel about sitting next to someone with schizophrenia |

in one of your classes?

1 2 3 4 5

How would you feel about going on a date with someone with schizophrenia?

APPENDIX F
Perceptions of Dangerousness/Dependency

Please indicate to what extent you feel the following attributes apply to individuals with schizophrenia by circling the *number* that most closely corresponds with your opinion:

Schizophrenic individuals come across to me as:

Dangerous

Definitely not true 1 2 3 4 5 6 7 *Definitely true*

Aggressive

Definitely not true 1 2 3 4 5 6 7 *Definitely true*

Lacking self-control

Definitely not true 1 2 3 4 5 6 7 *Definitely true*

Unpredictable

Definitely not true 1 2 3 4 5 6 7 *Definitely true*

Frightening

Definitely not true 1 2 3 4 5 6 7 *Definitely true*

Dependent upon others

Definitely not true 1 2 3 4 5 6 7 *Definitely true*

Helpless

Definitely not true 1 2 3 4 5 6 7 *Definitely true*

Needy

Definitely not true 1 2 3 4 5 6 7 *Definitely true*

APPENDIX G
Causal Attributions

There are many people in the community who suffer from schizophrenia. How likely do you think each of the following is to be a reason for such problems? Circle the number that most closely matches your opinion.

	Very Unlikely	Unlikely	Neither/ Don't Know	Likely	Very Likely
A virus or other type of infection	1	2	3	4	5
An allergy or reaction	1	2	3	4	5
Day-to-day problems such as stress, family arguments, or financial difficulties	1	2	3	4	5
The recent death of a close friend or relative	1	2	3	4	5
Some recent traumatic event such as fires threatening your home, a severe traffic accident, or being mugged	1	2	3	4	5
Problems from childhood such as being badly treated or abused, or losing one or both parents when young	1	2	3	4	5
Genetics or inherited (i.e. you're "born" susceptible to these problems)	1	2	3	4	5
Being a nervous person	1	2	3	4	5
Having weakness of character	1	2	3	4	5

APPENDIX H

Anti-stigma intervention

Natural Kinds Beliefs

What is schizophrenia?

Schizophrenia is a complex mental illness. The brains of people with schizophrenia do not work in the usual way. People with schizophrenia show a range of symptoms with varying degrees of intensity. In the early stages, a person may be moody and withdrawn, lose interest in grooming and feel listless.

A person with schizophrenia may not realize that their behaviors are unusual. They may not believe they are ill. However, some people recognize how sick they are and are fearful. They may be trying to understand what is going on, or trying to cover up that something is wrong.

The search for a cure for schizophrenia continues with hope for success increasing every day.

Schizophrenia Myths

Myth 1: Schizophrenia is a genetic disease.

While genes do play a role in the development of schizophrenia, most medical professionals believe that it is a combination of genes and environment that causes schizophrenia.

Myth 2: Either you have schizophrenia or you don't.

Many of the symptoms of schizophrenia can also be signs of other illnesses. For example, hallucinations and delusions can be the result of depression or substance abuse.

Myth 3: Schizophrenia is untreatable.

Schizophrenia is often treated using a combination of medications and psychotherapy. In many cases, schizophrenia can be completely cured.



What are the signs and symptoms of schizophrenia?

People with schizophrenia may have many of the following:

- disordered thinking – thoughts come in small pieces that do not connect
- delusions – false beliefs e.g. the belief that someone is out to harm themselves
- hallucinations – hears, sees, feels, smells or tastes something that do not exist
- shows feelings that do not seem to fit with what is happening, e.g. laughing or showing no emotion at all when something is sad
- display unusual behaviors
- withdraw from others because they feel safer or calmer alone

Entitativity Beliefs

What is schizophrenia?

Schizophrenia is a complex mental illness. The brains of people with schizophrenia do not work in the usual way. People with schizophrenia show a range of symptoms with varying degrees of intensity. In the early stages, a person may be moody and withdrawn, lose interest in grooming and feel listless.

A person with schizophrenia may not realize that their behaviors are unusual. They may not believe they are ill. However, some people recognize how sick they are and are fearful. They may be trying to understand what is going on, or trying to cover up that something is wrong.

The search for a cure for schizophrenia continues with hope for success increasing every day.

Schizophrenia Myths

Myth 1: People with schizophrenia are very similar to one another.

People with schizophrenia often differ greatly from one another; with treatment, many do not act differently from healthy people.

Myth 2: Knowing someone has schizophrenia tells you a lot about that person.

Anyone can develop schizophrenia. It affects men and women equally in all ethnic groups, from all walks of life. In rare cases, children can have the illness too.

Myth 3: Underneath their symptoms, people with schizophrenia are generally the same.

People with schizophrenia are often very different from another.



What are the signs and symptoms of schizophrenia?

People with schizophrenia may have many of the following:

- disordered thinking – thoughts come in small pieces that do not connect
- delusions – false beliefs e.g. the belief that someone is out to harm themselves
- hallucinations – hears, sees, feels, smells or tastes something that do not exist
- shows feelings that do not seem to fit with what is happening, e.g. laughing or showing no emotion at all when something is sad
- display unusual behaviors
- withdraw from others because they feel safer or calmer alone

Control Intervention

Control

What is schizophrenia?

Schizophrenia is a complex mental illness. The brains of people with schizophrenia do not work in the usual way. People with schizophrenia show a range of symptoms with varying degrees of intensity. In the early stages, a person may be moody and withdrawn, lose interest in grooming and feel listless.

A person with schizophrenia may not realize that their behaviors are unusual. They may not believe they are ill. However, some people recognize how sick they are and are fearful. They may be trying to understand what is going on, or trying to cover up that something is wrong.

The search for a cure for schizophrenia continues with hope for success increasing every day.

Schizophrenia Myths

Myth 1: People with schizophrenia are violent.

Most people with schizophrenia are not violent. On the contrary, studies show that people with schizophrenia are more likely to be victims of violent behavior.

Myth 2: All people with schizophrenia use drugs.

Many people with schizophrenia do not drink or use illicit substances.

Myth 3: People with schizophrenia can't contribute to society

Notable people who have been diagnosed with schizophrenia include Nobel Prize winner John Nash, Hugo Award winning author Philip K. Dick, and MacArthur Foundation Fellowship ("genius grant") winner Elyn Saks.



What are the signs and symptoms of schizophrenia?

People with schizophrenia may have many of the following:

- disordered thinking – thoughts come in small pieces that do not connect
- delusions – false beliefs e.g. the belief that someone is out to harm themselves
- hallucinations – hears, sees, feels, smells or tastes something that do not exist
- shows feelings that do not seem to fit with what is happening, e.g. laughing or showing no emotion at all when something is sad
- display unusual behaviors
- withdraw from others because they feel safer or calmer alone

What can someone with schizophrenia do?

- If you believe you have schizophrenia, talk to your doctor about it
- It is very important to take the medicine(s) as ordered and see your doctor if you have side effects that bother you
- Do not stop your medicine without talking to your doctor first
- Learn as much as you can about schizophrenia
- Activity – have something to do every day-to-day
- Get support – find the people in your life who will support you, and ask them for help

Where can you get more information?

Call or visit:

**Morehead State University
Counseling and Health Services
Center:** (606) 783-2123 112 Allie Young Hall
Pathways, Inc.: (606) 784-4161 321 E. Main St.
National Alliance on Mental Illness (NAMI): www.nami.org

If someone you care about has schizophrenia

There is a need for the sharing of information between the professional caregiver and the family of the ill person, to keep the family informed and to teach them how to live with a person with schizophrenia.

Many families find that coping with a family member with schizophrenia can be difficult. Some suggestions for coping:

- Find out what resources are available in your community
- Listen – offer support
- Do not criticize the behaviors
- Do not support the behaviors – try to stay neutral about themselves
- Support the person to do as much for themselves as they can
- Do not take his or her illness personally

It is important to take care of yourself. Caring for someone with schizophrenia is difficult. You will need support too.

Schizophrenia

Basic Information



Morehead State University Counseling and Health Services Center

112 Allie Young Hall
(606) 783-2123



APPENDIX I
Pamphlet Ratings

We'd like your feedback on the informational pamphlet you just read. Please respond to the following items as honestly as possible, to the best of your abilities.

How well-written was the pamphlet?

Not well written **1** **2** **3** **4** **5** **6** **7** *Very well written*

How well-designed was the pamphlet?

Not well designed **1** **2** **3** **4** **5** **6** **7** *Very well designed*

How much did you learn about schizophrenia from reading the pamphlet?

Nothing at all **1** **2** **3** **4** **5** **6** **7** *A lot*

How likely would you be to recommend the pamphlet to someone who had a family member with schizophrenia?

Not very likely **1** **2** **3** **4** **5** **6** **7** *Very likely*

Please write any additional comments you have about the pamphlet in the space provided.

APPENDIX J
Social Dominance Orientation

Which of the following objects or statements do you have a positive or negative feeling towards? Beside each statement, place a number from '1' to '7' which represent the degree of your positive or negative feeling.

- | | |
|----------|--------------------------------------|
| 1 | VERY NEGATIVE |
| 2 | NEGATIVE |
| 3 | SLIGHTLY NEGATIVE |
| 4 | NEITHER POSITIVE NOR NEGATIVE |
| 5 | SLIGHTLY POSITIVE |
| 6 | POSITIVE |
| 7 | VERY POSITIVE |

- _____ Some groups of people are simply inferior to other groups
- _____ In getting what you want, it is sometimes necessary to use force against other groups.
- _____ It's OK if some groups have more of a chance in life than others.
- _____ To get ahead in life, it is sometimes necessary to step on other groups.
- _____ If certain groups stayed in their place, we would have fewer problems.
- _____ It's probably a good thing that certain groups are at the top and other groups are at the bottom.
- _____ Inferior groups should stay in their place.
- _____ Sometimes other groups must be kept in their place.
- _____ It would be good if groups could be equal. (R)
- _____ Group equality should be our ideal. (R)
- _____ All groups should be given an equal chance in life. (R)
- _____ We should do what we can to equalize conditions for different groups. (R)
- _____ We would have fewer problems if we treated people more equally. (R)
- _____ We should strive to make incomes as equal as possible. (R)
- _____ No one group should dominate in society. (R)

APPENDIX K
Crowne-Marlowe Social Desirability

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

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

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

Appendix L Debriefing:

Thank you for your participation in this research. The purpose of this study, in short, was to see how effective various anti-stigma interventions were at lowering prejudicial attitudes towards schizophrenia. The general trend of anti-stigma interventions in recent years has been to focus on conceptualizing mental illness as a disease just like any other. However, there is evidence to suggest that rather than lowering stigma and prejudice toward mental illness, these interventions may have served to increase overall levels of stigma.

In the current study, we attempted to modify a different set of beliefs, known as “essentialist beliefs,” through anti-stigma pamphlets. We hope to find that altering these sets of beliefs are effective at lowering stigma, and to find support for the hypothesis that these interventions are a better alternative to the current “illness just like any other” model.

In this study, we deceived you by leading you to believe that the pamphlets were intended for distribution at the MSU Counseling Center. This was deemed necessary, as people often (and sometimes unconsciously) disguise and minimize their negative opinions of others. This phenomenon is known as “social desirability” in the field of psychology. It is important to note here that all information in the pamphlets themselves, as well as in the educational schizophrenia page that you received, is accurate and reliable.

In order for the results of this study to be valid, it is extremely important that future participants not be aware of the nature of the study. Therefore, we ask that you **please do not discuss this study with any of your classmates who may participate in the future.** If you have questions right now, please ask.

We greatly appreciate your participation in this study. If you should have any questions about the procedures or comments on the study, you may contact Dr. David A. Butz, Morehead State University (d.butz@moreheadstate.edu) or Fredrick Chin (ftchin@moreheadstate.edu) for answers to questions about this research or your rights. If you feel discomfort because of your participation in the study, you are encouraged to contact Dr. David Butz, the MSU Counseling and Health Services Center (606) 783-2123, or Pathways, Inc. (606) 784-4161.

To learn more about the problems with current anti-stigma campaigns, you may consult:

Lincoln, T.M., Arens, E., Berger, C., & Rief, W. (2008). Can antistigma campaigns be improved? A test of the impact of biogenetic vs psychosocial causal explanations on implicit and explicit attitudes to schizophrenia. *Schizophrenia Bulletin*, 34(5), 984-994.