Mental Illness Stigma: Effect of Adverse Childhood Experiences, Schizophrenia Symptoms, and Explanatory Modes

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MENTAL ILLNESS STIGMA: EFFECT OF ADVERSE CHILDHOOD EXPERIENCES,
SCHIZOPHRENIA SYMPTOMS, AND EXPLANATORY MODES

By

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For all those who have suffered - directly or through loved ones - from the devastating medical, emotional, and spiritual problems we call mental illness, or from the stigma that too often comes with that diagnosis - and especially for those dear friends who have fallen along the way.
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ABSTRACT

Haslam's (2003) *folk psychiatry model* asserts that laypersons use three modes of thought (*explanatory modes*) in explaining the behavior of individuals identified as having mental illness: *moralizing*, which attributes a reason (motive) – and therefore personal responsibility - for behavior; *medicalizing*, which attributes behavior to a biological essence outside of the individual's control; and *psychologizing*, which attributes a reason (motive) for behavior but also offers a cause for the reason itself, thus attenuating personal responsibility. The present research hypothesizes that 1) laypersons (mental health nonprofessionals) will have more stigmatizing reactions to a vignette protagonist who exhibits behavior characteristic of the DSM-IV-TR diagnosis Schizophrenia, compared to a protagonist who exhibits no such behavior; 2) the effect of including in the vignette information on the protagonist’s adverse childhood experiences will be moderated such that it has a more stigma-reducing effect in the presence of schizophrenia symptoms that in its absence, and 3) this moderation will in turn be mediated by increases in psychologizing and decreases in medicalizing and moralizing. The design is a 2 x 2 between-participants factorial experiment with symptomatic content (schizophrenia symptoms vs. no symptoms) and childhood experiences (adverse vs. benign) as independent variables. The stigma outcome variables are likability (Scale of General Likability; Anson, in preparation) and perceptions of dangerousness (Attribution Questionnaire (AQ), Fear/Dangerousness Subscale; Brown, 2008). The explanatory modes are measured by the Medicalizing-Moralizing-Psychologizing Coding System (MMPCS), which is introduced in the present study. Results show that schizophrenia symptoms increased perceptions of dangerousness and medicalizing, and reduced moralizing. Adverse childhood experiences increased perceptions of dangerousness and psychologizing, and reduced medicalizing. The predicted moderation effect did not reach significance. The predicted mediation effects were not observed. Findings suggest that efforts to reduce mental illness stigma by providing information about adverse childhood experiences may have the ironic effect of increasing fear and perceptions of dangerousness. Additional implications are discussed and a program of future research is proposed.
CHAPTER 1
INTRODUCTION

Mental health and mental illness are matters of profound concern to the social work profession. Some of the difficulties confronted by persons diagnosed with mental illness arise from the stigma that is associated with such a diagnosis. Mental illness stigma has been conceptualized in a variety of ways; a broad consensus would include social distance (avoidance), perceptions of dangerousness, negative affective reactions, and willingness to coerce as major components of stigma (Stuart, 2012; Brown, 2008). Stigma can involve social isolation of, discrimination against, and unwarranted coercion of persons diagnosed with mental illness (Stuart, 2012; Corrigan, Watson, & Ottati, 2003).

Historically, sociologists have taken the lead on the study of mental illness stigma. This area of research has developed largely independently of social psychologists’ study of social cognition and prejudice. An important exception is Haslam’s (2003) folk psychiatry model, which attempts to shed light on the cognitive processes of mental illness stigma and link the study of stigma to the broader field of social cognition. The model does this by providing an account of how laypersons (mental health nonprofessionals) explain the behavior of individuals identified as having mental illness. Haslam (2003) proposes that laypersons use three modes of thought in explaining the behavior of persons identified as having mental illness: moralizing, which attributes a reason (motive) – and therefore personal responsibility - for behavior; medicalizing, which attributes behavior to a biological essence (which is seen as causing the behavior); and psychologizing, which attributes a reason for behavior but also offers a cause for the reason itself, thus attenuating responsibility. Haslam’s model is based in turn on Malle’s (1999) folk explanations of behavior framework, also known as the folk-conceptual model.

Many anti-stigma interventions heretofore have tried to persuade the public to view mental illness as “an illness like any other” (Read, Haslam, Sayce & Davies, 2006, p. 303): a disorder with a biological basis and therefore not something for which the sufferer should be
held responsible; some research indicates these interventions may have the ironic effect of increasing stigma (Read et al., 2006). Haslam, Ban, and Kaufman (2007) suggest that this biomedical approach to stigma reduction effectively encourages laypersons to medicalize; these authors propose that encouraging the public to psychologize may be more effective in reducing stigma.

Evidence suggests that laypersons often prefer psychosocial explanations for mental illness symptoms over biomedical explanations (Read, 2007), and that laypersons who endorse psychosocial explanations exhibit less stigmatizing responses (Read et al., 2006); these findings include the symptoms of schizophrenia. One type of psychosocial explanation endorsed by many laypersons is adverse childhood experiences, such as “being badly treated or abused” (Jorm, Christensen & Griffiths, 2005, cited in Read, 2007, p. 118). Adverse childhood experiences are also frequently endorsed by individuals hospitalized for mental illness as explanations for their own illness (Elliott, Maitoza & Schwinger, 2012). There is also evidence that certain common adverse childhood experiences do in fact increase the risk of experiencing the emotional and behavioral difficulties that may be identified as symptoms of mental illness during adulthood (Edwards, Holden, Felliti & Anda, 2003); these difficulties include hallucinations (Whitfield, Dube, Felitti & Anda, 2005).

The present research uses an experimental design to explore the potential role of psychologizing, medicalizing, and moralizing in mental illness stigma, with an emphasis on psychologizing. The present research hypothesizes that 1) laypersons will have more stigmatizing reactions to a vignette protagonist who exhibits behavior characteristic of the diagnosis of schizophrenia,¹ compared to one who exhibits no such behavior; 2) these stigmatizing reactions will be reduced by providing information about the vignette protagonist’s adverse childhood experiences, and 3) the reduction in stigma will be mediated by increases in psychologizing and decreases in medicalizing and moralizing. The stigma outcome variables to be measured are likability and fear/perceptions of dangerousness.

¹ As defined by the Diagnostic and Statistical Manual of Mental Disorders, Version IV – Text Revision (DSM-IV-TR; American Psychiatric Association, 2000). This is the prevailing reference on mental illness diagnoses at the time of this writing; DSM-V is under development and has not yet been published.
Organization of Dissertation

Chapter 1 explains the value of the present research to the social work profession; provides an overview of the major conceptual and theoretical accounts of mental illness stigma found in the scientific literature; explains and reviews empirical support for the folk psychiatry model and the related folk-conceptual model (which furnish the theoretical basis of the present research); and finally presents evidence that adverse childhood experiences are important contributors to the symptoms of mental illness, that this idea is widely accepted among laypersons, and that this belief may serve to reduce stigma.

Chapter 2 reviews and critiques 21 studies on mental illness stigma that use experimental vignette methodology. The primary purpose of this review is to inform the methodology of the present dissertation research; however this review also provides a useful background of empirical findings related to stigma.

Chapter 3 describes the methodology of the present research, including sampling; power analysis; data collection procedures; vignette content development and validation; measures; hypotheses; data analysis; and ethical considerations.

Chapter 4 reports the results of the present research, including grand means; results of analysis of variance and conditional process modeling; evaluation of research hypotheses; and results of exploratory analyses and analyses involving participants’ perceptions of the research.

Chapter 5 discusses implications of the study results and methodological limitations of the present research; and proposes a program of future research.

Appendices A, B, C, and D provide the full texts of the four vignettes used in the present research. Appendix E provides a complete list of the measurement and demographic items used. Appendix F provides coding instructions of the Medicalizing-Moralizing-Psychologizing Coding System (MMPCS), a measure developed for the present research. Appendix G provides examples of actual participant responses to the free-response prompt used to measure the use of the explanatory modes. Appendix H is a complete sample participant packet.

Value of the Research to the Social Work Profession

Many studies show that mental illness – especially Schizophrenia – is stigmatized (e.g., Sorsdahl & Stein, 2010; Phelan, 2005; Corrigan et al., 2005); the impact of stigma may be felt in many areas of life (Stuart, 2012; Otey & Fenton, 2004). The present research advances scientific
understanding of the cognitive mechanisms of mental illness stigma, and in so doing offers potential practical value to the social work profession.

It is valuable to social workers to understand the cognitive mechanisms of mental illness stigma because this understanding places social workers in a better position to combat stigma. For example, social workers in clinical practice have the opportunity to reduce stigma through the psychoeducation they routinely provide to individuals diagnosed with mental illness and their families. With an understanding of the cognitive mechanisms of stigma, it would be possible for workers to frame information in such a way as to elicit more sympathetic attitudes among family members toward their diagnosed loved ones, and less self-stigmatizing narratives from diagnosed clients.

Similarly, social work educators who understand the cognitive mechanisms of stigma will be able to persuade their students to carry less stigmatizing attitudes into their professional lives. Finally, social work researchers who understand the cognitive mechanisms of stigma will be able to contribute to the development of more effective anti-stigma interventions, such as social marketing campaigns or educational modules for K-12 or college students.

As an example of the kind of practical issue which the present line of research may eventually contribute to resolving: if biomedical and psychosocial factors both contribute to the symptoms of mental illness, as is widely believed, would it be more effective to place greater emphasis on one or the other type of explanation in an anti-stigma media campaign? The same question may be asked with regard to the psychoeducation of family members of diagnosed persons, or the training of future social workers.

The present research contributes to the understanding of the cognitive mechanisms of mental illness stigma in several ways. Though it is not properly intervention research, the present research does offer a kind of preliminary test of a particular intervention: the presentation of information on adverse childhood experiences as a strategy for reducing stigma. The present research also explores the possible roles of three styles of explanation (psychologizing, medicalizing, and moralizing) in mental illness stigma. Finally, the present research contributes significant advances to the methodology of stigma research, laying the groundwork for additional hypotheses to be tested in the future. All of these contributions are steps toward a better understanding of mental illness stigma that could eventually help social workers better serve their clients.
Conceptualizations and Theories of Mental Illness Stigma

Historically, academic focus on mental illness stigma began among sociologists in the 1960s with what is now called *labeling theory*, and was then also known as the *societal reaction perspective* (Gove, 1970). Proponents of this view reject the idea that mental illness arises from biological causes. Sociologists such as Becker (1963), Erikson (1964), and Lemert (1967) argue that people receive psychiatric diagnoses for largely arbitrary reasons, and that the process of diagnosis and treatment (especially hospitalization) actually causes the behaviors thought to be symptoms of mental illness. These theorists distinguish between primary deviance – the problems that elicit societal labeling - and secondary deviance - the problems that societal labeling elicits.

Labeling theorists believe that primary deviance is widespread throughout the population, but rarely noticed or brought to the attention of authorities. If brought to the attention of authorities, deviant behavior may result in mental illness diagnosis which in turn would result in secondary deviance. For labeling theorists, secondary deviance is the source of *most* of the deviant behavior of persons diagnosed with mental illness (Gove, 1970). Thus labeling theory is not merely a theory to explain mental illness stigma but a theory that used stigma to explain mental illness itself: for proponents of this view, stigmatization is not merely an unfortunate response by others to the mentally ill; it is a major contributing factor to the symptoms of mental illness.

Of the labeling theorists, the sociologist Thomas Scheff attained the greatest prominence. At the heart of Scheff’s understanding of mental illness is the concept of residual deviance. Scheff argues that every society has certain norms so deeply ingrained that they are rarely or never made explicit. In particular, he highlights the “involvement norm:” the tacit rule that an adult in public view must be purposefully involved in his surroundings. “Such psychiatric symptoms as withdrawal, hallucinations, continual muttering, posturing, etc., may be categorized as violations of certain social norms – those norms that are so taken for granted that they are not explicitly verbalized, which we have called residual rules (Scheff, 1984, p. 40).” Scheff suggests that persons caught violating such rules are sometimes labeled as mentally ill. Such persons tend to adopt and internalize the “mentally ill” role because society rewards them for accepting it and punishes them for rejecting it.
Scheff (1984) outlines his theory as a set of nine propositions:

1. Residual rule-breaking arises from fundamentally diverse sources.

2. Relative to the rate of treated mental illness, the rate of unrecorded residual rule-breaking is extremely high.

3. Most residual rule-breaking is normalized and is of transitory significance.

4. Stereotyped imagery of mental disorder is learned in early childhood.

5. The stereotypes of insanity are continually reaffirmed, inadvertently, in ordinary social interaction.

6. Labeled deviants may be rewarded for playing the stereotyped deviant role.

7. Labeled deviants are punished when they attempt the return to conventional roles.

8. In the crisis occurring when a residual rule-breaker is publicly labeled, the deviant is highly suggestible and may accept the proffered role of the insane as the only alternative.

9. Among residual rule-breakers, labeling is the single most important cause of careers of residual deviance. (p. 189)

It is the ninth and final proposition that represents the core of Scheff’s labeling theory: he is proposing a psychosocial (rather than medical) theory as the primary explanation of what is conceptualized as chronic mental illness.

Gove critiques labeling theory, suggesting that “most of the work based on this perspective [as of 1970] has been intuitive and/or theoretical, and there has been very little systematic evaluation and testing of the perspective” (Gove, 1970, p. 875). Gove points to evidence (e.g., Yarrow, Schwartz, Murphy & Deasy, 1955) that the public (around mid-century) tended to be very reluctant to admit that family members were mentally ill, or to seek psychiatric intervention. Moreover, studies had found that psychiatrists declined to recommend civil commitment for large proportions - often majorities - of the cases where it had been requested by some other party (e.g., a family member or a jail official; Gove, 1970). For Gove, these findings suggest caution and reluctance about labeling, refuting the labeling theorists’ claims of psychiatric diagnoses being imposed in arbitrary ways.

Attention to the role of mental illness stigma does not imply a rejection of a biological or other non-labeling origin for what are considered the symptoms of mental illness. The stigmatization of persons diagnosed with mental illness is acknowledged by labeling theory critic Gove (1970) and is discussed as a serious problem in the academic literature (e.g., Stuart, 2012; Fitzpatrick, 2012; Otey & Fenton, 2004). Thus, while labeling theory has not gained wide
acceptance as an explanation for the symptoms of mental illness, the labeling theorists succeeded in drawing attention to the potential harm of diagnostic labels themselves. Substantial empirical evidence supports the idea that diagnostic labels elicit stigmatizing reactions in some contexts. The problem of mental illness stigma is now widely recognized, even if it is not well understood.

Responding to Scheff’s (1984) labeling theory and the ensuing critiques, modified labeling theory takes the view that diagnosis does not itself cause the behaviors associated with mental disorders, but does lead to social marginalization of the persons diagnosed (Link, Cullen, Struening, Shrout & Dohrenwend, 1989). In this view, negative stereotypes of persons considered to have a mental illness are prevalent in the general population. As a result, individuals diagnosed with mental illness live in fear of discrimination which often leads them to be secretive about their diagnosis and treatment and to suffer from low self-esteem. Thus Link et al. point out that labeling can be psychologically harmful even when there is little or no actual discrimination against the labeled person. In support of modified labeling theory, these authors conduct a survey finding that most mental patients and most non-mental patients believed that most people would socially reject a mentally ill person. This widely held expectation may have consequences even if the expectation itself is false.

Alford and Locke (1984) propose the term diagnostic labeling bias for the phenomenon wherein a diagnostic label itself influences how a person is perceived, independently of how the person behaves or otherwise appears. Theoretically, diagnostic labeling bias may occur regardless of whether labeling influences the behavior of the labeled person and regardless of whether the label is in any sense accurate in the first place. Though they usually do not use the term diagnostic labeling bias, researchers have examined the phenomenon in a diverse array of contexts. Often, this is done by presenting participants with vignettes describing fictional persons and manipulating whether particular mental illness diagnosis labels are applied to these fictional persons. Examples include Chan and Chung (2004); Corrigan et al. (2005); and Farrell and Lewis (1990).

However, these studies of diagnostic labeling bias have usually failed to manipulate as two distinct independent variables mental illness diagnosis label and the behavior ascribed to the protagonist (the person described in the vignette); such manipulation is necessary to determine the relative contributions of behavior and labeling to stigmatization. An important exception is Link, Cullen, Frank and Wozniak (1987), who use three different vignettes describing different
levels of severity of problematic behavior. For each vignette, the protagonist could be described as “hospitalized in a mental hospital” or “hospitalized for a back injury”. Link et al. review several earlier studies that had found no independent effect of diagnostic labeling on mental illness stigma (i.e., no diagnostic labeling bias). Segal (1978) had argued on the basis of such studies that mental illness stigma was solely the result of the socially unacceptable behaviors of the mentally ill, rather than any effects of labeling. However, Link et al. (1987) counter that different study participants may react differently to a diagnostic label: some may stigmatize the labeled person while others show sympathy. Link et al. called this latter tendency the extra-break effect. The result would be higher variability in ratings of social distance among participants responding to a diagnostically labeled protagonist, though the mean rating may be the same across groups. The authors hypothesize that respondent beliefs about the dangerousness of the mentally ill would mediate the effect of labeling; the results confirm this prediction by using perceptions of dangerousness as a covariate.

Taking a different approach to the same issue, Angermeyer and Matschinger (2005) conduct a representative population survey in Germany and present respondents with a “diagnostically unlabelled case history” (p. 392). The histories are contrived to conform to DSM-III-R symptomatology for particular diagnoses and validated by the blind ratings of psychiatrists. Study respondents were asked to label the problem described in the history. Respondents who generated the diagnosis of Schizophrenia for the vignette corresponding to that diagnosis saw the protagonist as more dangerous and unpredictable than did those respondents who did not generate that diagnosis. Thus it was the very respondents who had learned to accurately recognize and label the symptoms of Schizophrenia who were most likely to stigmatize a person exhibiting those symptoms.

Jones et al. (1984) provide a framework meant to encompass all types of stigma, describing six dimensions of stigma: concealability; course (whether the condition is reversible or not); disruptiveness to interpersonal relations; aesthetics (extent of disgust reaction); origin of the condition; and peril (perceptions of dangerousness). Schneider (2004) proposes a seventh dimension: mental vs. physical; he points out that several studies find that laypersons distinguish between the two and view stigmas of mental origin (including mental illness) more negatively.

In a competing conceptual framework, Link and Phelan (2001) propose four components of stigma: labeling of differences between the stigmatized group and the general population;
separating (establishing an “us vs. them” mentality); negative stereotyping; and status loss/discrimination. Link, Yang, Phelan, and Collins (2004) recommend an improvement to this paradigm: incorporating emotion - the emotional reactions of both the stigmatized and the stigmatizer – as a fifth component of stigma. The emotions Link et al. (2004) discuss include anger, pity, and fear. Finally, Yang et al. (2007) propose a sixth component: moral experience. These authors argue that stigmatization is a process of imposing a culturally relevant moral judgment which induces shame or humiliation in the stigmatized person.

Weiner (1995) proposes the attribution model of stigma, which asserts that people respond to others’ behavior based on whether or not they attribute responsibility to the individual engaged in the behavior. In this model, if a problematic situation is judged to result from a person’s controllable actions, this elicits an attribution of responsibility, an emotional reaction of anger or fear, and a desire to punish the individual. On the other hand, if the problematic situation is judged to be caused by circumstances outside the individual’s control, then the individual is not held responsible; the observer responds with pity and a desire to help. Responsibility in the attribution model corresponds roughly to moralizing in the folk psychiatry model.

Corrigan et al. (2003) report empirical support for the attribution model applied to mental illness stigma. A survey of college students \(N = 518\) found that those who perceived the cause of an illness as controllable tended to attribute personal responsibility and express more anger and fear, less pity, reduced willingness to help, increased desire to avoid, and increased support for coercion and segregation.

While testing the attribution model of mental illness, Corrigan et al. (2003) also find corroboration of their danger appraisal hypothesis: the notion that psychiatric stigma is driven by the perception that individuals diagnosed with mental illness are dangerous. The danger appraisal hypothesis does not involve attributions (in the sense of attribution theory); under this hypothesis the desire for social distance arises from fear of harm from a person considered to have a mental illness, without regard for whether she is responsible for her plight. Like controllability of cause, dangerousness (as manipulated in the vignette content) also reduced willingness to help, increased desire to avoid, and increased support for coercion and segregation.
However, consistent with the danger appraisal hypothesis, the direct effects of dangerousness on coercion and segregation remain after accounting for the role of personal responsibility. Furthermore, fear was found to be a strong predictor both of avoidance and of support for coercion. The authors conclude that “the findings regarding dangerousness are more consistent with a danger appraisal hypothesis than attribution theory” (p. 173).

Also supporting the danger appraisal hypothesis was the German survey described earlier, which found that respondents who recognized a vignette as describing a person with Schizophrenia had elevated perceptions of dangerousness and unpredictability, which perceptions mediated an increased desire for social distance (Angermeyer & Matschinger, 2005). Representative national survey research in the United States has also found that perceptions of individuals with mental illness as dangerous are prevalent and are an important contributor to the desire for social distance from such persons (Link, Phelan, Bresnehan, Stueve, & Pescolido, 1999).

Feldman & Crandall (2007) combine elements of the attribution model and the danger appraisal hypothesis in a *three-dimensional account* of mental illness stigma, where stigmatization is construed as arising from perceptions of personal responsibility, dangerousness, and rarity. The authors also report empirical support for the theory. Study participants rated vignettes describing individuals with mental illness each of seventeen dimensions identified as potential stigma predictors based on the existing literature; these factors include responsibility, dangerousness, and rarity. In addition, participants rated vignettes with a measure of social rejection. The authors reject many of the seventeen dimensions studied because they are not correlated with social rejection at all. The authors use multiple regression and conclude with a model that includes as predictors only personal responsibility, dangerousness, and rarity (adj. multiple-\(R = .76, F(3, 36) = 18.34, p < .001\)). Other variables are rejected as redundant. Chapter 2 includes a detailed discussion and critique of the study.

Haghighat’s (2001) unitary theory of stigmatization is intended to apply broadly to prejudice; however, he places special focus on mental illness stigma. Haghighat views stigma as arising from the pursuit of self-interest. Self-interest, as he sees it, includes biological, psychological, economic, and evolutionary factors. Haghighat acknowledges that “in practice [these factors] all intermingle, overlap, work together, and interrelate” (p. 209).
“Constitutional factors” are those that “interfere with the capacity for ‘proper’ social perception and information processing” (Haghhighat, 2001, p. 207). These include the wide array of biases that have been identified in the field of social cognition, such as the tendency to associate deviant behaviors with members of minority groups, simply because deviant behaviors and minorities are both relatively rare and thus more salient when observed.

Another example is the tendency to give more weight to negative information than positive information, which makes negative stereotypes difficult to change. In Haghhighat’s (2001) view, such biases, while irrational in the sense of leading to false beliefs, may be rational in the sense of being consistent with self-interest. As Haghhighat puts it, such biases “can be adaptive by the very small probability of protection they could offer: for example, one might avoid danger by preferentially weighting negative evaluations about people” (p. 209).

For Haghhighat (2001, p. 208), the “psychological origins” of stigma are the motives to improve one’s own sense of self-esteem and participant well-being. For example, Haghhighat cites evidence that when confronted with their own inadequacies, people tend to comfort themselves by denigrating others. Furthermore, people avoid reactions of guilt about the misfortune of others by believing that people get what they deserve (the just world hypothesis). Haghhighat’s “economic origins” of stigma refers to the “stigmatization of rivals” as “a weapon in socio-economic competition” (p. 208). The use of stigma for this purpose rises as economic resources become scarcer. Finally, Haghhighat describes “evolutionary origins” of stigma, where stigmatization is “a tactic for survival and reproduction” (p. 208).

Corrigan, Watson, and Ottati (2003) propose the system-justification model of mental illness stigma. This model indicates that people are motivated to justify the status quo of society and therefore make attributions consistent with this justification. “Once a set of events produces specific social relationships, whether by historical accident, biological derivation, public policy or individual intention, the resulting arrangements are explained and justified simply because they exist” (p. 148). Thus, for example, if people diagnosed with mental illness are subjects of paternalistic coercion, many people will attribute incompetence to the diagnosed people, in order to justify the coercion imposed by the system. The cognitive mechanisms involved in the process of justification include stereotypes (beliefs about the stigmatized group) and prejudice (negative affect toward the stigmatized group). Behaviorally, this prejudice leads to discrimination against the stigmatized group. O’Brien and Major (2005) report empirical
The Folk Psychiatry Model

The present research is based on Haslam’s (2003) folk psychiatry model, which claims that laypersons interpret the behaviors of those diagnosed with mental illness according to four dimensions: pathologizing, moralizing, medicalizing, and psychologizing. Pathologizing is merely the classification of behavior as deviant or abnormal; this is a prerequisite for the application of the other three dimensions, which involve different types of explanations for the deviant behavior.

Each of the latter three dimensions in Haslam’s model corresponds to one of the “explanatory modes” in a broader theory: the folk explanations of behavior framework (Malle, 1999). (Malle’s theory and related empirical work are detailed later in the chapter.) These explanatory modes “refer to conceptual assumptions that people make about human behavior” (Levi & Haslam, 2005, p. 119). The following sections explain the nature of each of the folk psychiatry model’s four dimensions, and the relationship of these dimensions to the explanatory modes of the folk explanations of behavior framework.

Pathologizing

In the folk psychiatry model, pathologizing is the classification of behavior as deviant or abnormal. In itself, pathologizing does not imply any explanation for why a person is engaging in a particular behavior. Haslam identifies four factors that are likely to contribute to pathologizing: rarity, difficulty of explanation, internal attribution, and membership in a highly entitative social group (Haslam, 2003). Rarity is judged largely by the difficulty of thinking of similar phenomena (Tversky and Kahneman, 1973). Internal attributions are made largely because the actor's behavior is seen as distinctive from that of other people. Finally, entitativity is the extent to which a social group is viewed as a distinct entity having identifiable characteristics. Perceptions of entitativity are closely linked to stereotyping. Groups are perceived as more entitative when they are stigmatized (Haslam, Rothschild, & Ernst, 2000). According to the folk psychiatry model, once pathologizing has occurred, the lay observer is likely to turn to one or more of the three explanatory dimensions (moralizing, medicalizing, and psychologizing) in order to understand why the pathologized behavior is taking place.
Moralizing

According to the folk psychiatry model, in moralizing, "acts are understood to derive from intentions, whose formation is understood to be based on consciously considered reasons” (Haslam, 2003, p. 626). Moralizing uses what the folk explanations of behavior framework calls reason explanations for behavior. Because the action is judged to be both intentional and undesirable, the actor is thought to have either an undesirable reason or a lack of self control. The reason may be either a belief or a desire. An example of a moralizing explanation might be “that man is panhandling because he does not want to work.” In Haslam’s (2003) view "To the extent that psychological abnormality is moralized, it is treated by laypersons as not radically different from ordinary behavior” (p. 627).

Medicalizing

Under the folk psychiatry model, medicalizing attributes behavior to a bodily dysfunction (often in the brain) that is beyond the control of the person suffering from it. Medicalizing uses what the folk explanations of behavior framework calls cause explanations. Medicalizing is a form of essentialism: it explains behavior in terms of an essence – an immutable property that is not itself explained. Unlike scientific thought, essentialist thought does not seek causal mechanisms. What distinguishes medicalizing from other forms of essentialism is that the essence is assumed to be biological in nature, though the biological mechanism is not explained. For example, a layperson may attribute depression to “a chemical imbalance in the brain” without specifying what chemicals are involved, or by what mechanism these chemicals cause the symptoms of depression. If it is said that “Maria has mood swings because she has a chemical imbalance in her brain,” it is clear that Maria’s crying is not intentional; she does not have a reason for having mood swings (in the sense that the folk explanations of behavior framework uses the term reason). However, there is a cause for Maria’s mood swings.

This type of thinking is at least in some ways consistent with the biomedical view that has become ascendant in the psychiatric community (Haslam, 2003). In fact, psychiatrists and other mental health professionals may often engage in medicalizing. As Haslam points out, "essentialist understandings of mental disorder within the mental health professions have been sharply criticized by many authors, even if rarely discussed under the rubric of essentialism” (Haslam, 2003, p. 627). However it is important to note that medicalizing (as the term is used in the context of the folk psychiatry model) is not simply equivalent to understanding mental illness
in medical terms. A truly scientific, biomedical explanation of mental illness would use mechanistic rather than essentialist explanations, and therefore would not represent medicalizing.

**Psychologizing**

In the folk psychiatry model, psychologizing explanations are similar to moralizing explanations in that they assume that a person has a *reason* for their action. On the other hand, psychologizing explanations are like medicalizing explanations in that they invoke *cause*. Psychologizing attributes a person’s reason to a cause. Thus psychologizing is said to use *causal history of reason* explanations: a sort of hybrid of reason and cause explanations. For example, “John grabs food off of other people’s plates because he never had enough to eat as a child.” In this explanation, John is construed as having an implicit reason for his behavior; it is intentional. Yet that reason is itself represented as having a cause, in this case found in his childhood experiences.

In causal history of reason explanations, it is assumed that the person’s behavior is intentional and attributable to conscious reasons (unlike medicalizing, where the behavior is out of the person’s control). At the same time, the person’s responsibility is at least somewhat mitigated because the intention itself is viewed as the product of circumstances which may not have been under the person’s control. Furthermore, although in psychologizing the reasons for behavior are conscious, psychologizing does not assume that a person understands the cause of her reasons; this potentially further mitigates the sense of personal responsibility (Haslam, 2003).

Malle (2011) emphasizes the following points with regard to causal history of reason explanations:

- Causal history of reason explanations are *not* considered by an actor when he or she forms the intention to act.
- A causal history of reason explanation requires that the actor has a reason for the action. (There must be a reason in the first place in order to have a causal history of the reason.)
- In explaining a behavior, a person will often use causal history of reason explanations along with other explanations, such as reasons.

**Comparing the Explanatory Modes**

Haslam, Ban and Kaufman (2007) provide an example comparing the three explanatory modes:
A moralizing explanation of compulsive hand washing would view it as a voluntary behavior that the person should be able to control, whereas a medicalizing explanation might see it as a direct and mechanistic expression of a brain defect. A psychologizing explanation - in terms of unconscious guilt, harsh parenting, rigid character, and so on - recognizes the meaningfulness of the behavior but acknowledges that the person's responsibility for it is attenuated. (p. 131-2)

Malle (2011) offers a set of stepwise heuristics for classifying explanations of behavior into the four modes:

1. Does the explainer (observer) see the behavior as intentional? If not, then it is a cause explanation. If so:

2. Does the explanation only explain how the action was possible, or does it also explain the actor’s intention? If only how the action was possible, then it is an enabling factor explanation. If also the intention:

3. Did the actor consider the explanation when forming the intention? If not, then it is a casual history explanation. If so, it is a reason explanation. (p. 15)

Empirical Support for the Folk Psychiatry Model

Levi and Haslam (2005) report empirical support for the folk psychiatry model. According to the model, three explanatory modes - reason, cause, and causal history of reason - underlie the three explanatory dimensions - moralizing, medicalizing, and psychologizing - respectively. Levi and Haslam study a convenience sample of Australian undergraduates (N = 71) with vignettes describing five conditions having behavioral presentations: Parkinson’s disease; assaultiveness; Alzheimer’s dementia; Major Depressive Disorder; and Antisocial Personality Disorder. The vignettes describe symptoms of the conditions but do not include the names of the conditions.

Disorders are hypothesized to score higher on particular explanatory dimensions than other disorders based on the putative status of the disorders as moralized, medicalized, or psychologized. For example, Alzheimer’s dementia is putatively medicalized; Antisocial Personality Disorder is putatively moralized; thus Alzheimer’s is hypothesized to elicit more cause explanations. There are six such hypotheses, summarized below with the results.

The vignettes do not describe a particular protagonist, but make general statements regarding people with the diagnosis. Thus, gender, age, occupation, and ethnicity are not addressed. No behavior is described other than symptomatic behavior. As an example, the vignette for Major Depressive Disorder appears below. No vignette content validation is reported. An example of the vignette appears below (Levi & Haslam, 2005):
These people experience a variety of difficulties. These include persisting sad mood, greatly diminished interest or pleasure in everyday activities, loss of weight, trouble sleeping, restlessness or slowing of behavior, fatigue, feelings of worthlessness, inability to concentrate, and thoughts of death. (p. 120)

After reading the vignettes, participants were asked to "explain the behavior." (Levi & Haslam, 2005, p. 120) of people with the condition, in a free form written response. These responses were then rated on a four point scale on the extent to which they reflected reason, cause, and causal history of reason explanations.

The results are consistent with the study hypotheses, supporting the folk psychiatry model. With regard to the study’s seven hypotheses: 1) Parkinson’s (the disease condition) scored higher on cause explanations ($\eta^2=.82$) that Assaultiveness (the social deviance condition); 2) Alzheimer’s dementia (the medicalized mental disorder) scored higher on cause explanations ($\eta^2=.82$) than Antisocial Personality Disorder (the moralized mental disorder); 3) Assaultiveness scored higher on reason explanations ($\eta^2=.72$) than Parkinson’s; 4) Antisocial Personality Disorder scored higher on reason explanations ($\eta^2=.75$) than Parkinson’s; 5) the DSM-IV mental disorders, on average, scored higher on causal history explanations ($\eta^2=.14$) than the other disorders (Parkinson’s and Assaultiveness); 6) Major Depressive Disorder (the putatively psychologized mental disorder) scored higher on causal history of reason explanations ($\eta^2=.68$) than the other mental disorders.

Levi and Haslam (2005) demonstrate that their folk psychiatry model can be used to account for differing lay explanations of mental disorder, physical disorders, and deviant behaviors. These authors find that laypersons' freeform explanations of particular conditions differ consistently with hypotheses derived from the folk psychiatry model. The large effect sizes observed for most of the hypotheses suggest that the results are nontrivial. The convenience sample of undergraduates is not ideal; the results cannot be generalized. However, the results provide a useful starting place for theory testing. Future studies should replicate the methodology with other populations and a wider range of diagnostic categories. Finally, the vignette content is problematic: lacking any behavioral information beyond symptoms, it does not provide a rich informational context. Therefore results may not reflect how participants would respond in the context of other information, unrelated to the diagnosis, being available.
Applying the Folk Psychiatry Model to the Reduction of Mental Illness Stigma

Haslam, Ban, and Kaufman (2007) suggest that the folk psychiatry model may illuminate the understanding of mental illness stigma in ways that competing theories have not. For example, the attribution model of mental illness stigma, (Corrigan et al., 2003) holds that people make attributions about the cause and controllability of a target person’s mental illness. If the cause of the person’s mental illness is judged to be under her control, then she is likely to be viewed as responsible for it, which in turn leads to anger and finally punitive responses. On the other hand, if the cause of the illness is judged to be outside of the diagnosed person’s control, then he is thought not to be responsible, leading to feelings of pity toward him and consequently a desire to help. Consistent with this line of thought, much of the effort to reduce mental illness stigma has focused on convincing the public that it is “an illness like any other,” and therefore not something for which the diagnosed person should be held responsible (Read, et al., 2006, p. 303).

But contrary to the attribution model, considerable evidence suggests that biomedical explanations of mental illness actually increase stigmatizing responses, including social distance (Read et al., 2006). The folk psychiatry model addresses this issue by suggesting that biomedical explanations may lead to medicalizing, which, as a form of essentialist thought, is likely to increase stereotyping and prejudice responses. Medicalizing involves a view of mental illness as an immutable and irrational tendency in the diagnosed person, provoking fear and avoidance (Haslam, 2003).

Moralizing has also seemed likely to increase stigma: if persons diagnosed with mental illness are responsible for their undesirable behaviors - if they acting on their own bad intentions rather than as the result of some biological cause - then it will seem justified to many to blame, punish, and ostracize them. Thus Corrigan et al. (2003) found that, an ostensibly controllable cause (drug abuse) reduced willingness to help, increased desire to avoid, and increased support for coercion and segregation. Furthermore, these effects were mediated by increased perception of personal responsibility for the illness when the cause was ostensibly controllable, and in turn by decreased pity and increased anger.

In the context of these considerations, Haslam, Ban, and Kaufman (2007) suggest two possible strategies for reducing mental illness stigma. One is to reduce pathologizing, which under the folk psychiatry model would entail reducing the extent to which behaviors are viewed
as "strange, rare, and incomprehensible" (p. 135). As these authors point out, “the role of pathologizing in stigma is largely unexplored” (p. 135).

The other anti-stigma strategy suggested by Haslam et al. (2007) - and the strategy investigated in the present research - is to increase psychologizing. Haslam et al. suggest that psychologizing explanations may reduce stigma because, on the one hand, unlike moralizing explanations, they attenuate personal responsibility, and on the other hand, “unlike medicalizing explanations, they do not view sufferers as having a deep-seated defect and give full recognition to their complexity as persons” (p. 135). Thus it may be that if we can encourage laypersons to generate psychologizing explanations of the behaviors of persons diagnosed with mental illness, we can reduce such stigmatizing reactions as desire for social distance and approval of social control. This is the possibility that this dissertation examines. Of course, if psychologizing explanations were not truly causes of mental illness symptoms, it would be problematic to encourage laypersons to believe that they were. However, there is evidence to suggest that adverse childhood experiences – one important type of psychologizing explanation – do in fact contribute to mental illness symptoms. This issue will be discussed later in this chapter, under the section Adverse Childhood Experiences as an Explanation of Mental Illness.

**The Folk Explanations of Behavior Framework**

As described in the previous section, Haslam’s folk psychiatry model is based closely on Malle’s (1999) *folk explanations of behavior framework* (also called the *folk-conceptual model*). The four explanatory modes of Malle’s framework have already been discussed. These are cause explanations, reason explanations, causal history of reason explanations, and enabling factor explanations. Causal history of reason explanations correspond to Haslam’s psychologizing explanations - the focus of the present research.

The present section provides a more detailed discussion of the context of Malle’s framework, as well as the empirical support for it. Malle’s distinction between reasons and causes is a necessary complement to (if not a substitute for) the person-situation dichotomy found in traditional attribution theory. Thus Haslam’s folk psychiatry model, being closely based on Malle’s broader framework, is linked to a more general understanding of how people explain behavior that goes far beyond the behavior of those perceived as mentally ill. Therefore the folk psychiatry model offers the possibility of linking research on mental illness stigma to the larger literature of social cognition.
Malle’s Conceptual Critique of Attribution Theory

Malle (1999) puts forth his folk explanations framework as a rival to attribution theory – which has since the 1960s been a leading social psychological model of how people explain behavior in everyday life. According to attribution theory, people attribute behavior to the disposition of the actor (person factors) or to external circumstances (situation factors). Person factors may include personality traits (e.g., “he kicked the dog because he is cruel”), abilities (e.g., “she did well on the test because she is intelligent”), or motives (e.g., “he did well in the interview because was eager to get the job”). Situation factors may include any external factors that led to a behavior (e.g., “he had trouble finding a job because of the economy” or “she became a drug addict because all her friends were drug addicts”).

Malle (1999) offers a detailed conceptual and empirical critique of attribution theory and the person-situation dichotomy on which it is built. He proposes to replace this with a reason-cause dichotomy on which he bases his four explanatory modes. He provides empirical support for his model (Malle, 1999). Finally, Malle, Knobe and Nelson (1999), attempt to compare Malle’s folk-conceptual model directly against attribution theory in a series of experimental studies.

Malle (1999) points out that developmental psychologists, philosophers, and other writers have long distinguished between reason explanations and cause explanations for behavior. Reasons in this context are conscious motives that people have in mind when forming the intention to take an action. Causes are events or circumstances that compel an action without the actor’s intentions being involved. Remarkably, according to Malle, attribution theorists have largely ignored this distinction, focusing instead on the distinction between person factors and situation factors; this has yielded a great deal of conceptual confusion.

For example, in the attribution theory literature, person factors tend to be identified with personal responsibility, whereas situation factors tend to suggest limited or absent responsibility. But person factors need not necessarily involve personal responsibility at all. For example, a mental illness such as Schizophrenia may be viewed as an internal, person factor without attributing to the ill person any responsibility for the consequences of the illness. Mental illness is a person factor if it is perceived as an abiding attribute of the individual, rather than a transient characteristic of a situation the person happens to be in. Clearly judgments of personal responsibility play a major role in interpersonal relations. Traditional attribution theory muddles
this important issue by overlooking the distinction between person factors that are associated with personal responsibility and those that are not.

A related concern is that attribution theory’s conception of person factors fails to capture the folk concept of the intentionality of an action. Malle & Knobe (1997) provide empirical evidence that people tend to consider an action intentional when the actor exhibits each of the following:

(a) desire for an outcome, (b) beliefs about a behavior leading to that outcome, (c) a resulting intention to perform the behavior, (d) the skill to perform the behavior, and (e) awareness of fulfilling the intention while performing the behavior. (p. 25)

According to Malle, removing any of these five elements tends to make an action seem less intentional. Malle & Knobe (1997) confirm this by experimentally manipulating the presence of actor desire, belief, skill, and awareness in vignettes and having participants rate the intentionality of the actions described. Vignettes omitting any one of these elements were less likely to be interpreted as describing intentional behavior.

Malle argues that the first two components of intentionality – desires and beliefs – correspond to the folk conception of reasons. Thus reasons are prerequisites for intentional behavior. Traditional attribution theory does not address this issue in any clear way, again muddling the central issue of personal responsibility.

**Empirical Evidence for the Folk Explanations of Behavior Framework**

Malle offers empirical support establishing the basic viability of his folk-conceptual framework. This evidence relates to the distinction between reasons and causes and also to the well-known actor-observer symmetry. Malle (1999) conducts a series of studies to show that laypersons distinguish between causes and reasons, linking reasons (but not causes) to intentionality. First, Malle shows that the explanatory mode a speaker uses predicts the listener’s judgment of intentionality. Specifically, reason explanations elicited judgments of greater intentionality than do cause explanations (of the same behavior). Next, Malle demonstrates the converse: that behaviors viewed as more intentional (as rated in a prior validation study) are more likely to elicit reason explanations. Finally, Malle establishes that laypersons distinguish between reason explanations and causal history of reason explanations. This initial series of studies is successful in establishing the basic viability of his folk-conceptual framework.

A central finding in attribution theory is the actor-observer asymmetry. As Jones and Nisbett (1972) explain it “there is a pervasive tendency for actors to attribute their actions to
situational requirements, whereas observers tend to attribute the same actions to stable personality dispositions” (p. 80). A large literature has examined this claim, and numerous textbooks and qualitative reviews have summarized this literature in support of the actor-observer asymmetry (Malle, 2006). However, Malle (2006) conducts a meta-analysis of this literature and finds that the average effect size is very small, and that there is no statistically significant effect at all after correcting for possible publication bias. Malle argues that studies supporting the asymmetry have been cited repeatedly while other studies have been ignored.

**Goals of Psychological Research on Folk Explanations**

It would be useful at this point to clarify the goals and nature of psychological research on folk explanations, an issue which has been touched on already. Folk explanations are those used by laypersons in everyday life. They may stand in marked contrast to scientific explanations of behavior generated by social and behavioral scientists. Folk explanations need not necessarily be true, accurate, supported by evidence, or provide a deep or even useful understanding of behavior. However, because folk explanations are used to make evaluations and decisions in everyday life, they have practical consequences for the way people treat one another. Therefore these explanations are in themselves a valuable object of study for the social sciences. Malle (1999) addresses the issue thus:

> The adequacy of a social-psychological model of people's folk explanations, such as [the folk explanations of behavior framework] is independent offolk psychology's ultimate validity...or its potentially tautological character...A scientific theory of folk explanations is successful if it describes, explains, and predicts people's actual explanations as based on their folk concepts of behavior (e.g. intentionality and reason). Whether those folk concepts are objectively valid as accounts of human behavior is a different question. The cognitive and behavioral sciences try to answer questions about the objective reality of the human mind and behavior, whereas a social psychology of people's behavior explanations describes people's folk theories about mind and behavior and their effects on social perception and social interaction. (p. 45)

Malle’s point applies to the present research, which is not designed to help us understand how people diagnosed with mental illness think and act; but instead designed to help us understand how laypersons think about and act toward people diagnosed with mental illness.

**Adverse Childhood Experiences as an Explanation of Mental Illness**

The present research is built on the notion that laypersons will find adverse personal experiences to be a plausible explanation for behavior that is consistent with the symptoms of mental illness. There is considerable evidence that this is the case: Read (2007) reviews 46
studies comparing laypersons’ preference for biogenetic versus psychosocial explanations of mental illness or its symptoms; 36 of these studies find a preference for psychosocial explanations. Such explanations include poor parenting, poverty, general life stress, and the decline of traditional social values. Some of these psychosocial explanations seem consistent with moralizing, but most seem more consistent with psychologizing.

Read (2007) concludes that that “studies consistently find that [laypersons] place much more emphasis on adverse life events than on chemical imbalances or genetics” (p. 118). Moreover, “when studies use a behavioral vignette describing someone experiencing hallucinations, delusions, and so on, the public always attributes psychosocial causes. The only studies producing a public preference for biogenetic explanations are those that use the diagnostic label schizophrenia” (p. 122).

Some of these studies have specifically inquired into public perceptions of the role of adverse childhood experiences. In an Australian survey, 91% endorsed “problems from childhood such as being badly treated or abused, losing one or both parents when young or coming from a broken home” as likely causes of schizophrenia; by comparison, 70% endorsed biological causes (Jorm, Christensen, & Griffiths, 2005; cited in Read, 2007, p. 118). A British study finds that participants most common explanation of schizophrenia was “Unusual or traumatic experiences or the failure to negotiate some critical stage of emotional development” (Furnham & Bower, 1992; cited in Read, 2007, p. 121).

Moreover, some evidence suggests that psychosocial explanations of mental illness are widely accepted among individuals diagnosed with mental illness themselves. Elliot, Maitoza, and Schwinger (2012) conducted in-depth qualitative interviews of hospital inpatients in a behavioral health unit in the United States (\(N = 50; 98\%\) response rate). Participants were limited to patients judged by a psychiatrist to have “very low” emotional vulnerability with regard to the interview questions and at least “adequate” ability to comprehend them. This limits the generalizability of the findings as individuals with the most severe symptoms were likely to be excluded. The most common diagnoses reported by participants were alcohol abuse (61%), depression (54%), and bipolar disorder (42%); only 9% reported schizophrenia – again, limiting generalizability. Still, the results for this subset of the hospitalized population are impressive: of the 86% who believed they had a mental illness, nearly all (98%) attributed the illness at least in part to life experiences; 35% attributed it solely to life experiences (not biological factors).
Nearly half attributed the illness at least in part to childhood trauma. In comparison, 56% of those who believed they had a mental illness attributed it to a biological bias, most frequently (86%) a genetic predisposition; none attributed the illness to a biological basis exclusively.

Evidence also suggests that acceptance of psychosocial explanations may yield less stigma than biomedical explanations. An early review by Kirk (1975) finds that "conferring the sick role on the mentally ill does not lessen rejection, but may, in some instances, increase social rejection" (p. 318). The term "sick role" has since been replaced in the literature by such terms as "biomedical," "illness like any other," and now, in the folk psychiatry model, "medicalizing." More recently, in a Swiss survey, respondents exposed to a vignette whose protagonist had symptoms of schizophrenia expressed greater desire for social distance if they considered the protagonist to be suffering an “illness” compared to those who considering it a “crisis” (Lauber et al., 2004). Mehta and Farina (1997) report that participants who believed another participant’s difficulties were due to childhood circumstances hesitated longer to deliver electric shocks to the other participant during a learning task, in comparison to participants who believed the difficulties arose from a disease. Read et al. (2006) review a dozen studies on the link between causal explanations of mental illness and attitudes toward individuals considered to have a mental illness; these authors find that, with one exception, these studies either find biological explanations to be associated with negative attitudes or psychosocial explanations with positive ones.

Even if laypersons find adverse childhood experiences to be a plausible explanation of behaviors associated with mental illness, it does not follow that this explanation is correct. If adverse childhood experiences, or other psychosocial factors, were not truly causes of mental illness symptoms, it would be problematic to advance such explanations to the public in an effort to reduce stigma: it would amount to promoting a myth; and even if the strategy succeeded in reducing stigma, it might deter many people from seeking appropriate medical treatment by convincing them that their problems were essentially psychological.

As it turns out, however, there is evidence that adverse childhood experiences do in fact contribute to many of the symptoms of mental illness. Edwards, Holden, Felliti, and Anda (2003) use data from a large survey of adult HMO members ($N = 8667$; response rate = 64%) inquiring about adverse childhood experiences as well as various health and social problems experienced during adulthood. Overall mental health is measured by the Medical Outcomes Study 36-item
Short-Form Health Survey ($\alpha = .73$), which addresses symptoms of anxiety and depression. For the abuse categories of sexual abuse, physical abuse, and witnessing of domestic violence against the mother, mental health scores declined in a dose-response relationship with exposure to increasing numbers of abuse types.

The present research uses vignettes describing symptoms of schizophrenia, including hallucinations. As has been discussed, laypersons commonly blame psychotic symptoms on childhood trauma or other psychosocial origins (Read, 2007). Some evidence also suggests that popular opinion may be correct in this regard: Whitfeild, Dube, Felitti, and Anda (2005), using the same HMO data set as Edwards et al., apply logistic regression to analyze the relationship between eight categories of adverse childhood experiences and lifetime prevalence of experiencing hallucinations. These adverse events are the very same that are used in the vignettes for the present dissertation research: “abuse [emotional, physical, and sexual], witnessing domestic violence, parental separation or divorce, and living with substance abusing, mentally ill, or incarcerated household members as a child” (p. 798).

To assess hallucinations, respondents were asked “Have you ever had or do you have hallucinations (seen, smelled, or heard things that weren’t really there)?” The prevalence of hallucinations was 2.0%. A common cause of hallucinations is drug use; however, a strong relationship between adverse childhood experiences and hallucinations was observed even among participants with no reported history of drug use. Controlling for drug use, age at survey, sex, race, and education, participants with seven or more adverse childhood experiences were 2.7 to 8.4 times as likely to report having experienced a hallucination.

None of this is to say that organic causes or vulnerabilities are not also involved in the behaviors associated with mental illness; nor is it to say anything about the efficacy of biomedical interventions: those are empirical issues that lie outside the scope of the present research. However, if adverse childhood experiences do contribute to the symptoms of mental illness, and if calling attention to this fact were to reduce stigmatization of those who exhibit such symptoms, such an antistigma strategy would be appealing.
CHAPTER 2
LITERATURE REVIEW

The present dissertation research uses experimental vignette methodology to explore the potential role of psychologizing in reducing mental illness stigma. In order to inform the design of this research, this chapter presents a review of studies that use experimental vignette methodology to study mental illness stigma in a lay population. This includes, for each study reviewed, a summary and critique of the methodology followed by a summary of the key results and conclusions of each study, and finally a discussion of whether the authors’ conclusions are justified. Studies reviewed are discussed in chronological order of publication. This chapter also provides an overall assessment of the body of literature reviewed, and explains how the present dissertation research builds on the strengths and avoids some of the weaknesses of past work in this field.

Search Strategy & Inclusion Criteria

In March 2011, a search was conducted of Proquest, a database which in turn searches 48 scientific databases, using the following search term: vignette and ((“mental illness”) or (“mental disorder”) or psychiatr*) and (stigma* or prejudic* or discrimin* or stereoty*). This yielded 1034 results (many of which were duplicative). There were no date limitations for the search. The dissertation author reviewed the titles and, when necessary, the abstracts of these results to identify those studies meeting all of the following criteria:

1. Uses an experimental design as defined by Pedhazur and Schmelkin (1991, p. 251): “a study in which at least one variable is manipulated and units are randomly assigned to the different levels or categories of the manipulated variable(s).”
2. Requires participants to read (or have read to them) verbal vignettes describing a person as having a psychiatric diagnosis and/or exhibiting behaviors/symptoms associated with a mental disorder (in at least one condition of the experiment).
3. Manipulates one or more aspects of vignette content as an independent variable.
4. Measures one or more mental illness stigma variables as dependent variables. These are adverse judgments associated with mental illness (e.g., preference for social distance, perception of dangerousness, or poor prognosis for improvement).
5. Studies a lay population (not mental health or health care professionals).
6. Published in English.

This search strategy reflects an effort to limit the scope of the literature review to those studies that are most similar in purpose and methodology to the present research, in order best to inform the design of the present research. Since the present research is experimental, the literature review is limited to experimental designs, excluding many correlational survey studies that use vignettes to elicit participants’ responses. Since the present research asks participants to read written vignettes, the literature review is limited to those studies that do this, excluding some studies that have participants watch video interviews with persons purported to have mental illness, or interact with actual such persons. Since the present research treats mental illness stigma variables as dependent variables, the literature review is limited to those studies that also do so. Finally, since the present research examines a lay population (college undergraduates), the review is limited to studies of lay populations. This excludes many studies with mental health or health care professionals as participants.

**Summary and Critique of Studies**

*Phillips, 1963; 1964.* In a pair of articles reporting separate analyses of the same data, Phillips (1963, 1964) examines the impact on stigmatizing reactions of a vignette protagonist’s symptomatic behavior, protagonist gender, and help-seeking from various sources. Phillips studies married white women living in a small New England town ($N = 300$; response rate = 91.5%), using systematic sampling from a local address directory, with individuals who refused to participate being replaced by someone randomly selected from the same street. Phillips’ sampling method and high response rate ensure a representative sample of the population; however the results cannot be generalized beyond the very specific population studied.

The vignette content variables are symptomatic behavior, gender, and help source. The symptomatic behavior was consistent with a) paranoid schizophrenia, b) “simple schizophrenia,” c) anxious depression, d) phobia with compulsive features, and e) “a ‘normal’ person” (Phillips, 1963, p. 966). These categories reflect psychiatric diagnoses prevailing in the early 1960s, when
the study was conducted. The protagonist sought help from a clergyman, physician, psychiatrist, mental hospital, or no help source. Symptomatic behavior and help source are key potential determinants of mental illness stigma; one of the major concerns regarding mental illness stigma is that it may deter people from seeking help (Otey & Fenton, 2004).

Vignettes consistent with diagnostic categories were based on those used by Star (1955), and thus focused on symptomatic behavior; the “normal” vignette was specifically developed for the study. The vignettes were modified for the current study by adding a brief statement regarding help source, e.g.: "He has been going to see his clergyman regularly about the way he is getting along" (Phillips, 1963, p. 966). The Star vignettes, which Phillips’ vignettes closely resemble, have been criticized by Loman and Larkin (1976):

First, the descriptions contain many informal labels such as "very quiet" and "afraid of people"; these are trait or character references that come to be applied to actors in the course of their daily interaction with others. By presenting such terms to subjects in experimental research, however, the investigators imputed an internal condition to the actor. The format of the vignettes, therefore, confounds behavior and label, in that each trait reference becomes an authoritative definition (label) offered by the researchers themselves…Secondly, the descriptions present the person and his symptoms in the abstract, with only minimal reference to the situational context. (p. 685)

These two criticisms share a common essential point: the vignettes modeled on Star’s are too abstract, lacking concrete details on the basis of which participants may make meaningful judgments regarding the protagonist. This is an important point; however Loman and Larkin (1976) overstate the case: the Star vignettes do provide some concrete details such as “couple of times [the protagonist] has picked fights with men who didn't even know him, because he thought they were spying on him and plotting against him” (Phillips, 1963, p. 966).

Diagnostic labels are not used in Philips (1963; 1964): it is not a study of the effects of labeling. The protagonist’s gender was varied independently; ethnicity, age, and occupation are not specified in the vignette. Vignettes were presented to participants on printed cards and were simultaneously read aloud by interviewer, in person, at the participant’s home. Thus Phillips (1963) makes an early effort to address participant gender differences; he leaves ethnicity, age, and occupation for another day; it is unknown whether participants tacitly impute these variables (perhaps mirroring their own characteristics?) in the absence of information.

Examples of the portions of the vignettes describing “symptomatic” behavior follow (Phillips, 1964):
NORMAL: Here is a description of a man. Imagine that he is a respectable person living in your neighborhood. He is happy and cheerful, has a good enough job and is fairly well satisfied with it. He is always busy and has quite a few friends who think he is easy to get along with most of the time. Within the next few months he plans to marry a nice young woman he is engaged to.

PARANOID SCHIZOPHRENIC: Here is a description of a man. Imagine that he is a respectable person living in your neighborhood. He is very suspicious; he doesn't trust anybody, and he is sure that everyone is against him. Sometimes he thinks that people he sees on the street are talking about him or following him. A couple of times he has picked fights with men who didn't even know him, because he thought they were spying on him and plotting against him. The other night he began to curse his wife terribly, because he said she was working against him too - just like everybody else. (p. 681)

The study’s outcome was social distance, measured by a 5-item scale of yes/no items regarding participants’ willingness to interact with the protagonist in particular contexts ($\alpha = .97$). ANOVA yielded significant results ($p < .001$) for symptomatic behavior, help-source, and their interaction. Effect sizes are not provided and there was not enough information reported to calculate them, so results are only reported in terms of scale means (with the scale ranging from zero to five). Effect sizes might have been more informative: the scale used is arbitrary.

Comparing across symptomatic behaviors, mean social distance was greatest when the protagonist had paranoid schizophrenia (3.84), followed by anxious depression (2.22), simple schizophrenia (2.21), compulsive phobia (1.39); least stigmatized, as expected, was the “normal” individual (0.72). Within the limitations of reporting results from an arbitrary scale, it does appear that differences among symptomatic behaviors on social distance scores are large: the difference between the most stigmatized condition (paranoid schizophrenia) and “normal” is 3.12 scale points, over 60% of the scale range.

Comparing means across help sources, mean social distance increased from no help (1.35); to clergyman (1.57); physician (1.87); psychiatrist (2.56); and finally mental hospital (3.04). Phillips (1963) notes that this ranking of help sources is replicated exactly across the five behavior profiles studied, except that the protagonist with paranoid schizophrenia is more stigmatized when seeking no help than when seeking help from a clergyman (though still less than any other help source). Help source seems to have a large impact, if smaller than behavior: the difference between no help and mental hospital is about a third of the scale range.

Phillips (1963) concludes that behavior has a larger effect on stigmatization than help source by comparing the ANOVA $F$-scores of behavior ($F = 64.52$) and help-source ($F = 25.53$);
behavior explains a larger share of the variance. Percentages of variance explained are not reported; these would have been more informative. No interaction between behavior and help source is reported. This is unfortunate: the interaction seems obviously of interest.

Phillips (1964) finds that male protagonists are “rejected more strongly than females exhibiting identical behavior and consulting the same help-source” (p. 685). This is observed in 23 of the 25 combinations of behavior and help source examined; the two exceptions are small differences. However, inferential pairwise comparisons are not reported, so it cannot be known whether any of these differences are statistically significant. It is also unclear whether protagonist gender was entered into the ANOVA model with behavior and help source: no inferential statistics are reported with regard to protagonist gender.

On average, across the psychiatric conditions (excluding the “normal” description), the male protagonist elicited greater social distance (2.68) than the female (2.15), a difference of just over one half of a scale point. It is important to note that participants were all female, so effects of participant gender (or its interaction with protagonist gender) could not be analyzed. Phillips (1964) argues that:

...had the sample consisted of men, the case abstracts depicted as female might have been rejected more than those depicted as male, though the fact that men and women generally agree on general aspects of the roles appropriate for each makes this an unlikely outcome. (p. 685).

Phillips (1963) addresses several participant variables; however, he does not enter them as covariates in the ANOVA model: instead he reanalyzes the data once for each of the participant variables, dividing participants into groups based on the participant variable at hand. Phillips finds that the results regarding help source remain statistically significant for the analyses considering participant age, religious affiliation, educational attainment, social status, and authoritarianism; however the same results lose significance when the data are grouped by whether the participant had “experience with someone who had sought help for emotional problems” or, alternatively, when the data are grouped by participants’ “adherence to the norm of self-reliance. (p. 970). This analysis is suggestive; but it is insufficient to quantify the impact of the participant variables, as could be done by entering them as covariates in an ANCOVA model. Moreover, the loss of significance when data are reanalyzed grouped by certain covariates may at least in part reflect the loss of power with the smaller sample size used in each analysis.
Phillips’ (1963, 1964) early study on mental illness stigma uses generally strong methodology, though with some major limitations. Phillips provides evidence that symptomatic behavior matters in social rejection; and that, as future studies would reiterate, paranoid schizophrenia is generally the most stigmatized of the major mental illness diagnoses. Phillips also shows that help-source has an important impact, with those help sources more closely associated with serious and persistent diagnoses (on the extreme, psychiatric hospitalization) being more heavily stigmatized. Phillips also provides some evidence that men with mental illness are more stigmatized than women, at least by female observers. (However, the lack of statistical analysis seriously undermines this claim.) Philips statistical analyses are flawed in other important ways, as when he discusses pairwise comparisons but limits his inferential analyses to omnibus F-tests. Philips explores important participant variables (including prior contact with people who had emotional problems), though his statistical analysis is inadequate to fully address the role of these variables. Finally, it is important to keep in mind that Philips’ conclusions could never have been generalized beyond married white women living in small New England towns, and that much has changed since the early 1960s that may make his findings inapplicable to a contemporary context.

Bord (1971). Bord (1971) replicates Philips (1963) study, though he excludes protagonist gender as a vignette variable and instead examines social status. Thus, Bord’s vignette variables are symptomatic behaviors, source of help sought (clergy, psychiatrist, etc.) and social status (as indicated by profession). Bord uses a convenience sample of undergraduate students enrolled in an introductory sociology course ($N = 350$; response rate not reported). The present dissertation research uses a similar convenience sample of undergraduates, as do many experimental studies in the social sciences; such sampling does not permit generalization to a broader population; however such sampling is useful for developing methodology and testing hypotheses in the early stages of a research program; especially when research resources are limited. Though Bord’s sample is less diverse than Philips with regard to age and educational attainment, it includes both men and women.

Bord (1971) uses the same categories of “symptomatic” behaviors and help sought as did Philips (1963; 1964): paranoid schizophrenia, “simple schizophrenia”, anxious depression, compulsive phobia, and “normal” (no symptoms.) Bord also uses the same help sources: no help, clergyman, physician, psychiatrist, and mental hospital. Protagonist’s occupations are chosen
from Reiss and Duncan's (1961) Socioeconomic Index for Occupations, to reflect occupations spanning the range from lowest to highest level of prestige. The protagonist’s gender was held constant as male; the ethnicity and age are not specified. Bord’s choice of vignette variable builds closely on Philips’ work, and adds an important dimension of social status; however by omitting protagonist gender Bord misses an opportunity to replicate and clarify an important aspect of Philips’ research.

Bord’s (1971) vignettes are the same as those used by Philips (1963, 1964) and thus closely modeled on those used by Star (1955); thus my earlier discussion of Philips’ vignettes applies equally here. The only difference is that Bord modified the introductory sentence to specify the protagonist’s occupation.

Bord uses the same scale of social distance used by Philips (1963), finding similar excellent reliability (α = .95). Bord’s (1971) results regarding symptomatic behavior replicate those of Philips (1963): the rank order of the diagnostic categories by mean social distance score is identical: paranoid schizophrenia (4.24), anxious depression (2.68), simple schizophrenia (2.66), compulsive phobia (1.75), and “normal” (0.81). ANOVA finds significant omnibus F-scores for behavior, help source, and (unlike Philips) their interaction. Effect sizes are not reported, nor is there sufficient information to calculate them.

Despite the significant result for help source, Bord does not find the same clear pattern of increasing social distance as help sources become more closely associated with the idea of serious mental illness: though mental hospital is still the most stigmatized (2.77), no help is now second (2.52), an psychiatrist least (2.21). For Bord, the significant interaction holds the key to interpreting the results: Bord notes that help source only has the expected impact for the “normal” and phobic protagonists; he argues that in these cases, symptomatic information does not provide a clear basis for social rejection; therefore participants consider help source sought and tend to reject those whose help source indicates a more serious problem (e.g., mental hospital). To explain why his own results differ from Philips’, Bord points out that his sample is more highly educated than Philips’; Bord argues that better educated participants tend to have acquired a “well-learned classification scheme” of mental illnesses (p. 504) by which they judge the schizophrenic and anxious-depressive symptoms as associated with dangerousness and thus worthy of social rejection; since these better-educated participants rely exclusively on the behaviors to make judgments about the schizophrenic and anxious-depressive conditions, the
effect of help source is abolished for these participants in those conditions. In support of this interpretation, Bord points out that Philips (1963) found a similar pattern of results among his own better-educated participants. Bord’s interpretation is plausible; however he provides no direct evidence that better-educated participants actually have a “well-learned classification scheme” of mental illnesses, or that they rely on this in socially rejecting those with more serious symptoms.

In contrasting high and low status protagonists within each combination of behavior and help, Bord found that "in a large majority of cases the low status deviant is rejected more when the behaviors imply a threat to others” (p. 505) However, Bord bifurcates the behavior variable into those categories he considers “high threat” (paranoid schizophrenia and anxious depression) versus “low threat” (simple schizophrenia, compulsive phobia, and “normal”). He finds an interaction such that for high-threat behaviors are more stigmatizing for low-status protagonists than for high-status protagonists. Bord speculates that stereotypes of high-status individuals as stable and non-threatening partially insulate them from the stigma of high-threat behaviors. The major problem with this analysis is that Bord never provides evidence to support his claims about which behaviors participants see as threatening; it is not obvious that anxious depression is high threat or that simple schizophrenia is low threat. Indeed, in interpreting his findings on help source, Bord seems to imply that simple schizophrenia is one of the more threatening conditions: he implicitly argues that it is so threatening a condition that those who recognize its symptoms are not influenced by help source in their judgments of social distance. Thus, Bord seems to shift which diagnoses he considers “high threat” to suit the argument at hand. Since he is focused on the issue of dangerousness and seems to believe that it underlies much of the social rejection of the mentally ill, Bord would have done better to measure perceptions dangerousness directly, along with social distance.

Bord examines two participant variables: gender and dogmatism (the latter measured by Rokeach’s Dogmatism Scale). Neither variable correlated with social distance. Unlike Philips, Bord did not examine participants’ previous contact with people who had received help for emotional problems.

Bord (1971) builds on the work of Philips (1963, 1964). Using very similar vignettes and most of the same variables allows a fruitful comparison between the two studies. Bord’s findings regarding the impact of symptomatic behavior converge with those of Philips; Bord’s findings
regarding the impact of help source do not. Bord offers an interesting interpretation of the discrepancy, but without additional evidence it is ultimately unpersuasive. Bord adds a new variable: social status; he draws the unsurprising conclusion that lower status individuals are more rejected given the same behavior and help source. Bord’s more interesting argument – that social status interacts with behavior such that the impact of threatening behavior is mitigated by higher social status – is not supported because of Bord’s failure to examine perceptions of threat directly.

**Kirk (1974).** Kirk sets out to test Scheff’s labeling theory (discussed in Chapter 1 of this dissertation) by examining the impact of "labels, labelers, and behavior" (p. 109). As Kirk explains, “Labeling theory implies that the label by itself has a significant effect on people's responses to a rule breaker, independently of the rule breaker's actual or observed behavior” (p. 109). Thus Kirk varies label and behavior independently in the same experiment; he seems to be the first in the literature to do this.

Kirk uses a convenience sample of college undergraduates (\(N=864\); response rate not reported). The symptomatic behaviors examined are: normal (no symptoms), moderate ("depressed and anxious neurotic," p. 111), severe ("severely paranoid," p. 111). These categories correspond to the “normal,” anxious depression, and paranoid schizophrenia behaviors used by Philips (1963; 1964) and Bord (1971); in fact, the vignettes are nearly identical and are again based on those used by Star (1955). The only important change is the addition of a sentence saying that a certain “labeler” has attributed a certain “label” to the protagonist. Kirk follows Philips and Bord in treating the diagnostic category of paranoid schizophrenia as more “severe” than that of anxious depression; although arguably, from a clinical perspective, they are simply two different diagnoses, each of which may vary in severity; the “severe” and “moderate” labels are thus questionable.

The “labels” used are general terms incorporated into the vignette that provide explanations of the behavior: “mentally ill,” “basically wicked,” or “under stress” (Kirk, 1974, p. 111). Thus none of Kirk’s labels is a specific clinical diagnosis (e.g., schizophrenia). Although this study predates Haslam’s (2003) folk psychiatry model by almost thirty years, the labels used here correspond nicely to Haslam’s medicalizing, moralizing, and psychologizing explanations, respectively. (As discussed in Chapter 1, Haslam’s theory forms the basis of the present dissertation research.) The “labelers” are the sources to whom the labels
are attributed: the protagonist’s self, the protagonist’s family, “some people,” or “a psychiatrist who knows [the protagonist]” (Kirk, 1974, p. 111). Protagonist gender is held constant as male; age, occupation, and ethnicity are not specified.

The study outcome is social distance as measured by the Social Rejection Index a scale of nine three-point items. No alpha reliability statistic is reported; however, Kirk conducts validates the scale by exploratory factor analysis concurrent with (using the same data as) the substantive study: he begins with a pool of fifteen candidate items and selects as the final scale items those which have a factor loading of greater than .60 on the first factor.

Consistent with the findings of Philips (1963; 1964) and Bord (1971), Kirk’s ANOVA finds a statistically significant ($p < .001$) effect of behavior on social rejection (in this case, higher scores indicate less social rejection; scores range from 9 to 27): the severe (paranoid schizophrenia) behavior was most stigmatized (13.97), followed by moderate (depressed and anxious neurotic; 16.66), and “normal” (22.90). There were no statistically significant effects of label, labeler, or any of the interactions. Kirk concludes that “labeling rule breaking behavior was found to have no influence on rejection independently of the behavior engaged in. This suggests that key elements in the labeling theory of mental illness may need to be modified, if not abandoned” (p. 115).

Kirk provides the first use of a vignette experiment to test Scheff’s labeling theory. His study provides a powerful critique of Scheff’s theory. However, Kirk himself points out several important limitations to his study: 1) the deviant behavior portrayed in the vignettes is described unambiguously; labels may yet influence the evaluation of ambiguous behavior observed in real life as to whether it merits social rejection; 2) the labeling process that occurs in the vignettes is extremely simplistic: there is a simple statement that a certain labeler has assigned a certain explanatory label; real-life labeling is a complex social process; 3) participants may have recognized the behaviors described as symptoms of mental illness, making the labels redundant. All of these criticisms are valid; the last is particularly important: it is not just individuals who are labeled as mentally ill; it is an entire set of behaviors that is labeled as a mental illness. The latter labeling process influences the way we think about certain behaviors, which in turn influences the way we think about people who engage in those behaviors.

**Link, Cullen, Frank & Wozniak (1987).** Link et al. provide empirical support for labeling theory, arguing that study participants are likely to vary in their response to a diagnostic
some may stigmatize a protagonist labeled mentally ill while others may exhibit sympathy, judging the same behavior less harshly due to the label; Link et al. called this latter tendency the extra-break effect. The result – in a study such as Kirk’s (1974) – would be more variable ratings of social distance among participants responding to a diagnostically labeled protagonist, though the mean rating may be roughly the same in labeled and unlabeled conditions. These authors hypothesized that respondent beliefs about the dangerousness of the mentally ill would mediate the effect of labeling.

Link et al. (1987) used a random sample of the general adult population of Cincinnati, Ohio, based on a telephone directory (N = 152; response rate = 63.3%). Vignette variables are objectionable behavior and label. There are three levels of behavior: no objectionable behavior, mild objectionable behavior, and severe objectionable behavior. There are two levels of label: labeling was accomplished indirectly; rather than stating that the individual was mentally ill, the protagonist could be described as “hospitalized in a mental hospital” or “hospitalized for a back injury” (Link, et al., 1987 p. 1478). Protagonist gender is held constant as male; ethnicity is unstated in the vignette; age is held constant at 27 years; occupation is an unspecified job in an office setting.

In addition to the objectionable behavior, the vignette provides other information that is diagnostically irrelevant and tangential to the study variables. The authors assert that "incorporating information of this sort is important because some investigators have claimed that labeling has an effect only when there is little other information to use in evaluation" (p. 1478). This speaks to the issue of rich informational context which is discussed in detail in Chapter 3. Link et al. are the first to break with the tradition of using vignettes closely modeled on the Star (1955) vignettes. By providing more concrete details and considerable information that is not relevant to any psychiatric diagnosis, these authors significantly improve the vignette methodology.

Link et al. (1987) are also the first authors reviewed here to report a procedure for validating vignette content. These authors point out that "a great deal rests on whether the particular vignette material presented is believable. In addition, the way the material is presented might allow respondents to guess the nature of the experiment and, if so, to react in such a way as to support the hypothesis inappropriately” (Link et al., 1987, p. 1479). Therefore these authors administered a postexperimental "funnel questionnaire,” asking participants about the
believability of the vignettes and participants’ beliefs about the purpose of the study (Page 1973; Page and Kahle, 1976). Most participants found the vignette "believable;" those who objected to some aspect of it did not show any consensus with regard to their objections, and were distributed randomly across the cells of the experiment; only 2 of 43 pilot participants guessed that the study compared a former mental patient to a non-patient.

However, while the vignette validation addresses the believability of the vignette, it does not address the nature of the vignette content: what is the behavior supposed to represent? Previous studies had used vignettes modeled closely on the Star (1955) vignettes; these depicted behaviors consistent with what were, at the time of the studies, established psychiatric diagnoses. The objectionable behavior in the vignettes used by Link et al. does not clearly correspond to any major psychiatric diagnosis, nor to popular conceptions of behavior associated with mental illness: the “mild” vignette briefly mentions that the protagonist experiences anxiety; the “severe” vignette does not; both vignettes focus on the protagonist’s expressions of anger. The protagonist would likely be thought of by lay people as “having a bad temper,” and might possibly be diagnosed with Intermittent Explosive Disorder as defined by the DSM-IV-TR (APA, 2000). Link et al. do not provide any explicit rationale for the type of behavior they depict in their vignette.

The full text of the vignette is found below (Link et al., 1987):

Here is a description of a 27-year-old man, let's call him Jim Johnson. About two years ago, he was hospitalized [in a mental hospital/for back problems] because of problems he was having at the time. Now he appears to be recovered and is doing pretty well.

Jim works at a job in a local business. He earns $20,000 a year before taxes and is doing well enough. He is well groomed and known for dressing neatly.

At his job, he gets along well with his co-workers and is on friendly terms with them. He begins his days chatting briefly with the people he works with and then gets down to business. He takes coffee and lunch breaks during the day, just like everyone else, and returns to work when his co-workers do.

While on the job, Jim checks his work carefully and doesn't pass it along until it is correct. This might slow Jim down a little, but he is never criticized for the quality of the work he completes.

Jim is interested in meeting and dating young women in the community. He is considering joining a local church group to meet them. He is also looking for a job that gives him more responsibility and pays better than his current one.

MILD: Every once in a while Jim becomes frustrated with all the demands at work and says he feels anxious about them. Once when he felt this way, he got red in the face, went
to a back room, and began pacing and complaining to a co-worker in an angry tone of voice. Later, he talked to some of the people he works with about the pressures he is sometimes under.

SEVERE: Jim has a tendency to get upset about demands at work. He often bangs his fist on a table and storms away shouting that other people "aren't fair to him." Sometimes he gets so angry that he begins throwing things and threatening the people he works with. (p. 1478)

The outcome of the study is social distance, measured by a scale of seven four-point items constructed for the study (α = .92). As expected, social distance increased as behavior became more objectionable: in the label (psychiatric hospitalization) condition, the means are no objectionable behavior (.98), mildly objectionable behavior (1.16), and severely objectionable behavior (1.76); in the no label (back injury hospitalization) condition, the means are .92, 1.40, and 1.92. ANOVA found the effect of behavior to be significant (p < .001); the effect of label was not, nor was the interaction. However, the analysis described next confirms the importance of labeling.

Link et al. (1987) measured perceived dangerousness of the mentally ill with a scale of eight, six-point items developed for the study (α = .85). Participants responded to this scale not with regard to the vignette protagonist, but with regard to their beliefs about people with mental illness in general. Perceived dangerousness was entered into a multiple regression equation along with label, behavior, and the interaction between label and perceived dangerousness. As the authors predicted, this interaction was significant (p = .003); the unstandardized “slope of perceived dangerousness is .338 in the labeled condition and .055 in the unlabeled condition. Labeling does indeed appear to evoke beliefs about dangerousness of mental patients and to make them applicable to the individual described in the vignette” (Link et al., 1987, p. 1483). The regression equation explained 41.2% of the variance in social distance scores.

Link et al. (1987) provide evidence that, contrary to Kirk (1974), mental illness labeling does have an important effects on social distance; and that this effect is mediated by the perception that the mentally ill are dangerous. Thus Link et al. provide important empirical support for Scheff’s labeling theory. They also make major contributions to advancing vignette methodology by providing a richer informational context than previous authors had done, and by attempting to validate the vignette with regard to believability. However, these authors do not provide a clear rationale for the type of behavior depicted in their vignettes.
Penn et al. (1994). Penn et al. (1994) examined the potential for various types of information to reduce the stigmatization of an individual who had been hospitalized for either schizophrenia or depression. They hypothesized that 1) schizophrenia would be more stigmatized than depression; 2) previous contact with the mentally ill would reduce stigma, 3) information about symptoms of schizophrenia will be more stigmatizing than the label of schizophrenia alone, and 4) information about aftercare services provided to an individual with schizophrenia would reduce stigma.

These authors used a convenience sample of University of Nebraska-Lincoln undergraduates ($N = 329$; response rate not reported).

There are six versions of the vignette content, corresponding to the following conditions:

1. Depression: Protagonist previously hospitalized because of depression; no symptoms described.
2. Label: Protagonist previously hospitalized because of schizophrenia;
3. Label/Symptoms: Protagonist previously hospitalized because of schizophrenia; symptoms described;
4. Label/Home: Protagonist previously hospitalized because of schizophrenia; aftercare setting described;
5. Label/Symptoms/Home: Protagonist previously hospitalized because of schizophrenia; symptoms and aftercare setting described;
6. Symptoms: Protagonist described as having the symptoms of schizophrenia; no mention of diagnosis or treatment.

Protagonist gender is held constant as male; ethnicity, age, and occupation are not specified in the vignette.

The vignette was constructed by the authors. The components describing symptoms were “reviewed by a clinical psychologist and Program Director at a [psychiatric] hospital, each of whom has over 10 years’ experience in working with individuals with chronic mental disorders” (p. 568). The description of aftercare services “was based on consultation with a case manager at a community mental health center and the coordinator of a local aftercare facility” (p. 569). This use of expert validation increase confidence that the symptoms described accurately reflect professional views of the psychiatric diagnoses studied. However it is not clear that the two experts used reviewed the vignette content independently of each other; nor is it clear whether
they were blind to the purpose of the study or to the intended diagnosis. Such independence and blindness would be required to ensure that the expert reviewers are not simply confirming the diagnosis because they have been asked to do so.

The following outcome scales are used: Social Distance Scale (7 items, 4 points each, items summed, previously used by Link et al. [1987], \( \alpha = .75 \)); Characteristics Scale (twenty 7-point bipolar adjective pairs describing protagonist's personality traits, \( \alpha = .87 \)); Affective Reaction Scale (ten 7-point bipolar adjective pairs, \( \alpha = .86 \)); Skill Assessment Scale, eight 7-point items, \( \alpha = .81 \)); Dangerousness Scale (eight 7-point items, \( \alpha = .78 \)). All reliability statistics are adequate. Penn et al. advance the literature by introducing several outcome measures other than social distance.

MANOVA was used, obtaining the following statistically significant results (\( p < .05 \)): for affective reaction, label/symptoms and symptoms outscored depression (this shows that schizophrenia was more stigmatized than depression); for skill assessment, depression, label/symptoms, and symptoms each outscored label and label/home. For dangerousness and social distance, there were no significant differences. Effect sizes are not provided; nor was there enough information to calculate them.

According to the authors, results supported all four of the study hypotheses: schizophrenia was more stigmatized than depression; information on symptoms of schizophrenia increased stigma; information on after care reduced it. Participants’ former contact with mentally ill people, used as a covariate, interacted with vignette type; however the only significant interaction was on the Characteristics Scale outcome: "Vignette Type did affect ratings for those subjects who did not know someone with a mental illness… This finding supports our hypothesis that less stigmatizing responses are found among individuals who have had previous contact with the mentally ill” (p. 570).

Penn et al. provide evidence in support of their hypotheses. However it is worth noting that there are no significant results for social distance and dangerousness, as these are generally regarded as core components of mental illness stigma.

Kirmayer, Fletcher & Boothroyd (1997). These authors presented Inuit people of Nunavik with vignettes describing either threatening or withdrawn behavior and labeled with of three explanations (mental illness, demonic possession, or isumaluttuq [burdened by thoughts]).
These authors used a convenience sample of Inuit people in Nunavik ($N = 137$; response rate not reported). While a convenience sample is not statistically representative of the population; it was probably inevitable in this context given the lack of a readily available sampling frame and the difficulty of recruiting participants in the remote rural villages of Nunavik.

The vignettes used in this study are quite brief (27 words in English translation). It provided only the protagonist’s gender (male), age (24), a brief description of the problematic behavior, and a brief explanation of the behavior. The threatening behavior is represented by the statement “he was threatening and fighting with people for no reason” (Kirmayer et al., 1997, Vignettes section, para. 1). The withdrawn behavior was represented by the statement, “he was staying by himself all the time and not talking” (Kirmayer, et al., 1997, Vignettes section, para. 1). The explanation is attributed vaguely to what “people said” (Kirmayer, et al., 1997, Vignettes section, para. 1). Thus, for example, the threatening/demon possession vignette read, in its entirety, “There is a 24-year-old man. Last year he was acting strange. He was threatening and fighting with people for no reason. People said it was demon possession.” (Kirmayer, et al., 1997, Vignettes section, para. 1). The vignettes are in the Inuktitut language and were read aloud to participants in person.

There are three major problems with the vignettes which compromise the validity of the study: first, the behavior described does not meet criteria for any psychiatric diagnosis; second, there is little concrete detail provided regarding the protagonist’s behavior - and none that does not directly relate to the central behavior of concern; and third, there is no validation of the vignette content.

The study outcomes are social distance, measured by a scale developed for the study ($\alpha = .79$), and five single-item measures: attribution of behavior to illness, attribution of behavior to sin, attribution of behavior to demonic possession, likelihood of recovery, and familiarity with someone who engages in the type of behavior described.

Neither label nor behavior affected social distance; however isumaluttuq (which seems consistent with psychologizing) actually reduced expectations of recovery. "Although mental illness and demon possession would seem to be more serious conditions, both have appropriate treatments (biomedical and religious, respectively) and, hence, may convey a more benign prognosis" (Kirmayer et al., 1997, Discussion section, para. 6). Participant gender, age, and
education are examined: women reported greater desire for social distance than men, as did younger participants and the more educated. Strictly, participants’ former contact with persons with mental illness is not measured: one measure asks about familiarity with the behavior described; however the behavior is not necessarily attributed to mental illness (either by the respondent or by the vignette itself).

**Link et al. (1999).** Link et al. (1999) reanalyze data from a nationally representative random sample of U.S. adults, taken from the 1996 General Social Survey ($N = 1010$; response rate = 69.9%). Vignettes were administered in person, read aloud to participants while participants read them simultaneously. Vignettes describe protagonist behavior consistent with Alcohol Dependence; Major Depression; Schizophrenia; Cocaine Dependence; or a “troubled person.” Diagnostic labels are not used in the vignettes; instead participants were asked to say whether they believed the problem described was a mental illness. Behaviors were selected to be consistent with DSM-IV diagnoses; the “troubled person” protagonist had problems in living that did not meet criteria for any diagnosis. Protagonist gender, ethnicity (African-American; white; Hispanic), and education level (eighth grade, high school, college) are treated as independent variables. Age is not specified in the vignette. The protagonist’s name is matched to gender and ethnicity.

This is the first study reviewed here that uses DSM-IV diagnoses; it is also the first to use protagonist ethnicity as a variable. Unfortunately, the vignettes do not describe any protagonist behavior other than symptomatic behavior (or, in the case of the “troubled person,” behavior indicating subclinical problems in living). Thus, while including important protagonist variables of gender, ethnicity, and education, the vignettes lack rich informational context in terms of protagonist behavior. As an example, the schizophrenia vignette appears below:

> [John/Juan/Mary/Maria is an [African American/White/Hispanic] [man/woman] with an [eighth grade/high school/college] education. Up until a year ago, life was pretty okay for John. But then, things started to change. He thought that people around him were making disapproving comments and talking behind his back. John was convinced that people were spying on him and that they could hear what he was thinking. John lost his drive to participate in his usual work and family activities and retreated to his home, eventually spending most of his day in his room. John was hearing voices even though no one else was around. These voices told him what to do and what to think. He has been living this way for six months. (Link et al., 1999, p.1329.)

A richer informational context could be provided, for example, by inserting after the statement “life was pretty okay for John,” a description of John’s work and social activities.
Social distance was measured by five 5-point items, with each item corresponding to a particular social situation (as in other social distance scales). However, the authors did not report this measure as a scale or calculate a reliability statistic. Instead, they averaged the responses across the five items and reported, for each behavior category, the proportion of participants whose average response corresponded to "very or somewhat likely" to avoid the protagonist: Alcohol Dependence (70%); Depression (47%); Schizophrenia (63%); Cocaine Dependence (90%); troubled person (29%). Thus cocaine dependence evoked the most social distance, "troubled person" the least.

The remaining study outcomes are single-item measures, with the results being reported in the same manner described above. For "very or somewhat likely to be a mental illness": Alcohol Dependence (49%); Depression (69%); Schizophrenia (88.1%) Cocaine Dependence (43.5%); troubled person (21.5%). For "very or somewhat likely" to be violent: Alcohol Dependence (71%); Depression (33%); Schizophrenia (61%); Cocaine Dependence (87%); troubled person (17%). Vignette variables explained 27.6% of the variance in violence perceptions. Chi-squared analysis was used to compare proportions; all differences were statistically significant.

Thus the authors find that schizophrenia is more likely to be recognized as mental illness than depression, more likely to elicit social distance, and more likely to be perceived as representing a threat of violence. However, cocaine dependence, while less likely to be labeled mental illness, was more stigmatized than schizophrenia.

Link et al. (1999) advance the literature by using the first nationally representative sample in a study reviewed here. However the vignettes used in the 1996 General Social Survey lack a rich informational context regarding protagonist behavior beyond the symptomatic behavior.

Schwartz, Weiss & Lennon (2000). These authors tested whether a woman with symptoms of a proposed mental disorder related to menstruation, “Late Luteal Phase Dysphoric Disorder”, would be evaluated differently depending on the diagnostic label applied to the disorder and whether the symptoms were associated with menstruation. The authors intended to the study to address concerns that the new diagnosis might increase negative evaluations of women or, alternatively, lead women to be excused for crimes for which they would otherwise be punished; the authors found both of these concerns to be unfounded. These authors use a
random sample drawn from the address directory of Putnam County, New York ($N = 307$; response rate = 60%).

The behavior of the protagonist is held constant to meet criteria for the proposed diagnosis of Late Luteal Phase Dysphoric Disorder. The protagonist’s gender is necessarily held constant as female; age is held constant at 38; ethnicity is not specified; the protagonist is employed but the job is unspecified. The vignette states that the protagonist is married with children, and satisfied with her job. The vignette than provides a detailed description of her symptoms, which include her own sense that she might hurt someone. The last portion of the vignette explains that the protagonist goes to a doctor; the doctor’s diagnosis is varied to reflect five conditions:

1. Menstruation related – no label;
2. Menstruation related – medical label;
3. Menstruation related - luteal phase dysphoric disorder label;
4. Not menstruation related – no label;
5. Not menstruation related – intermittent depressive disorder label.

The vignette was “developed based on the description of this disorder found in the DSM-III-R Casebook that portrays a woman exhibiting behaviors that would meet criteria for LLPDD - periodic episodes of dysphoric mood, irritable affect and violent behavior” (Schwartz et al., 2000, p. 67). An expert in the disorder reviewed the vignette to verify that the protagonist would meet criteria.

Social distance is measured by a scale adapted from Link et al. (1987; $\alpha = .84$); vignette content had no significant impact on social distance. The study asked participants twenty yes/no items on what type of help the protagonist should seek: labeling the condition as psychiatric (depression or late luteal phase dysphoric disorder) increased the odds of recommending psychiatric treatment (OR = 1.82); attributing the condition to menstruation label increased odds that a physical remedy would be recommended (OR = 3.33).

The study also examined the impact of vignette content on perceptions of protagonist job competence, blameworthiness, negative emotionality, deservingness of punishment if she were to commit a crime, and the participant’s attitude toward women in general. Only two significant results were found: psychiatric labels improved participant’s reported attitudes toward women in
general ($\beta = .12$); attributing the condition to menstruation improved perceptions of the protagonist’s job competence ($\beta = .33$).

**Lauber, Nordt, Falcato & Rossler (2001).** Lauber et al. surveyed the Swiss public on their opinions of eighteen possible interventions for mental illness; participants were read either a schizophrenia vignette or a depression vignette. Participants were a random sample of the general population of Switzerland, ages 16 and over ($N = 594$; response rate = 63%).

The vignette variable was psychiatric diagnosis. Protagonist behavior was crafted to meet DSM-III-R criteria for either depression or schizophrenia; vignettes included a diagnosis matching the symptomatic behavior. The vignette describes the protagonist as a friend of the participant; it describes symptomatic behavior in moderate detail and does not describe any behavior that is not symptomatic. Though no expert validation of vignette content is described, at least the first author is a medical doctor. Protagonist gender is held constant as male; age and ethnicity were unspecified. The vignette was read to the participants by telephone, in Swiss German, Italian, of French, depending on the participant’s preference. The depression vignette is as follows (Lauber et al., 2004):

Within the last two months one of your friends, let’s call him Beat, has changed very much in his character. Contrary to previous times he is feeling downcast and sad without any specific reason. He looks concerned and worried. There is nothing that brings him to a laugh. He hardly ever talks and, if so, he speaks with a low voice of worries concerning the future. Your friend feels useless and a failure. Attempts to cheer him up are not successful. He has lost all his interests. He complains of waking up repeatedly in the middle of the night and of being unable to get to sleep afterwards. In the morning he feels weary and without energy. He reports to hardly being able to concentrate on his work. Unlike before every task takes him a long time to do. He hardly does his duty at work. Thus, he already had to see his superior. (p. 272-3)

The schizophrenia vignette is as follows (Lauber et al., 2004):

Since half a year, one of your friends, let’s call him Beat, has changed. He withdraws from his co-workers and friends more and more. He keeps out of everybody’s way. If ever a conversation with him is possible there is just one single topic to talk about: the question whether certain people have the ability to read others’ thoughts. He occupies himself with nothing but this exclusively. Contrary to his former habits he does not take care of his appearance any longer and seems to neglect himself increasingly. At work he seems absentminded and often makes mistakes. Therefore, he already had to see his superior. Finally, your friend did not go to work for a whole week, without giving any excuse. Since then he seems to be anxious and badgered. He says to be absolutely sure now that not only are people able to read others’ thoughts but they are also able to directly influence these thoughts. But he does not know yet who is controlling his thoughts. Moreover, his thoughts were interrupted. He even hears these persons talking to
him and giving him orders. Sometimes, they speak to one another making fun of him. In his apartment the situation is particularly bad. There, he feels like threatened and is terribly scared. Thus, he has not been staying at home for a week but did hide in a hotel and did not dare to go out. (p. 273)

After reading the vignette, participants were presented with eighteen possible interventions and asked whether each would be helpful, harmful, or neither. Comparisons were made between schizophrenia and depression for endorsement of "helpful," and also for "harmful," for each of the 18 treatments. The interventions most frequently endorsed as helpful for depression were psychologist (68%), fresh air and exercise (62%) and general practitioner (58%). Less than half endorsed psychiatrist (44%) and only 25% endorsed antidepressants. For schizophrenia, the most popular remedies were psychologist (69%), psychiatrist (57%), and general practitioner (55%). Only 16% endorsed antipsychotic medication.

For both conditions, the response most frequently endorsed as harmful is dealing with the situation alone (63% for depression; 66% for schizophrenia). Majorities considered electroconvulsive therapy harmful for both conditions; only 1% endorsed it as helpful in either. One third considered antidepressants harmful for depression; thirty percent considered antipsychotics harmful for schizophrenia. The authors lament that "evidence-based strategies," such as antipsychotic drugs are viewed as harmful more often than helpful by the Swiss public (p. 555).

Lauber, Nordt, Falcato & Rössler, (2004). These authors report a study based on the same nationally representative Swiss survey as Lauber et al. (2001), though from a different subset of respondents. The same vignette content is used in both studies; however, in the component reported by Lauber et al. (2004), diagnostic labels were excluded and respondents were asked to identify the protagonist’s problem as an "illness" or "crisis."

Social distance was measured by a translation of the Social Distance Scale (Link et al., 1987); (α = 0.86). Regression analysis was used (N = 594) to determine the predictors of social distance; all were significant at p < .05; standardized regression slopes are reported here: schizophrenia vignette (β = .231); correct recognition of the vignette as an illness (β = .104); positive attitude to lay helping (β = -.211); positive attitude to community psychiatry (β = -.167); negative emotions toward the mentally ill (β = .159); acceptance of negative sanctions (β = .150); participant age (β = .150); female participant (β = .137); interest in psychiatric topics in the mass media (β = -.124), living in the Italian-speaking part of Switzerland.
(β = .120), acceptance of psychotropic side effects (β = .114); favoring medical treatment (β = .106); perceived discrimination (β = .080); previous contact with a person with mental illness (β = -.074).

Thus, as in previous research, the diagnosis of schizophrenia is more stigmatized than depression. It is noteworthy that those who identify the vignettes as illnesses are more stigmatizing than those who do not, although the effect is fairly small (β = .104). There is a lack of theoretical justification for this litany of predictor variables; it is not clear why these correlations matter.

**Sugiura et al. (2001).** Sugiura et al. examine whether stigma of schizophrenia among Japanese mental health nonprofessionals could be reduced by changing the Japanese term for the diagnosis. These authors used a convenience sample of Japanese university students in an introductory psychology course (N = 189; response rate not reported).

There are four vignette conditions:

1. Depressive symptoms labeled with the Japanese term for depression, *utsu-byou*.
2. Depressive symptoms with no label.
3. Schizophrenic symptoms with the Japanese term for schizophrenia, *seishin-bunretsu-byou* (which translates literally as “split mind disease.”)
4. Schizophrenic symptoms with no label.

The symptomatic behavior is designed to be consistent with ICD-10 diagnostic criteria for the two disorders. Protagonist gender is held constant as male; ethnicity is unspecified, but presumably Japanese; age and occupation were unspecified. No validation process for the vignette is reported.

The study had three outcomes, each measured by a single item; participants were asked: 1) “whether being around the [protagonist] would be unpleasant;” 2) “whether [the protagonist] can tell right from wrong;” and 3) “whether [the protagonist] can make social readjustment.” The first item had a 4-point response scale; the latter two were dichotomous (yes/no questions. The chi-squared test was used to compare each label group to its no-label control (the one 4-point item was dichotomized). The label of *seishin-bunretsu-byou* (schizophrenia) increased stigmatizing responses. Label of *utsu-byou* did not differ significantly from its control group on any measure. The authors conclude that the schizophrenia label is stigmatizing whereas the depression label is not.
The use of single-item measures for the outcomes is problematic. No reliability can be established; nor is any validation reported. Also, the authors conclude that one label is more stigmatizing than the other without comparing them directly.

Chan & Chung (2004). Chan and Chung compared the stigmatizing impact of three different Chinese translations of Schizophrenia, as well as a no label condition. These authors use a convenience sample of lower-achieving secondary students in Hong Kong ($N = 313$; response rate not reported). The translations compared were: split mind disease; dysregulation of thought and perception; mental illness; no label. Protagonist behavior is held constant, meeting ICD-10 criteria for schizophrenia. Protagonist gender is treated as an independent variable; ethnicity is unstated, but presumably Chinese; age is held constant at traditional college age; occupation is held constant as college freshman. At the end of vignette, it is stated that the protagonist saw a doctor; this doctor’s diagnosis is the label; it is stated that the protagonist "requires treatment and medication" (Chan & Chung, 2004, p. 510). The vignette was read by participants in a classroom setting. The vignettes are based on those used in the 1996 U.S. General Social Survey (which forms the basis of the Link et al. 1999 study); these vignettes do not describe any protagonist behavior other than symptomatic behavior; therefore they lack a rich informational context.

The study uses unique scales to measure social distance ($\alpha = .83$) and stereotyping ($\alpha = .68$), as well as single-item measures for blame, responsibility, and prognosis. The social distance scale had been previously used in a study with a similar population. There are no statistically significant effects of label on any of these measures. Of participants, 13.7% reported previous contact with someone with mental illness; these participants had lower social distance scores, less negative stereotypes, and were more optimistic about recovery. Participants with religious beliefs had less social distance and less negative stereotypes when the label that was supposed to be less pejorative was used, but these stigmatizing reactions were highest if there was no diagnostic label at all. Effect sizes are not reported; nor is there enough information reported to calculate them.

Corrigan et al. (2005). Corrigan et al. presented adolescents with four vignettes describing a peer protagonist: with mental illness, with mental illness caused by a brain tumor, with alcohol abuse problems, and with leukemia. These authors used a convenience sample of secondary students in Southern California ($N = 303$; response rate = 40%).
The vignette protagonist is described as a new classmate of the participants. The vignette is brief, provides minimal information, and, according to the authors, is designed to focus the participant’s attention squarely on the label used. The content varies so that the protagonist is labeled as 1) "mentally ill"; 2) "has a drinking problem"; 3) "has a brain tumor that makes him act like he has a mental illness sometimes"; or 4) "has leukemia, a cancer of the blood." Symptomatic behavior is held constant. Protagonist gender is held constant as male; ethnicity is left unstated; age is held constant as secondary school age. No validation is described for the vignette.

The full vignette text appears below (Corrigan et al., 2005):

Brandon is a new student in your class. Before his first day, your teacher explained that Brandon (is mentally ill/has a drinking problem/has a brain tumor that makes him act like he has a mental illness sometimes/has leukemia, a cancer of the blood and is transferring from a special school. (p. 545)

The study outcomes were responsibility (blame), pity, anger, dangerousness, fear, help, avoidance (social distance). Each of these was measured by a single item; thus no reliability statistics could be calculated.

Participants’ previous contact with the mentally ill was measured by a version of the Level of Contact Report, adapted for the youthful participants; the adapted version lists eight contact situations of varying intimacy from no contact to living with someone with mental illness: the most intimate situation endorsed determines the score.

Mental illness elicited significantly higher ($p < .05$) scores than leukemia on avoidance (social distance; $d = 0.53$), dangerousness ($d = 0.33$), and fear ($d = 0.35$). Mental illness also elicited significantly elicited less pity ($d = 0.32$) and less willingness to help ($d = 0.36$). (Although these effect sizes are not reported in the article, there is sufficient information to calculate them based on the mean differences and standard deviations.) Overall, alcohol abuse was most stigmatized, followed by mental illness, brain tumor, and leukemia.

This study provides a useful comparison of stigma among various conditions; it also explores a wider range of stigma-related outcome variables than previous studies had done. However, the reliance on single-item measures undermines confidence in the results.

Phelan (2005). Phelan examines the impact of genetic explanations of mental illness on stigmatizing responses. Phelan surveys a representative, stratified random sample of the general adult population of the continental U.S ($N = 426; \text{ response rate} = 62\%$). The vignette provides
some basic demographic information on the protagonist, a few benign personal details, moderately detailed description of symptoms, a diagnosis consistent with the symptoms, and finally a causal explanation indicating that the disorder is or is not genetic. The vignette variables are diagnosis (Schizophrenia; Major Depressive Disorder; ruptured disk) and genetic explanation (is genetic; is not genetic). Introduced late in vignette, after symptoms, and described as assigned during a visit to a psychiatric hospital. Protagonist gender is treated as an independent variable; ethnicity is matched to the participant; age is held constant at 25; occupation is not specified; education level is treated as independent variable (some college; college graduate). The vignette was read aloud by telephone to participants in English, Spanish, Mandarin, or Cantonese, based on the participants preference. The vignette does provide some information unrelated to symptoms, with the statement “She is a single, 25-year-old white woman. Since graduating from high school, Anne has been steadily employed and makes a decent living. She enjoys reading and going out with friends” (Phelan, 2005, p. 312). Further elaboration with additional details would provide a richer informational context.

The text of an example vignette appears below (Phelan, 2005):

Imagine a person named Anne. She is a single, 25-year-old white woman. Since graduating from high school, Anne has been steadily employed and makes a decent living. Usually, Anne gets along well with her family and coworkers. She enjoys reading and going out with friends. About a year ago, Anne started thinking that people around her were spying on her and trying to hurt her. She became convinced that people could hear what she was thinking. She also heard voices when no one else was around. Sometimes she even thought people on TV were sending messages especially to her. After living this way for about six months, Anne was admitted to a psychiatric hospital and was told that she had an illness called “schizophrenia.” She was treated in the hospital for two weeks and was then released. She has been out of the hospital for six months now and is doing OK. Now, let me tell you something about what caused Anne’s problem. When she was in the hospital, an expert in genetics said that Anne’s problem was due to genetic factors. In other words, her problem had a very strong genetic or hereditary component. (p. 312)

Social distance was measured by a five item scale ($\alpha = .89$). Schizophrenia elicited more distance than ruptured disk ($d = 1.07$), as did Major Depressive Disorder ($d = 0.81$). (Effect sizes are not reported in the article but have been calculated from mean differences and standard deviations.) Genetic attribution decreased support for punishment; it increased perceptions of seriousness and persistence and risk to child and siblings.

**Dietrich, Heider, Matschinger, & Angermeyer, (2006).** These authors examine the “influence of newspaper reporting on adolescents' attitudes toward people with mental illness”
Participants read an article that either linked mental illness to violence or provided an overview of schizophrenia based on prevailing expert opinion. The adolescents were more likely to describe schizophrenics as violent three weeks after reading the article than they had been one week before reading it. However, ratings of social distance did not change, contrary to the hypothesis that fear of violence drives rejection of schizophrenics.

Dietrich et al. (2006) used a convenience sample of primary and secondary schools in Leipzig, Germany ($N = 167$; response rate not reported). The vignettes were in the form of newspaper articles; the vignette variable was type of content (negative; informative). The "negative" article is a combination of two actual newspaper clippings: one about a 19-year old defendant accused of the rape and attempted murder of a 7-year old girl; the other about a 27 year old man who murdered his own sister and her partner after escaping from a psychiatric hospital. The "informative" article instead discussed misconceptions and provided factual information about the diagnosis. It is unclear whether or how diagnostic labels are used in the "negative" article. The articles are in German; they were delivered to participants by mail. The articles were selected by the authors from actual newspapers; no content validation is reported.

Social distance was measured by a unique scale ($\alpha = .68$ at baseline; $\alpha = .79$ at follow-up). Hierarchical nested cross-sectional time series modeling was conducted with a generalized least squares (GSL) model. There were no significant effects of time, article type, or their interaction.

After reading the vignettes, participants were also asked open-ended question about characteristics of people with mental illness. Responses were categorized into 14 categories by consensus among the authors; the categories were developed during the coding process. Analysis focused on a single category: "dangerous, violent." Of those who read the “negative” article, 32% considered mentally ill people "dangerous/violent" at baseline; 54.7% did at follow-up. Of those who read the “informative” article, 26% gave "dangerous/violent" responses at baseline; only 13% did at follow-up. The interaction term (time x article type) of the logit model shows that the negative article had a stigmatizing impact. The study considered the role of participants' gender, age, and media consumption. The only effect observed was that female participants reported less desire for social distance.

Dietrich et al. (2006) provide a valuable methodological innovation by using newspaper articles as vignettes; however there is a concern about the vignette content: the newspaper
articles are intended to compare “negative” and “informative” content about Schizophrenia, yet there is no validation of the articles. Moreover it is not clear from Dietrich et al.’ journal article whether the “negative” newspaper articles used indicated that the persons described were diagnosed with schizophrenia.

Feldman & Crandall (2007). These authors, seeking to identify what factors cause social rejection of the mentally ill, use case vignettes portraying hypothetical protagonists diagnosed with various mental disorders as described in DSM-IV-TR (APA, 2000). Feldman and Crandall use a convenience sample of undergraduates in an introductory psychology course in the United States (N=270; response rate not reported). These authors propose a three-dimensional account of mental illness stigma, where stigmatization is construed as arising from perceptions of personal responsibility, dangerousness, and rarity.

A total of forty mental disorders are examined, with one vignette for each disorder. Each vignette includes, in addition to the diagnosis, the protagonist’s age, gender, age at onset of disorder, and brief description of symptoms. Each vignette also includes the likely causes of the symptoms, the type of treatment the protagonist has received, the outcome of the treatment, and the long-term prognosis of the case. All of this information is intended to represent a “typical” case of the disorder at hand, based on the DSM-IV and various academic sources. No further content validation is reported. The demographics of the vignette protagonists are based on the modal case of the disorder. The vignette is entirely focused on the disorder, its symptoms and treatment. The vignette includes no information at all other than the protagonist’s name, gender, age, diagnosis, and information directly related to the disorder.

It is important to note that for each disorder examined, there is one and only one version of the vignette. Therefore diagnostic label is completely confounded with all other vignette content. Only one factor is directly manipulated in the study: the disorder described in the vignette. Thus Feldman and Crandall’s (2007) study is not designed to distinguish the effects of labeling per se from the effects of ascribed behavior or of demographic information. This is not a study on the effects of labeling per se.

Each participant in the study read exactly two vignettes, corresponding to two different disorders. This may suggest a simple within-subjects experimental design. However that is not the nature of the study. In fact there are 40 different vignettes, each representing a different experimental condition. It is not the case that each participant read the same pair of vignettes.
After reading two vignettes, each participant used a 7-point scale to rate each of the two vignettes on each of seventeen dimensions the authors thought might predict the social rejection of persons diagnosed with mental illness. These dimensions were selected as being relevant to mental illness or related areas of research, on the basis of the existing literature. These dimensions included how dangerous the protagonist seemed to be, whether the disorder was avoidable, whether it was genetic in origin, and so on. In addition, each participant rated each of the two vignettes with a social distance scale, the measure of social rejection.

Feldman and Crandall (2007) conduct their data analysis in three main parts. The first part is the descriptive calculation of means and standard deviations for the social distance ratings of the forty mental illnesses examined in the study (Table 1, p. 141). As the authors put it, “this yielded a ranking of mental disorders by degree of stigmatization” (p. 141). While these descriptive data are usefully suggestive, the resulting ranking is not based on statistical inference. Thus the ranking of any particular disorder above any other particular disorder is in many cases plausibly explained by chance. In some instances where two disorders are distant from each other in rank, it is possible to construct a confidence interval based on the standard deviations indicating a statistically significant difference. But even then, some adjustment (e.g., Bonferroni) would be called for to avoid capitalizing on chance in one’s conclusions. Thus, on the whole, these rankings should be interpreted with caution.

The second main part of the data analysis consists of the correlations between social distance and each dimension of mental illness (Feldman & Crandall, 2007, Table 2, p. 143). Seven dimensions have statistically significant correlations, including the three that end up in three-dimensional account as well as four others that are ultimately rejected as redundant predictors.

The third and final main part of the data analysis is the regression analysis, “a forward stepwise multiple regression analysis with social distance as the criterion variable and the 17 mental illness dimensions as predictors” (p. 145). The raw data for this analysis are the mean ratings for each of the forty mental disorders. Thus there are only 40 cases in this analysis. Nevertheless, the result is impressive: a three predictor model with adjusted multiple-$R = .76$, $F(3, 36) = 18.34, p < .001$. The three predictors are personal responsibility, dangerousness, and rarity: the components of the three-dimensional account.

Here is an example vignette (Feldman & Crandall, 2007):
Janet is a 25 year–old female. Janet has a history of episodes of depressed mood. Her first one occurred when she was 17, another occurred when she was 21, and the most recent occurred 6 months ago. During these episodes, she reports that the following symptoms occur all day, almost every day: intense depressed mood, little interest in anything (including fun activities), oversleeping and not getting out of bed in the morning, not eating, feelings of complete worthlessness, fatigue, difficulty concentrating, and thoughts of suicide. These episodes last for a month or two each. Janet has been diagnosed with Major Depressive Disorder, a mental disorder typically characterized by negative mood that occurs almost all the time, nearly every day. People with this disorder also experience a number of other symptoms (like those listed in the paragraph above). This disorder appears to be caused by a genetic predisposition combined with stress. During the past 4 months, Janet has attended one–on–one therapy sessions once a week. The treatment has been designed to teach her to think more positively and lift her negative mood. She also has been taking the antidepressant medication Zoloft. Currently, she reports that she no longer feels depressed and that her other symptoms have largely lifted as well. It is moderately likely that she will experience another episode of depression in the future. However, if she continues the Zoloft, this episode may not occur for a long time (or never). Without treatment however, it is likely that another depressive episode would occur. (p. 142)

The most serious problem with the vignettes is the lack of a rich informational context: the vignette includes no information at all other than basic demographics and information directly related to the disorder, such as symptoms, treatment, and prognosis. Thus these vignettes place the respondents’ attention squarely on the diagnosis and information directly related to the diagnosis.

Feldman and Crandall (2007) use a very unusual study design that requires careful consideration to be properly understood. The design does involve random assignment of participants to conditions. The authors use this random assignment as a basis to claim that the study is a true experiment and therefore permits strong causal inferences. However, close examination reveals that the design actually does not permit strong causal inferences regarding the study’s most important conclusions. Feldman and Crandall (2007) assert that:

The design of the study is a true experiment – with each mental disorder vignette representing one level of a 40-cell study and participants randomly assigned to condition. Because comparisons among 40 cells are unwieldy at best…we simplify matters by describing patterns among the means using correlations and regression. Unfortunately, this approach may give the incorrect impression that the design of this experiment is correlational. The reader is thus reminded that the validity of any causal conclusions we draw turns not on whether or not the design allows for causality (as we have manipulated the independent variables), but on which essential underlying variables our vignettes actually manipulate and on the extent to which our dimensions faithfully capture people’s responses to the various mental disorders. (p. 144)
The conclusions of this passage are correct in one sense, but misleading in another. The authors seem to be making the following argument: Since the authors have randomly assigned participants to vignettes, therefore the authors have manipulated the independent variable. And since the authors have manipulated the independent variable, therefore their design permits strong inferences of causality.

This argument is correct insofar as it applies to the ranking of the forty diagnoses with regard to their mean social distance ratings (an indicator of how stigmatized the disorders are). This ranking is found in Table 1 (p. 141). So, for example, it is fair to conclude on the basis of the present design that reading a vignette of Antisocial Personality Disorder, in its “typical” presentation causes respondents to report greater desire for social distance than does reading a vignette of Major Depression in its “typical” presentation.

However, Feldman and Crandall’s argument for strong inferences of causality does not hold for the most important conclusions of the study the conclusions regarding which “dimensions of mental illness” account for social rejection. The problem with Feldman and Crandall’s argument is that only one variable is manipulated in the study: which disorder is described; and that is not one of the independent variables involved in the conclusions of the study regarding which “dimensions of mental illness” account for social rejection.

The independent variables involved in those conclusions are the seventeen “dimensions of mental illness” examined in the study. The study concludes that three of these dimensions are “essential in accounting for rejection [of persons diagnosed with mental illness]” and furthermore that the remaining fourteen dimensions are not essential for this purpose. That is seventeen conclusions, each of which involves one independent variable (the “dimension of mental illness” in question) and one dependent variable (social distance). But these are independent variables only in the sense that they are construed as having a causal role by the researchers, not in the sense that they are actually manipulated by the researchers. Since none of these seventeen variables is experimentally manipulated by the researchers, none of the seventeen corresponding conclusions rests on a strong inference of causality such as arises from a true experimental design.

**Law, Sinclair, & Fraser (2007).** This trio examined whether an Attention Deficit Hyperactivity Disorder (ADHD) label would have stigmatizing effects beyond that of behavior associated with the ADHD diagnosis. The authors use a convenience sample of 11-12 year old
schoolchildren in the West Midlands region of the United Kingdom (primarily lower and lower-middle income white children; \(N=120\); response rate = 28%). The vignette variable is diagnostic label (no label; Attention Deficit Hyperactivity Disorder; ADHD).

Protagonist behavior is held constant across conditions and is consistent with a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD): “the vignette contains 12 characteristics of ADHD described in the...DSM-IV: six symptoms of inattention and three each of impulsivity and hyperactivity.” (p. 101) Child clinical psychologists confirmed the “face validity” of the vignette as meeting criteria for ADHD. (p. 101) It is not clear how many psychologists were involved or whether their judgments were mutually independent. Protagonist gender was not specified; however 85% of participants guessed the gender to be male. Vignettes are in English and were read by participants in a classroom setting. The vignette text appears below (Law et al., 2007):

Anon is a pupil in your class at school. Anon often does not pay attention in class and is easily distracted. When the class teacher speaks, Anon regularly does not listen, fidgets a lot and fails to finish schoolwork. Anon is often on the go and usually interrupts other people’s conversations and games. Anon often talks a lot, is often forgetful and has difficulty awaiting turn in class, often blurting out answers at the teacher before the question has been finished. Anon often loses things. ['Anon has Attention Deficit Hyperactivity']. (p. 101).

Social distance was measured by the Shared Activities Questionnaire (SAQ-B) which contains 24 trichotomous (yes/no/maybe) items (Morgan et al, 1996). The SAQ-B has a 3-factor structure: social (\(\alpha = .81\)); academic (\(\alpha = .82\)); recreational (\(\alpha = .82\)). Also used was the Adjective Checklist which contains 34 dichotomous (yes/no) items (Siperstein & Bak, 1977). The score is calculated by subtracting negative items from positive and adding a constant (\(\alpha = .74\)). The scale has a 3-factor structure: negative affect (e.g. lonely), (\(\alpha = .59\)); negative (e.g. stupid; \(\alpha = .70\)) and positive (e.g. helpful; \(\alpha = .74\)). ANOVA found no significant differences on any outcomes.

This well-designed study shows a lack of labeling effects for ADHD. However, we could have more confidence in this result if behavior had been used as an independent variable as well; this could have provided evidence that participants were indeed responding to vignette content. In the absence of any significant results for vignette variables, we do not know whether the participants even read or understood the vignettes.
Norman et al. (2008). Norman et al. examine the role of personal values in mental illness stigma, applying the theory of personal values proposed by Schwartz and Bilsky (1990). Schwartz' theory reduces personal values to two dimensions: self-enhancement vs. self-transcendence on the one hand, and conservatism vs. openness to change on the other. Self-enhancement involves "personal success, authority, and wealth"; self-transcendence involves "social justice, helpfulness, and equality;" conservatism emphasizes "obedience, humility, and social order;" openness to change, "an exciting life, creativity, and freedom" (Norman et al., 2008, p. 849). Cross-cultural survey research using the Schwartz Value Scale has replicated this 2-dimensional structure. (Schwartz, 2005). Norman et al. (2008) found that some of the value orientations examined in Schwartz's theory could help explain mental illness stigma; these authors found self-transcendence and self-enhancement to be distinct dimensions (though correlated) and likewise for conservatism and openness.

Norman et al. used a convenience sample of undergraduates at the University of Western Ontario, recruited by advertisements (N = 200). The vignette variables are diagnosis (Schizophrenia; Depression; “normal”/non-symptomatic) and protagonist gender. Protagonist behavior was consistent with diagnosis. There are four groups: schizophrenia vs. depression is crossed with protagonist gender; all groups read the “normal” vignette as a control. Protagonist ethnicity, age, and occupation are not specified. Provides moderately detailed description of protagonist symptoms. The normal vignette, which has no symptomatic behavior, is rather vague. The final sentence of the vignette stated the diagnosis, if any. The same vignettes had been used in previous study (Angermeyer & Matschinger, 2004). The symptomatic vignette content receive expert validation for “five experts in psychopathology” as meeting DSM-IV criteria; it is unclear what were the specific qualifications of these experts, whether their judgments were independent, whether they were blind with respect to the anticipated diagnoses, and whether they had unanimous agreement. Clarification on each of these issues might have strengthened the evidence for vignette content validity.

An example vignette, portraying schizophrenia, appears below (Norman et al., 2008):

Imagine that you know the following about an acquaintance (AB) with whom you occasionally spend your leisure time. In the past months, AB appears to have changed. More and more, AB has retreated from their friends et al., up to the point of avoiding them. If someone managed to involve AB in a conversation, AB would only talk about whether some people have the natural gift of reading other people’s thoughts. This question became AB’s sole concern. In contrast with AB’s previous habits, AB has
stopped taking care of their appearance and looked increasingly untidy. At work, AB seemed absent-minded and frequently made mistakes. As a consequence, AB has already been summoned to their boss. Finally, AB stayed away from work for an entire week without an excuse. Upon their return, AB seemed anxious and harassed. AB now reports being absolutely certain that people cannot only read other people’s thoughts but also directly influence them. AB was, however, unsure who would steer ABs thoughts. AB also said that, when thinking, AB was continually interrupted. Frequently, AB would even hear those people talk to AB, and they would give AB instructions. Sometimes, they would also talk to each other and make fun of whatever AB was doing at the time. AB said that the situation was particularly bad at AB’s apartment. At home, AB would really feel threatened, and would be terribly scared. Hence, AB had not spent the night at AB’s place for the past week, but rather had hidden in hotel rooms and hardly dared to go out. AB has now sought professional help and was told AB appearsto be suffering from schizophrenia. (p. 851)

Social distance was measured with a modified version of the Bogardus Social Distance Scale (twelve 5-point items; α = .93.) Personal values were measured by the Schwartz Value Survey (57 nine-point items). Participants’ beliefs about mental illness in general were measured by twenty items that addressed the likelihood of “1) danger; 2) socially inappropriate behavior 3) personal responsibility for illness, 4) talent or ability being associated with the illness, 5) treatment being effective and 6) the extent to which the symptoms of illness are believed to vary on a continuum with normal experience" (p. 851). Confirmatory factor analysis validated the six predicted dimensions among the twenty items used. The Crowne-Marlowe Social Desirability Scale (Crowne & Marlowe, 1960) was used to measure participants’ social desirability bias.

Multiple regression was used with social distance as the outcome and diagnosis, along with the Schwartz Values Scale and other participant variables, as predictors. The regression model explained 35% of the variance in social distance. Diagnosis was not a statistically significant predictor ($p = 0.08, \beta = 0.126$).

Despite the 2-factor structure that had been identified in previous research on the Schwartz model (Schwartz, 2005), Norman et al. (2008) treat self-transcendence, self-enhancement, conservatism, and openness as four distinct dimensions. Self-transcendence is the only one of these found to be a significant predictor ($p < .05; \beta = 0.253$). Openness value orientation was excluded from the model because it was not significantly correlated with social distance; self-enhancement was excluded because it was highly, negatively correlated with self-transcendence $\alpha = -.73$, indicating multicollinearity (which is to be expected since these two have been treated as opposite poles of the same dimension in previous research).
Other significant predictors were social distance to the protagonist in the “normal” vignette ($\beta = 0.208$) and belief regarding social inappropriateness of behavior ($\beta = 0.254$). The remaining beliefs about illness variables were not significant predictors; neither were social desirability or participant gender.

Norman et al. (2008) advance the consideration of participant variables in stigma vignette research by incorporating the Schwartz Values Scale into their study. However, the authors provide no explanation of why their data may have failed to replicate the two-factor structure of the Schwartz Values Scale that had been observed in other studies (Schwartz, 2005), and no theoretical justification for ignoring this two-factor structure in their analysis. Thus their study fails to support the Schwartz model as a basis for understanding mental illness stigma.

Corrigan, Kuwabara, Sachiko & O’Shaughnessy (2009). Corrigan et al. (2009) compared the stigmatization of mental illness, drug addiction, and physical handicap. Stratified random sample of the English-speaking U.S. population from national online research panel ($N = 815$; response rate = 71.4%). "Variables used to determine stratification weights included gender, age, race/ethnicity, geographic region in the US, and level of education" (p. 141).

The vignette variable is health condition (mental illness; drug addiction; or physical disorder that requires a wheelchair). The vignette is very brief (about 26 words, depending on condition); it states that the protagonist has the particular health condition and has recently attended a community meeting about the health condition. No symptoms or other details about the person's behavior or life are provided. Gender is not specified in the vignette: a gender-ambiguous name used; gender pronouns are avoided. Ethnicity is not specified in vignette. The vignettes are read to participants by telephone.

The vignette text is as follows: “Chris is a person with [health condition] who recently attended a community meeting. The community meeting was a discussion about [health condition] and the role it” (Corrigan et al., 2009, p. 142). A vignette so brief and lacking in detail (in this case, even lacking in any description of symptoms) cannot provide the rich informational context required for participants to make meaningful judgments.

Participants were questioned on seven stigma-related attitudes with reference to the vignette: protagonist's responsibility for the condition; ability to overcome it; deservingness of help; deservingness of help at work; dangerousness; frightening; social distance/avoidance. Each attitude was measured with a single item such as "Chris is responsible for [health condition:
becoming mentally ill/becoming drug addicted/being in a wheel chair]" (Corrigan et al., 2009, Fig. 1, p. 144) with a 9-point agree-disagree response set. The single-item measures do not permit reliability to be established.

Each item's results were analyzed as a median split; a chi-squared analysis was conducted to determine whether there was a significant association between above median/below median response and health condition. A separate chi-squared analysis was done for each possible pairing of conditions within each item. (Three conditions yield three possible pairings per item.) A Bonferroni adjustment was used to set the overall significance level at .005. This data analysis makes for quite a complex presentation of results, accomplished largely through a series of histograms comparing the count of cases below and above the median for each item, for each health condition.

Substance abuse elicited the most avoidance (social distance), followed by mental illness and last, wheelchair use. Participants were more likely to view the protagonist as responsible for substance abuse than for mental illness or needing a wheelchair; concomitantly, substance abuse was also viewed as the condition most likely to be overcome. Surprisingly, the protagonist needing a wheelchair was more likely to be thought responsible than the one with mental illness; the study’s authors offer no explanation for this bizarre finding. Perhaps the person needing the wheelchair might be thought responsible because his disability was the result of an accident he himself caused; the minimal information in the vignette allows the participants’ imagination to run wild; the multiple etiologies possible may increase the variability among responses.

This study attempts a useful comparison among substance abuse, mental health, and physical disability conditions. However, the dearth of rich informational context in the vignettes, the reliance on single-item, non-validated outcome measures, and the failure to explain a very unexpected finding, taken together, seriously undermine confidence in the study’s results.

Sorsdahl & Stein (2010). These authors surveyed the general public in South Africa, presenting vignettes depicting ten psychiatric disorders, each being portrayed with either "subtle" or obvious symptoms. These authors use a convenience sample of suburban residents recruited in public places of Cape Town, South Africa ($N = 1081$; response rate unspecified). A majority of the sample spoke Xhosa (59%).

The vignette variables are psychiatric disorder (Depression; Schizophrenia; Substance Abuse Disorder; Post-Traumatic Stress Disorder (PTSD); Panic Disorder) and type of symptoms
Protagonist behavior is designed to "provide sufficient information that each case could be seen to satisfy DSM-IV diagnostic criteria for the selected diagnoses" (Sorsdahl & Stein, 2010, p. 743). No other information about the protagonist’s behavior is included; once again there is a lack of rich informational context. Protagonist gender, ethnicity, age, and occupation are not addressed in the article. No vignette validation content is reported.

Participants were asked eighteen yes/no items about whether particular etiologies were likely for the problem at hand. For all four disorders, psychosocial problems were the most commonly endorsed etiologies. “The extent the disorders were attributed to brain disease…or caused by hereditary factors…also differed significantly, with schizophrenia and substance use more likely to be attributed to these causes” (p. 744). The Attribution Questionnaire Short Form was used to ask questions about blame, anger, pity, help, dangerousness, fear, avoidance, segregation, and coercion; the sum of these yielded an overall stigma score; however this was not treated as a scale: no reliability statistics are reported. The mean stigma scores (ranging from zero to five), and effect sizes (with Depression as the reference group) on this scale were: Depression ($M = 4.68; d = 0$); Schizophrenia ($M = 4.95; d = .34$); Substance Abuse ($M = 4.92; d = .28$); Panic Disorder ($M = 4.87; d = 0.21$); PTSD ($M = 4.51; d = -0.15$).

This study offers a useful exploration of mental illness stigma in the South African public; however the convenience sample is not nationally or ethnically representative and cannot be statistically generalized. The lack of rich informational context in the vignette is also problematic. The failure to treat the Attribution Questionnaire as a scale and report reliability statistics makes it problematic to use the measure as an outcome.

**Synthesis of Methodological Critiques**

**Population.** The 21 studies reviewed here have examined diverse populations, including populations from seven countries: the United States, Switzerland, Germany, the United Kingdom, China (including mainland and Hong Kong), Japan, and South Africa. Some studies used college undergraduates, but many examined other populations as well. The present dissertation research studies college undergraduates. In addition to being accessible to researchers with limited resources, this population is an accessible target for potential anti-stigma interventions; therefore it is particularly valuable to understand mental illness stigma in this population.
**Sampling methods.** The studies reviewed here use a mix of random and convenience samples; a few studies used nationally representative samples. All else being equal, random sampling is preferred: only random sampling may justify statistical generalization from sample to population. However, when resource constraints prohibit random sampling, convenience sampling may be necessary. Convenience sampling may be used to test theories, to develop methodologies, and to provide preliminary data that may be used to justify additional research using random samples representative of a population. Convenience sampling is used in the present dissertation research for all of these purposes.

**Sample size and power analysis.** The studies reviewed here range in sample size from 120 to 1081. The sample size required depends on the effect size expected and the significance level and statistical power desired. Unfortunately none of the studies reported here reports a power analysis to determine whether the sample size is sufficient. The methods section of this dissertation discusses the power analysis used to determine the minimum sample size (N=212) for the present research.

**Vignette variables.** The 21 studies reviewed here manipulate a diverse array of variables through vignette content. The most commonly manipulated variables are diagnostic label applied to protagonist and symptomatic behavior of protagonist; indeed one or both of these is manipulated in every study reviewed here. Often, diagnostic label is deliberately confounded with symptomatic behavior. Other variables that have been manipulated in some studies include protagonist gender, ethnicity, and education level. There are an unlimited number of potential variables of interest that may be manipulated in a vignette; yet with increasing numbers of variables comes loss of statistical power. The researcher must place some arbitrary limit on the variables to include, based on the goals of the research at hand. The present dissertation research has two vignette variables: behaviors considered diagnostic of schizophrenia\(^2\) (present vs. absent) and adverse childhood experiences (present vs. absent). These variables have been selected for the purpose of testing the hypotheses of the present research. Those hypotheses, and how they relate to variables, will be detailed in the methods section of the dissertation.

**Vignette content and validation.** Vignettes ranged from about 25 to about 250 words. They usually included information about protagonist behavior, consistent with a particular diagnosis, in at least one condition of the experiment. They often included a psychiatric

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\(^2\)As defined by DSM-IV-TR.
diagnostic label in at least one condition of the experiment. They usually did not provide many
details (often none) about the protagonist that were not directly related to a psychiatric diagnosis.
When a “normal” control was used, the vignette content was often especially vague or brief. The
problem is that this heavy focus on symptomatic behaviors and lack of other detail deprives
participants of a rich informational context in which to make judgments. Real world stigma
(particularly outside of a clinical setting) generally occurs in the context of a mix of positive and
negative information, much of which has nothing to do with psychiatric symptoms. The present
dissertation research addresses this by providing such a mix of information in the vignettes. The
methods section discusses the nature and validation of this. Moreover, the symptomatic behavior
vignette content was validated by an expert panel, as will also be detailed in the Chapter 3.

Reliability and Validity of Outcome Measures. The studies reviewed examine a variety
of outcomes, the most common being social distance. Outcome measures include multi-item
scales and single-item measures. For multi-item scales, adequate reliability (i.e., $\alpha \geq .70$) is
usually reported. However, the use of single-item measures in many studies undermines
confidence in the results. Studies reviewed here usually report no measurement validation
beyond establishment of reliability. The present dissertation research uses the Scale of General
Likability and the Fear/Dangerousness subscale of the Attribution Questionnaire as its main
outcome measures. Excellent alpha reliability ($\alpha = .96$) and construct validity (convergent and
discriminant) were found for the SGL in a vignette-based validation study (Anson, in
preparation). Brown (2008) found the 7-item Fear/Dangerousness scale to have excellent alpha
reliability ($\alpha = .93$), good one-week test-retest reliability as measured by the intraclass
correlation coefficient ($ICC = .86$), and convergent validity demonstrated by a moderate
correlation with the Social Distance Scale ($r = .49$) and the Dangerousness Scale ($r = -.54$)$^3$.

Effect sizes. Most of the studies reviewed here did not report effect sizes. Two studies on
stigmatization of Schizophrenia (both reviewed earlier) reported Cohen's $d$ or sufficient
information to calculate it. In this regard, the present research represents a marked advancement
over previous research in this field. These studies found that Schizophrenia (symptoms combined
with diagnostic label) elicited more social distance than a ruptured spinal disk ($d = 1.07$;
Phelan, 2005) and that Schizophrenia symptoms (without diagnostic label) elicited more stigma
than Depression ($d = .34$; Sorsdahl & Stein, 2010). One other study of mental illness stigma

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$^3$ The negative value was expected.
provided sufficient information to calculate Cohen's $d$; effect sizes in that study ranged from $d = .32$ to $d = .53$ (Corrigan et al., 2005). The present dissertation research will report effect sizes for all main effects and interactions analyzed. However, the practical interpretation of these effect sizes is unclear, since the scales are not normed to any real-world outcomes. Therefore the interpretation of results will be primarily in terms of statistical significance as a basis for theory-testing. The testing of theories has scientific value in contributing to our understanding of psychological processes, even if the results cannot immediately be applied to practical outcomes (Mook, 1983). Future research may link these theoretical findings to practical real-world outcomes.
CHAPTER 3
METHOD

The present study is a vignette experiment which hypothesizes that 1) mental health nonprofessionals (college undergraduates) will have more stigmatizing reactions to a vignette protagonist who exhibits behavior characteristic of the DSM-IV-TR diagnosis schizophrenia, compared to a protagonist who exhibits no such behavior; 2) the effect of including information on adverse childhood experiences in the vignette on stigma will be moderated by the presence of schizophrenia symptoms, and 3) this moderation effect will itself be mediated by increases in psychologizing and decreases in medicalizing and moralizing. The stigma outcome variables to be measured are likability and fear/dangerousness.

Participants

The study participants were 252 college undergraduates of a large state university in the Southeast United States, not limited to any particular major areas of study. A non-probability (convenience) sample was selected in the following manner: After approval was obtained from the University’s Institutional Review Board, various instructors at the university were contacted to obtain permission for the researcher (and/or an assistant) to visit class meetings of these instructors’ courses. In a total of four class visits, the researcher and/or assistant) obtained informed consent from those students who chose to participate. The researcher and/or assistant then distributed the participant packets to the participants and collected them approximately fifteen minutes later. (See Appendix H for a sample packet.) The actual sample size ($N = 252$) exceeded the minimum target ($N = 212$), which was based on a power analysis discussed in the Analysis section of this chapter.

Participants included 106 women (42.1%) and 146 men (57.9%). Based on a forced-choice questionnaire item, participants self-identified as white or European-American (66.6%); Hispanic or Latino (13.1%); Black or African-American (14.7%); Asian, Asian-American, or Pacific Islander (1.2%); mixed race or other (2.4%); or did not respond (2.0%). Participants
ranged in age from 18 to 54 years \((M = 21.0, SD = 3.33)\). Criminology/criminal justice \((61.9\%)\) and economics \((23.8\%)\) majors predominated simply because the courses whose instructors agreed to allow data collection happened to be in these fields. Other majors were 13.5\%; no major was reported for 0.8\% of participants. Only one participant identified as a social work major.

**Procedures**

The study design is a 2 x 2 between-participants factorial experiment using as research stimuli vignettes that describe a fictive person (the target). The study is an experiment as defined by Pedhazur and Schmelkin (1991, p. 251): “a study in which at least one variable is manipulated and units are randomly assigned to the different levels or categories of the manipulated variable(s).” The independent variables were manipulated through the content of the vignettes, yielding four versions of the vignette. The independent variables were behaviors symptomatic of DSM-IV-TR schizophrenia (present vs. absent) and adverse childhood experiences (present vs. absent). Each participant was randomly assigned to read only one of the four versions of the vignette (see Appendices A-D for complete vignette texts). Randomization was accomplished by repeatedly, physically shuffling the participant packets prior to distributing them. This yielded unequal numbers of participants across conditions: adverse childhood experiences/non-schizophrenic \((N = 58; 23.0\%);\) benign childhood experiences/non-schizophrenic \((N = 64; 25.4\%);\) adverse childhood experiences/schizophrenic \((N = 67; 26.6\%);\) benign childhood experiences/schizophrenic \((N = 63; 25.0\%).\)

After reading the vignette, each participant had the opportunity to give a written free response to a prompt (quoted below). After completing the free response, each participant had the opportunity to complete several Likert-type measures (described in the Measures section of this chapter). Finally, the participant packets were collected and the participants were debriefed. The total time required for each data collection session was approximately 20 minutes.

**Construction and Validation of Vignettes**

**Introduction.** All versions of the vignette begin with the same introductory statement: “Below you will find a description of a college student named Robert. Please read the description to get an idea of what Robert is like.” (See Appendices A through D for complete vignette texts.)

**Ordinary behaviors segment.** Following the introduction, all versions of the vignette contain an ordinary behaviors segment, which is constant across all conditions of the experiment.
This segment ascribes various ordinary behaviors to the target. These behaviors include a mixture of desirable and undesirable behaviors; however, none of these behaviors are symptoms of mental illness. For example, a desirable behavior would be “[the target] has never been late paying his share of the rent.” Undesirable behaviors include “[the target] leaves his dirty dishes in the sink for his roommates to find.”

The purpose of this segment is to provide a rich informational context for participants to develop their impressions of the target. The ordinary behaviors described are not directly relevant to the independent variables being studied. This information makes the vignettes more realistic: real world judgments are generally made in the context of such varied extraneous information.

The language for the ordinary behaviors segment is drawn from vignettes used in an earlier study by the author. In that study, the ordinary behaviors described were shown to influence the formation of impressions of likability, as measured by the Scale of General Likability (SGL; also an outcome measure in the present research; described later). Vignettes with a high ratio of desirable to undesirable behaviors elicited higher likability ratings of the target than vignettes where this ratio was reversed. The effect size was large ($\eta = .74$) (Anson, in preparation). The ordinary behaviors segment of the vignettes in the present research uses equal numbers of these desirable and undesirable behaviors.

**Childhood experiences segment.** Following the ordinary behaviors segment, all versions of the vignette include a childhood experiences segment. This segment ascribes to the target either adverse childhood experiences (e.g., physical abuse, sexual abuse, witnessing domestic violence), or benign childhood experiences. The description of adverse childhood experiences is modeled closely on the items found in the Adverse Childhood Experiences Questionnaire (Anda & Felitti, 2010).

The purpose of this segment of the vignette is to facilitate and encourage psychologizing in the adverse childhood experiences conditions of the experiment. The adverse childhood experiences are intended to provide a plausible basis for psychologizing explanations of the target’s recent problems (addressed below).

**Recent problems segment.** Following the childhood experiences segment, all versions of the vignette include a recent problems segment. This segment is used to manipulate the variable of schizophrenic content. Both versions of the recent problems segment describe the target in
recent problems situations where the target feels that he is disliked or treated unfairly. However, in the version of this segment where schizophrenic content is present, the target has been hearing “a voice that is not real” for the past year. This voice tells him that he is disliked and being treated unfairly. In the version of the segment where schizophrenic content is absent, no such voice is described. The schizophrenic content is intended to meet the diagnostic criteria for Schizophrenia (as described in the DSM-IV [APA, 2000]). The symptoms include hallucinations of a voice that provides a running commentary on the target’s actions and thoughts; this has been present for over six months; and it has impaired the target’s functioning in various areas of life.

There is no violent behavior described in any of the vignettes. The presence of violence would be a valuable variable to study, as would countless other variables, but it is not included in the present research. Despite stereotypes to the contrary, violence is not characteristic of Schizophrenia, either diagnostically or epidemiologically (Angermeyer & Matschinger, 2005).

**Expert validation of schizophrenia content.** In order to establish the content validity of the schizophrenic content, a panel of experts was used. This panel consisted of three licensed mental health professionals (two psychologists and one clinical social worker), each of whom had at least three years' professional experience in the diagnosis and treatment of mental disorders. Licensed mental health professionals were used because they have the authority to diagnose Schizophrenia; therefore they are the best available experts to determine whether vignette content meets diagnostic criteria for Schizophrenia. As discussed earlier, expert validation has been used in previous vignette experiments on mental illness stigma (e.g., Penn et al., 1994; Schwartz et al., 2000; Law et al., 2007).

Psychiatric diagnoses, including Schizophrenia, are the subject of voluminous debate. Kendell and Jablensky (2003) summarize some of the major criticisms of psychiatric diagnosis, arguing that behaviors labeled as symptoms are continuous rather than categorical; and thus diagnostic thresholds are arbitrary and poorly defined. Pies, Thommi, and Ghaemi (2011) attempt to refute some of the major criticisms of psychiatric diagnosis, arguing, for example, that the ambiguity of diagnosis is pervasive in medicine rather than limited to psychiatry. However, the validity of the Schizophrenia diagnostic category is not under investigation in the present research; rather, the present research concerns the reaction of laypersons to an individual who exhibits behaviors consistent with that diagnosis. It was expected that the deliberate construction
of vignettes to clearly conform or fail to conform to the DSM-IV diagnosis of schizophrenia would result in diagnostic consensus among the experts surveyed.

Each member of the expert panel independently read and evaluated both versions of the recent problems segment. At no point did the panel members consult with one another. Panel members were asked to determine whether the target in each version meets DSM-IV diagnostic criteria for a mental disorder (yes or no), and if yes, to write in the diagnosis; no response set of diagnoses was provided. It was originally planned that the content validity of the recent problems segment would be established if the panel unanimously agreed that the protagonist meets diagnostic criteria for Schizophrenia in the version with schizophrenia symptoms and does not meet criteria for any disorder in the non-schizophrenia version. For the non-symptomatic content, the panel unanimously agreed that the protagonist did not meet criteria for any mental disorder. However, for the schizophrenic content, the panel was not unanimous: two experts gave a diagnosis of Schizophrenia; the third gave a diagnosis of Delusional Disorder.

After considering the expert panel's responses and reviewing the vignette content as well as the DSM-IV diagnostic criteria for both Schizophrenia and Delusional Disorder, the investigator decided not to revise or revalidate the schizophrenic content. While the diagnoses of mental illnesses may be inherently fraught with ambiguity, the schizophrenic content is closely based on the DSM-IV diagnostic criteria. The DSM-IV provides six criteria (A-F) for Schizophrenia (APA, 2000, p. 312), all of which must be met in order for the diagnosis to apply. Criterion A may be met by the presence of hallucinations alone if these “consist of a voice keeping up a running commentary on the person's behavior or thoughts,” which is precisely what the schizophrenic vignette content describes. Criterion B requires social/occupational dysfunction, of which several examples are provided in the schizophrenic vignette content. Criterion C requires the symptoms to last at least six months; the vignette specifies that they have been occurring for a year. Criteria D, E, and F require the exclusion of mood disorders, substance use, general medical conditions, and pervasive developmental disorders. There is nothing in the vignette specifically indicating any of these problems.

Moreover, the only diagnosis other than Schizophrenia suggested by a member of the expert panel was Delusional Disorder; and the protagonist clearly does not meet criteria for that disorder. Delusional Disorder (APA, 2000, p. 329) requires that “Criterion A for Schizophrenia has never been met” [emphasis added].” As discussed above, Criterion A is met in the
schizophrenic vignette content. Thus the diagnosis of Delusional Disorder is erroneous; the majority opinion of the expert panel is correct. In this context, it would have been futile to revise the vignette in an attempt to make it more reflective of the diagnostic criteria for Schizophrenia; no such attempt was therefore made.

**Free response prompt.** Following the recent problems segment of the vignette, participants read a free response prompt; the prompt is constant across conditions: “Robert has been having some problems for the past year. Why do you think he has been having these problems? Please write as many reasons as you want on the following page.”

This free response served as the basis for measuring the extent of moralizing, psychologizing, and medicalizing that participants used in explaining the target person’s behavior; the measurement of these variables is described in the Measures section that follows.

**Measures**

**Explanatory modes: Medicalizing, moralizing, and psychologizing**

Malle (2011) provides a coding scheme (entitled F.Ex.) for classifying explanations of behavior as cause, reason, causal history of reason, and enabling factor explanations, based on his (1999) folk explanations of behavior framework (discussed in Chapter 1 of this dissertation). In F.Ex., each of these four explanatory modes is divided into several subtypes. The present research was planned to use Levi and Haslam's (2005) simplified adaptation of F.Ex. in the measurement of the explanatory modes.  

In the folk psychiatry model (Haslam, 2003), cause, reason, and causal history of reason explanations correspond to medicalizing, moralizing, and psychologizing, respectively. In Levi and Haslam's adaptation of F.Ex., the subtypes of the explanatory modes are disregarded, and free response explanations are rated holistically on a scale of (0 = absent) to (3 = strongly or repeatedly present), indicating the extent to which a particular explanatory mode is used in an explanation. Thus, the present research was intended to measure cause/medicalizing, reason/moralizing, and causal history of reason/psychologizing explanations.

However, prior to the coding of the data for the present study, it became clear to the researcher that further adaptation and clarification of the coding scheme would be needed in order to measure the explanatory modes effectively for the present study. This is because Levi and Haslam's (2005) adaptation of F.Ex. focuses on explanations of specific, concrete behaviors;

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4Levi and Haslam's 2005 adaptation was based on an earlier version of F.Ex., Version 4.2 (Malle, 2003).
the present study elicited explanations of the source of the protagonist's problems. Participants' responses in the present study generally provided holistic explanations of the participant's pattern of behavior.

Therefore, consistent with the goals of the present study, the researcher further adapted Levi and Haslam's coding scheme, resulting in the Medicalizing-Moralizing-Psychologizing Coding System (MMPCS). The researcher developed the coding instructions for the MMPCS (see Appendix F) based on the theoretical framework of Levi and Haslam's (2003) folk psychiatry model, which is described in Chapter 1 of this dissertation. Thus the MMPCS measures the extent to which study participants' free-form explanations of the vignette protagonist's problems involve each of the three explanatory modes medicalizing, moralizing, and psychologizing.

Medicalizing explanations feature medical or biological causes. Moralizing explanations feature an individual's reasons (motives) for their actions, or moral or personal qualities. Psychologizing explanations provide a causal history of the reasons (motives) for an individual's actions. This means these explanations address why the individual has the motives or moral or personal qualities in terms of personal history or psychological factors. Unclassifiable explanations are those that do not fit any of the categories medicalizing, moralizing, and psychologizing. These include transient somatic states (e.g., hunger, thirst), substance use, or supernatural causes.

With the MMPCS, free-form responses must be evaluated to determine whether they include indicators of one or more of the explanatory modes. Indicators may be either weak or strong: A weak indicator is a statement, word, or phrase that may reasonably be interpreted as exhibiting a particular explanatory mode but does not clearly exhibit the mode. The following are examples from the data collected for the present study:

- Medicalizing: The word “depressed” is a weak indicator because it may suggest mental illness but does not clearly refer to a medical explanation; it may refer to problems that are construed as merely psychological. Thus the word depressed may simultaneously be counted as a weak indicator of psychologizing.
- Moralizing: The statement “He's having these problems [because] he's listening to voices in his head that aren't real” is a weak indicator because the problems are attributed not merely to the voices but to the fact that the protagonist is listening to
the voices, which may suggest a choice in the matter; however it is not clear whether personal responsibility is being attributed, since listening is not clearly a volitional act.

- Psychologizing: The statement “It's probably his conscience speaking” is a weak indicator because it seems to hint at an unconscious motive, yet its main thrust seems to be moralizing.

(If these examples seem ambiguous, that is exactly why they are offered as examples of weak indicators rather than strong ones.)

A strong indicator is a statement, word, or phrase that clearly exhibits a particular explanatory mode. The following are examples from the data collected for the present study:

- Medicalizing: The word “schizophrenia” is a strong indicator because it is the name of a recognized mental illness diagnosis.
- Moralizing: The statement “He thinks the world revolves around him” is a strong indicator because it describes a personality trait (narcissism) that has a moral connotation.
- Psychologizing: “[He] might be having problems because of his childhood” is a strong indicator because it attributes the protagonist's problems to his personal history.

Each response is assigned an integer score from 0 to 3 for each explanatory mode based on the number and strength of the indicators the response contains: a score of zero is assigned if there are no indicators; a score of one if there is one weak indicator; a score of two if there is one strong indicator or more than one weak indicator; a score of three if there is one strong indicator and one or more additional indicators (weak or strong). See Appendix F for detailed coding instructions.

The investigator served as the first MMPCS rater; the second rater was a doctoral student in the field of marriage and family therapy with over five years of post-master's experience treating individuals with mental illness diagnoses. Both raters were blind to experimental condition and to the participants' responses to items other than the free-form response. The second rater was also blind to the research hypotheses. Before beginning the coding process, the

5 The second rater was the spouse of the investigator.
6 The investigator entered all data from the participant packets himself. However, this was done in such a way as to avoid breaking the blind.
researcher provided the coding instructions (Appendix F) to the second rater, discussed the instructions with her, and answered any questions she had.

All coding was performed independently by the two raters. For the first thirty participants' responses, the two raters stopped after scoring each response to disclose their scores to each other and discuss the reasoning they had used to arrive at the scores. However, in no case during the entire coding process was either rater permitted to change their scores for any response after discussing it with the other rater. Any discrepancies between the two raters' scores were allowed to stand, preserving the independence of their ratings. The mean of the two raters' scores for each mode, for each response, was included in the final data set. Appendix G provides examples of actual participants’ explanatory responses and the final scores they received for each explanatory mode.

After scoring of the first thirty free-form responses, preliminary inter-rate reliabilities were calculated and found to be excellent: $r = .93, p < .001$ for medicalizing; $r = .91, p < .001$ for moralizing; $r = .83, p < .001$ for psychologizing. The two raters continued independently coding with occasional ad hoc discussion (again, without ever revising scores) until 100 responses had been completed; then inter-rater reliability was re-checked and again found to be excellent. A refresher training period was conducted from responses 160-180, meaning that coders again discussed their scores and reasoning after coding each response. A third inter-rater reliability check was held after 180 responses had been coded; the results were excellent again.

The final inter-rater reliability scores, based on all non-blank free-form responses (N=241) were: $r = .95, p < .001$ for medicalizing; $r = .81, p < .001$ for moralizing; $r = .90, p < .001$ for psychologizing. These scores compare favorably with those observed by Levi and Haslam (2005) for their adaptation of Malle's F.Ex. coding scheme. Levi and Haslam found that “final correlations between coders were $r = .77, .64, \text{and} .69$ for cause, reason, and causal history explanations, respectively, implying high intercoder reliability (p. 121).” Thus the lowest inter-rater reliability score in the present study ($r = .81$) was higher than the highest found in Levi and Haslam's study ($r = .77$).

Moreover, the coding procedure used in the present dissertation study was, at least in one sense, more rigorous than that used by Levi and Haslam (2005). In their study, “any discrepancies of 2 or more points were...resolved by discussion until consensus was achieved (p. 120).” Although it seems to be a common practice in social science to resolve scoring
discrepancies through discussion in establishing inter-rater reliability, this procedure compromises the independence of the ratings. Such a procedure necessarily inflates inter-rater reliability scores, since otherwise discrepant scores are reconciled. Moreover, the reconciliation may reflect a second coder's acquiescence to the researcher's biases. In contrast, in the present study, the raters never discussed the content or scoring of a particular response prior to scoring it, and were never permitted to change a score after revealing it or discussing the associated response.

Discriminant validity of the three explanatory mode variables as measured by the MMPCS was established by testing the correlations among the three variables, as well as the correlations between each of the explanatory modes and the stigma variables measured in the study. “Discriminant validity refers to the distinctiveness of constructs, demonstrated by the divergence of methods designed to measure different constructs.” (Pedhazur & Schmelkin, 1991, p. 74). Measures intended to measure different constructs should not be too highly correlated, in order to show they are truly measuring different constructs; though there has been considerable uncertainty in the literature with regard to how large of correlations should be tolerated (Pedhazur & Schmelkin, 1991). Each of the three explanatory modes had small but statistically significant negative correlations with each of the others, supporting the discriminant construct validity of the MMPCS. These correlations were: moralizing-medicalizing ($r = .17, p = .009$); medicalizing-psychologizing ($r = .28, p < .001$); and psychologizing-moralizing ($r = .20, p = .001$). The small size of these correlations among the explanatory mode scores shows that they measure three distinct constructs, providing evidence of discriminant validity.

Moreover, most of the correlations between the explanatory modes and the stigma variables (likability and fear/dangerousness) were statistically non-significant. The exceptions were: medicalizing-fear/dangerousness ($r = .15, p = .016$); and moralizing-likability ($r = .25, p < .001$). Again, these correlations are small, further establishing the discriminant validity of the MMPCS variables.

**Mental illness stigma**

Two aspects of mental illness stigma were used as outcome variables in the present research: dangerousness and likability. Dangerousness is measured by the Fear/Dangerousness subscale of the Attribution Questionnaire (AQ). (See Appendix E for complete scale items.) This instrument has been validated in a study ($N = 774$) of college students (a population similar
to that of the present study). Brown (2008) conducted an exploratory factor analysis of the AQ and identified six factors of which four formed scales with adequate psychometric properties. The Fear/Dangerousness subscale has been selected because it measures a construct that has been widely recognized as an important component of stigma and has been used as an outcome in several studies.

Brown (2008) found the 4-item Fear/Dangerousness scale to have excellent alpha reliability ($\alpha = .93$), good one-week test-retest reliability as measured by the intraclass correlation coefficient (ICC = .86), and convergent validity demonstrated by a moderate correlation with the Social Distance Scale ($r = .49$) and the Dangerousness Scale ($r = -.54$). In the present study, excellent reliability was observed for Fear/Dangerousness ($\alpha = .94$).

The Scale of General Likability (SGL; Anson, in preparation) is used to measure how likable participants perceive the target person to be. (The SGL is not drawn from the AQ; See Appendix E for complete scale items.) Likability is conceptualized here as being genial; being easy to get along with; tending not to give offense. Items include “In general, how likable was the person?” and, reverse-scored, “How inconsiderate was the person?” Excellent alpha reliability ($\alpha = .96$) and construct validity (convergent and discriminant) were found for the SGL in a vignette-based validation study ($N = 293$; Anson, in preparation). In the present study, very good reliability was observed for the SGL ($\alpha = .87$). Though the direct measurement of likability does not figure prominently in the stigma literature, dislike would seem to be implicated in many if not all forms of stigma; therefore its measurement here is instructive.

**Previous experience with mental illness**

The Level of Contact Report (Holmes et al., 1999; see Appendix E for complete scale items) is used to measure participants’ prior exposure to individuals diagnosed with mental illness. This measure asks the participant whether they have had each of twelve types of contact with a person diagnosed with mental illness. The types of contact vary in intimacy; the rank ordering was established by mental health experts, with good inter-rater reliability ($\alpha = .83$). The score is determined by the highest ranked (most intimate) item endorsed (Holmes et al., 1999). No alpha reliability statistics are reported for the Level of Contact Report because it is not intended to be a scale: the items are not necessarily expected to correlate with each other.

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7 The negative value was expected.
Participant demographics

In order to provide descriptive statistics on the demographics of the participant sample, the participant packet included a brief demographic questionnaire asking for participants’ gender, age, college major, and race. (See Appendix E.)

Participants' perceptions of research.

Four open-ended items were included in order to permit exploratory analysis of potential effects of participants' perceptions of the research on the outcome. These appeared on the last page of the participants packet, below the demographic items. (Appendix G contains a sample participant packet.) The researcher coded participants' freeform responses to these questions as described below. All coding was dichotomous (yes/no). There was no second coder in this process; no inter-rater reliability established.

The first question asked “What do you think this research is about?” Responses were coded for a) whether the participant mentioned mental illness or any mental illness diagnosis and b) whether the participant mentioned childhood experiences or trauma.

The second question asked “How do you think the researcher was expecting you to respond to the question about why Robert was having problems?” Responses were coded for whether they were suggestive of a) medicalizing, b) moralizing, or c) psychologizing.

The third question asked “How do you think the researcher was expecting you to respond to the questions about how likable Robert was?” Responses were coded for whether they did or did not indicate an expectation of low likability.

The fourth question asked “How do you think the researcher was expecting you to respond to the questions about how dangerous Robert was?” Responses were coded for whether they indicated an expectation of perceived dangerousness.

Hypotheses

The hypotheses of the present research are as follows:

H1: Respondents exposed to schizophrenia content will report lower levels of protagonist likability than respondents not exposed to schizophrenia content.

H2: Respondents exposed to schizophrenia content will report higher levels of protagonist fear/dangerousness than respondents not exposed to schizophrenia content.

H3: Respondents' exposure to adverse childhood experiences content will have a more positive effect on reported levels of protagonist likability when respondents are also exposed to...
schizophrenia content than when they are not. This is an interactional hypothesis and may also be understood as a moderation hypothesis: exposure to schizophrenia content is expected to moderate the effect of adverse childhood experiences content.

H4: Respondents' exposure to adverse childhood experiences content will have a more negative effect on reported levels of protagonist fear/dangerousness when respondents are also exposed to schizophrenia content than when they are not. As in H3, this is an interactional hypothesis and may also be understood as a moderation hypothesis.

H5: Respondents exposed to schizophrenia content will provide less moralizing explanations for the protagonist's problems than respondents not exposed to schizophrenia content.

H6: Respondents exposed to schizophrenia content will provide more medicalizing explanations for the protagonist's problems than respondents not exposed to schizophrenia content.

H7: Respondents exposed to schizophrenia content will provide less psychologizing explanations for the protagonist's problems than respondents not exposed to schizophrenia content.

H8: Respondents exposed to adverse childhood experiences content will use less moralizing explanations for the protagonist's problems than respondents exposed to benign childhood experiences content.

H9: Respondents exposed to adverse childhood experiences content will use less medicalizing explanations for the protagonist's problems than respondents exposed to benign childhood experiences content.

H10: Respondents exposed to adverse childhood experiences content will use more psychologizing explanations for the protagonist's problems than respondents exposed to benign childhood experiences content.

H11: The moderating effect of schizophrenia content on the effect of adverse childhood experiences content on respondents' reported protagonist likability (as described in H3) will be mediated by the levels of moralizing, medicalizing, and psychologizing in respondents' explanations for the protagonist's problems. This is a mediated moderation hypothesis as described by Muller, Judd, and Yzerbyt (2005).
H12: The moderating effect of schizophrenia content on the effect of adverse childhood experiences content on respondents' reported protagonist fear/dangerousness (as described in H4) will be mediated by the levels of moralizing, medicalizing, and psychologizing in respondents' explanations for the protagonist's problems. As in H11, this is a mediated moderation hypothesis.

H1-H2 are stigma hypotheses. They claim that schizophrenia content reduces likability and increases perceptions of fear/dangerousness (main effects of schizophrenia content).

H3-H4 are stigma reduction hypotheses. They indicate that adverse childhood experiences have a stigma reduction effect that is specific to schizophrenia symptoms (rather than merely a general effect of eliciting sympathy). Adverse childhood experiences may also reduce stigmatizing reactions for the non-schizophrenia condition, but, if so, the effect must be more pronounced in the schizophrenia conditions for these hypotheses to be supported. This is expressed through interactional hypotheses where adverse childhood experiences content interacts with schizophrenia content.

H5-H7 are hypotheses regarding the effect of schizophrenia symptoms on the use of explanatory modes. Schizophrenia is widely perceived as a biological disorder and is thus medicalized. While not all participants will recognize the symptoms of schizophrenia and interpret them in a medicalizing way, many will. Thus it was expected that schizophrenia symptoms would increase medicalizing while decreasing moralizing and psychologizing.

H8-H10 are hypotheses regarding the effect of the adverse childhood experiences information on the use of explanatory modes. The adverse childhood experiences are intended to encourage and facilitate psychologizing. Thus, when adverse childhood experiences are included, an increase in psychologizing is predicted along with a concomitant decrease in both moralizing and medicalizing.

H11-12 are mediated moderated hypotheses as described by Muller, Judd, and Yzerbyt (2005). Mediated moderation hypotheses seek to explain the mediating mechanisms by which a moderation effect occurs. In the present research, exposure to schizophrenia content is expected to moderate the effect of exposure to adverse childhood experiences content in reduction stigma (H3-4). This moderating effect is expected to arise from (be mediated by) differences in levels of psychologizing, medicalizing, and moralizing. This means that when differences in psychologizing, medicalizing, and moralizing are included in the analytic model, the effect of the interaction of adverse childhood experiences content and schizophrenia content will be reduced.
No prediction was made as to whether the presence of adverse childhood experiences would have a main effect on likability or fear/dangerousness. The investigator thought that adverse childhood consequences may, in themselves, be stigmatizing, or that they may elicit sympathy. As described earlier, the present research hypothesizes regarding the interaction between schizophrenia symptoms content and adverse childhood experiences content. The study predicts that when schizophrenia symptoms are present, adverse childhood consequences provide a basis for psychologizing, which reduces stigma.

**Analysis**

Data were analyzed using the statistical software package SPSS, Version 20, and PROCESS, an SPSS Macro developed by Hayes (2012).

**Missing Data**

It was determined in advance of data collection that any participant with missing or invalid responses for more than 20% of the items on one of the stigma measurement scales would have their data excluded from the analyses involving that scale. For participants with missing or invalid responses for fewer than 20% of the items on a scale, all missing values would be imputed by the mean-person substitution method: each missing response was be substituted by the mean value for the item across all non-missing responses for that item.

In a Monte Carlo simulation study of missing data strategies for multi-item scales, Roth, Switzer, and Switzer (1999) found the mean-person substitution method to be the most effective for replicating the true results in an unbiased manner. These authors compared mean-person substitution to four other methods of handling missing data: listwise deletion, regression imputation, hot-deck imputation, and mean-item substitution. The finding was robust, holding across inter-item correlations of $r = .3$, $r = .5$, and $r = .7$; for 3-, 7-, and 10-item scales; and whether responses were missing completely at random (MCAR) or missingness was related to one of the independent variables in either of two patterns. This simulation study allowed up to 40% of items on each scale to have missing responses (exceeding the 20% to be permitted in the present research).

Of 252 participants, only four had any missing responses on the stigma measures; since each had only one response missing, none reached the 20% threshold for exclusion. Thus, of 4788 data points collected for the two stigma scales (19 items across 252 participants), 99.92%
of the data points had valid responses). The four missing responses were imputed by mean-person substitution.

For analyses involving the explanatory mode variables (psychologizing, moralizing, and medicalizing), it was planned in advance of data collection that data would be excluded from any participants whose free-form response was illegible. No free-form responses were illegible or irrelevant. However, 11 were blank; 241 (95.6%) were non-blank and codable. The multiple analysis of covariance (MANCOVA) and subsequent ANOVAs described below were conducted once excluding respondents with blank free-form responses ($N = 241$) and once with all respondents included and blank free-form responses scored as zero for each of the explanatory modes ($N = 252$). There were no differences between these models with regard to whether any of the study hypotheses were supported; thus results are reported only for the model including all respondents ($N = 252$).

Analysis of Variance

A $2 \times 2$ factorial multiple analysis of covariance (MANCOVA) was used with the factors schizophrenia content (present vs. absent) and childhood experiences (adverse vs. benign). Subsequently, based on significant MANCOVA results, individual ANCOVAs were conducted for each of the five dependent variables: likability, fear/dangerousness, moralizing, medicalizing, and psychologizing. Hypotheses 1-10 concern the main effects and some of the interaction effects of the factors in the ANCOVA models. Assumptions of MANCOVA and ANCOVA were examined as follows: Levene’s test was used for homogeneity of error variances; correlations among dependent variables were examined for multicollinearity, and skewness and kurtosis statistics were examined for multivariate normality.

It was planned prior to data collection that Level of Contact Report scores and demographic variables would be entered into the model if any of these correlated significantly with the outcome variables (explanatory modes or stigma variables). This was found to be the case for participant age, which had small but significant correlations with likability ($r = -.16$) and psychologizing ($r = -.20$). Ten participants did not report their age. To avoid the loss of power from excluding these participants, age was imputed by mean-person substitution; the mean of 21.0 years was imputed for all missing age values. This imputation only slightly reduced the correlations between age and the outcome variables likability ($r = -.15$) and psychologizing.
($r = .19$). Age (with missing values imputed) was thus included as a covariate in the MANCOVA model.

There was no statistically significant correlation between Level of Contact score and any of the outcome variables. Analyses of variance found no statistically significant associations between any of the outcome variables and participant gender, participant race, or participant college major. Therefore no participant variables other than age were used in any further analyses.

**Conditional Process Modeling: Mediated Moderation**

The mediated moderation hypotheses (H11-12) were tested using PROCESS, an SPSS Macro developed by Hayes (2012). PROCESS uses bootstrap methods to test mediated moderation models, which Hayes classifies as *conditional process models*. Model 8 was selected within PROCESS. This model tests the “indirect effect of a two-way interaction between X and W on Y through mediator M” (Hayes, 2012, p. 29). In the present context, X is childhood experiences, W is schizophrenic content, Y is fear/dangerousness or likability, and M is, variously, each of the explanatory modes. All three of the explanatory modes (medicalizing, moralizing, psychologizing) were included in the model simultaneously as parallel mediators. (Parallel mediators are assumed not to have effects on one another.) Hayes (2012) represents this model mathematically (p. 14-15, Formulas 16-17) and diagrammatically (p. 61, Fig. 3A). Moreover, age (with missing values imputed) was included in the model as a covariate.

**Power Analyses and Sample Size**

Power analyses were conducted using the web-based software application Java Applets for Power and Sample Size (Lenth, 2006-9). The “Balanced ANOVA” applet within this application was used to calculate the target minimum sample size of $N = 212$ (53 per cell), based on the following parameters: the alpha level of .05 was selected on the basis of convention; the power level of .95 was selected because, in combination with the alpha level of .05, it reflects the assumption that Type I and Type II errors are equally problematic; effect size for the ANOVA interaction was set at $d = .5$ following Cohen's (1988) guideline for a medium effect size. Main effects and interaction effects must be analyzed to evaluate the study hypotheses. The effect size was set for the interaction rather than for the main effects because in ANOVA there is more power for the main effects; the resulting effect size for the main effects is $d = .35$, which falls between Cohen's small ($d = .2$) and medium ($d = .5$) effect guidelines.
Two vignette-based studies on stigmatization of Schizophrenia (both reviewed earlier) reported Cohen's $d$ or sufficient information to calculate it. These studies found that Schizophrenia (symptoms combined with diagnostic label) elicited more social distance than a ruptured spinal disk ($d = 1.07$; Phelan, 2005) and that Schizophrenia symptoms (without diagnostic label) elicited more stigma than Depression ($d = .34$; Sorsdahl & Stein, 2010). One other study of mental illness stigma provided sufficient information to calculate Cohen's $d$; effect sizes in that study ranged from $d = .32$ to $d = .53$ (Corrigan et al., 2005). These results suggest that the target minimum sample size, based on expected main effect size of $d = .35$, is fairly likely to detect the effect sizes typically observed in this area of research.

The present research recruited participants among students in attendance in undergraduate courses. With power of .95, detecting interaction effects of $d = .2$, $d = .3$, or $d = .4$ would have required sample sizes of $N = 1280$, $N = 572$, or $N = 324$, respectively. This power analysis assumed a model without covariates; the inclusion of a statistically significant covariate, such as age in the present research, serves to increase statistical power (Borenstein, 2011; Pedhazur & Schmelkin, 1991).

**Exploratory Analyses**

Exploratory analyses were conducted to further examine the potential relationships between the explanatory modes and stigma: PROCESS (Hayes, 2012; Model 4) was used to test the indirect effects of the vignette variables on fear/dangerousness and likability via the explanatory modes, treated as parallel mediators. Ordinary least squares (OLS) linear regression analysis was also conducted with fear/dangerousness and likability as outcomes and each of the explanatory mode variables as predictors. $t$-tests were conducted with each of the dichotomously coded participant perceptions of research variables as grouping variables, and each of the study outcome variables as outcomes.
Ethical Considerations

Before data collection began, approval was obtained from the Institutional Review Board Human Subjects Committee of the university where participants were recruited and where data were collected. Because the present research was essentially an anonymous survey, it was considered “exempt” under federal human participants guidelines (Code of Federal Regulations, 2008). No personally identifying information was collected from participants, except for their names on the informed consent forms; these forms were separated from the participant packets immediately after data collection, so that the names cannot be associated with the packets.
CHAPTER 4  
RESULTS

Grand Means

Grand means were calculated for each of the explanatory mode variables scoring blank free-form responses (4.4% of participants) as 0 for all modes ($N = 252$): medicalizing ($M = 0.98$, $SD = 1.21$); moralizing ($M = 0.41$, $SD = 0.88$); psychologizing ($M = 2.06$, $SD = 1.25$). The explanatory mode scores ranged from 0 to 3. Thus psychologizing was the most strongly evident explanatory mode overall; moralizing the least.

Grand means were calculated for the stigma outcomes after imputing missing values (0.08% of all stigma data points) by mean-person substitution ($N = 252$): Fear/Dangerousness ($M = 2.96$; $SD = 1.63$; ranging from one to nine); Scale of General Likability ($M = 4.3$; $SD = 0.83$; ranging from one to seven). Thus the grand mean of Fear/Dangerousness was about two points below the midpoint of the scale; whereas the grand mean of likability was slightly above the midpoint. The Level of Contact Report had a grand mean 6.58 ($SD = 2.99$; ranging from one to twelve).

Analysis of Variance

A full factorial multiple analysis of covariance (MANCOVA; $N = 252$) model was tested with schizophrenic content (present vs. absent) and childhood experiences (adverse vs. benign) as fixed factors; fear/dangerousness, likability, medicalizing, moralizing, and psychologizing as dependent variables; and participant age as a covariate.

MANCOVA assumes equality of variances in dependent variables across groups; Levene’s test found unequal variances across study groups for fear ($F = 5.373$, 3, 248, $p = .001$); medicalizing ($F = 36.079$, 3, 248, $p < .001$); and psychologizing ($F = 15.719$, 3, 248, $p < .001$), but not for likability. This may inflate the risk of a Type 1 Error, though sample sizes are nearly equal across groups, reducing the impact of unequal variances. (Harwell et al., 1992). MANCOVA also assumes multivariate normality. With the exception of likability, all dependent variables showed high levels of skewness and kurtosis, indicating nonnormal distribution of the
data. However, Harwell et al. show that nonnormality had only a negligible effect on the $F$-test, even with unequal variances. Multicollinearity also violates the assumptions of ANOVA; correlations among dependent variables were found to be small or absent, with none larger than -.29 (moralizing and fear/dangerousness), showing no serious multicollinearity.

Wilks' lambda was computed to test the multivariate hypotheses; partial eta-squared was calculated to measure effect sizes (Cohen, 1973). A widely accepted guideline for the interpretation of partial eta-squared is that 0.01 is a small effect, 0.06 is a medium effect, and 0.13 is a large effect (Cohen, 1988). Large, statistically significant effects were found for schizophrenic content ($\lambda = .797, F = 12.352, 5, 243, p < .001, \text{partial } \eta^2 = 0.20$); and childhood experiences ($\lambda = .785, F = 13.277, 5, 243, p < .001, \text{partial } \eta^2 = 0.22$). A medium, statistically significant effect was found for participant age ($\lambda = .941, F = 3.058, 5, 243, p < .011, \text{partial } \eta^2 = 0.06$). The interaction between schizophrenic content and childhood experiences was statistically non-significant. The statistically significant MANCOVA results warranted univariate analysis of covariance (ANCOVA) for each of the dependent variables.

The analysis of covariance (ANCOVA) model for fear/dangerousness found statistically significant effects for schizophrenic content ($F = 36.468, 1, p < .001, \text{partial } \eta^2 = 0.13$) and childhood experiences ($F = 7.357, 1, p = .007, \text{partial } \eta^2 = 0.03$). The effect of participant age was non-significant, consistent with the lack of a bivariate correlation between participant age and fear/dangerousness. The interaction of schizophrenic content with childhood experiences did not reach statistical significance ($F = 2.497, 1, p = .087, \text{partial } \eta^2 = 0.01$).

The ANCOVA model for likability found no significant effect of schizophrenic content or of childhood experiences. Participant age was significant ($F = 7.073, 1, p = .008, \text{partial } \eta^2 = 0.03$) consistent with the significant bivariate correlations between participant age and likability score. Detailed results are not reported for likability since it was not affected by the experimental manipulation of the vignette content.

The ANCOVA model for medicalizing found statistically significant effects of schizophrenic content ($F = 18.469, 1, p < .001, \text{partial } \eta^2 = 0.07$) and of childhood experiences ($F = 28.586, 1, p < .001, \text{partial } \eta^2 = 0.10$). There was no significant effect of the interaction between these variables, or of participant age.

The ANCOVA model for moralizing found a statistically significant effects of schizophrenic content ($F = 16.538, 1, p < .001, \text{partial } \eta^2 = 0.06$). The effect of childhood
experiences did not reach significance \((F = 3.339, 1, p = .07, \text{partial } \eta^2 = 0.01)\). There was no significant effect of the interaction between these variables, or of participant age.

The ANOVA model for psychologizing found statistically significant effects of childhood experiences \((F = 36.552, 1, p < .001, \text{partial } \eta^2 = 0.13)\) and participant age \((F = 8.803, 1, p = .01, \text{partial } \eta^2 = 0.03)\). The latter result is consistent with the negative bivariate correlation between psychologizing and participant age. The effect of schizophrenic content did not reach statistical significance \((F = 3.020, 1, p = .08, \text{partial } \eta^2 = 0.01)\).

The ANOVA analyses found the following statistically significant mean differences, after adjusting for the covariate participant age (summarized in Table 1): Schizophrenic content increased fear/dangerousness by 1.20 points \((95\%\text{CI} = 0.78, 1.53; \text{partial } \eta^2 = 0.13)\); increased medicalizing by 0.59 points \((95\%\text{CI} = 0.33, 0.89; \text{partial } \eta^2 = 0.07)\) and reduced moralizing by 0.40 points \((95\%\text{CI} = 0.28, 0.65; \text{partial } \eta^2 = 0.06)\). Adverse childhood experiences (compared to benign) increased fear/dangerousness by 0.54 points \((95\%\text{CI} = 0.14, 0.89; \text{partial } \eta^2 = 0.03)\), reduced medicalizing by 0.74 points \((95\%\text{CI} = 0.48, 1.03; \text{partial } \eta^2 = 0.10)\), and increased psychologizing by 0.90 points \((95\%\text{CI} = 0.59, 1.12; \text{partial } \eta^2 = 0.13)\).

The predicted interaction effect, though observed in the expected direction, was not statistically significant \((F = 2.497, 1, p = .087, \eta^2 = 0.01)\). Adverse childhood experiences increased fear/dangerousness less in the presence of schizophrenic content (0.19 points) than in its absence (0.84). The difference (the interaction effect) was 0.65 points, a larger value than some of the explanatory mode effects that were found to be statistically significant. Thus it seems plausible that a larger sample size might have yielded a statistically significant interaction.
Table 1. Summary of mean differences. Lists, for each dependent variable (DV): group means ($M$) for when each manipulated component of vignette content (schizophrenia or adverse childhood experiences) is absent and present; mean differences (present minus absent); 95% confidence intervals (CI) for the difference; and effect size as measured by partial eta-squared ($\eta^2$). Statistically significant results ($p < .05$) indicated by an asterisk (*). Effect sizes are omitted for statistically non-significant (n.s.) results.

<table>
<thead>
<tr>
<th></th>
<th>Schizophrenia Vignette Content</th>
<th>Adverse Childhood Experiences Vignette Content</th>
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<tbody>
<tr>
<td></td>
<td>$M$ (Absent)</td>
<td>$M$ (Present)</td>
</tr>
<tr>
<td>Fear/Dangerousness*</td>
<td>2.34</td>
<td>3.54</td>
</tr>
<tr>
<td>Likability</td>
<td>4.26</td>
<td>4.36</td>
</tr>
<tr>
<td>Medicalizing*</td>
<td>0.67</td>
<td>1.26</td>
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<tr>
<td>Moralizing*</td>
<td>0.65</td>
<td>0.20</td>
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<tr>
<td>Psychologizing</td>
<td>2.20</td>
<td>1.90</td>
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</table>
Figure 1. Fear/Dangerousness as a function of symptomatic content and childhood experiences. Schizophrenic content and adverse childhood experiences each significantly increased fear/dangerousness ($p < .05$). The interaction did not reach significance. The scale ranges from one to nine.

Figure 2. Medicalizing as a function of symptomatic content and childhood experiences. Schizophrenic content increased medicalizing; adverse childhood experiences reduced it. Both effects were significant ($p < .05$). The scale ranges from zero to three.
Figure 3. Moralizing as a function of symptomatic content and childhood experiences. Schizophrenic content significantly reduced moralizing ($p < .05$). The effect of adverse childhood experiences was not significant. The scale ranges from zero to three.

Figure 4. Psychologizing as a function of symptomatic content and childhood experiences. Adverse childhood experiences significantly increased psychologizing ($p < .05$). There was no significant effect of schizophrenia symptoms. The scale ranges from zero to three.
Conditional Process Modeling

Conditional process modeling with bootstrap methods was conducted using PROCESS (Hayes, 2012), an SPSS macro, to determine whether the hypothesized interaction effect of the two vignette variables on fear/dangerousness was mediated by any of the three explanatory modes variables. This is a mediated moderation hypothesis (as discussed in the Analysis section of Chapter 3). Although the interaction in question was not found to be statistically significant, Hayes (2012) argues that the moderation effect need not be found statistically significant itself in order for mediated moderation to be found statistically significant. Age (with missing values imputed) was included in the model as a covariate.

The critical results for this portion of the analysis are the indirect effects of the interaction between the two vignette variables via each of the explanatory modes. Bias-corrected bootstrap confidence intervals (95%) were constructed on the basis of 1000 bootstrap samples. The indirect effects in question were found to be statistically non-significant (the confidence intervals included zero). Thus no evidence was found of the hypothesized mediated moderation.

Evaluation of Research Hypotheses

The hypotheses of the present research were as follows:

H1: Respondents exposed to schizophrenia content will report lower levels of protagonist likability than respondents not exposed to schizophrenia content. H1 was not supported.

H2: Respondents exposed to schizophrenia content will report higher levels of protagonist fear/dangerousness than respondents not exposed to schizophrenia content. H2 was supported.

H3: Respondents' exposure to adverse childhood experiences content will have a more positive effect on reported levels of protagonist likability when respondents are also exposed to schizophrenia content than when they are not. H3 was not supported.

H4: Respondents' exposure to adverse childhood experiences content will have a more negative effect on reported levels of protagonist fear/dangerousness when respondents are also exposed to schizophrenia content than when they are not. H4 was not supported.

H5: Respondents exposed to schizophrenia content will provide less moralizing explanations for the protagonist's problems than respondents not exposed to schizophrenia content. H5 was supported.
H6: Respondents exposed to schizophrenia content will provide more medicalizing explanations for the protagonist's problems than respondents not exposed to schizophrenia content. H6 was supported.

H7: Respondents exposed to schizophrenia content will provide less psychologizing explanations for the protagonist's problems than respondents not exposed to schizophrenia content. H7 was not supported.

H8: Respondents exposed to adverse childhood experiences content will use less moralizing explanations for the protagonist's problems than respondents exposed to benign childhood experiences content. H8 was not supported.

H9: Respondents exposed to adverse childhood experiences content will use less medicalizing explanations for the protagonist's problems than respondents exposed to benign childhood experiences content. H9 was supported.

H10: Respondents exposed to adverse childhood experiences content will use more psychologizing explanations for the protagonist's problems than respondents exposed to benign childhood experiences content. H10 was supported.

H11: The moderating effect of schizophrenia content on the effect of adverse childhood experiences content on respondents' reported protagonist likability (as described in H3) will be mediated by the levels of moralizing, medicalizing, and psychologizing in respondents' explanations for the protagonist's problems. H11 was not supported.

H12: The moderating effect of schizophrenia content on the effect of adverse childhood experiences content on respondents' reported protagonist fear/dangerousness (as described in H4) will be mediated by the levels of moralizing, medicalizing, and psychologizing in respondents' explanations for the protagonist's problems. H12 was not supported.

Thus, of the twelve research hypotheses, five were supported and seven were not.

**Exploratory Analyses**

Exploratory conditional process modeling using PROCESS (Hayes, 2012) found five statistically significant mediation effects for the explanatory mode variables:

- By reducing moralizing, schizophrenic content indirectly increased fear/dangerousness by 0.15 scale points (95%CI = 0.06, 0.27).
• By reducing medicalizing, adverse childhood experiences content indirectly decreased fear by 0.17 scale points (95%CI = 0.05, 0.34). (Recall that the main effect of adverse childhood experiences content on fear/dangerousness is to increase it.)

• By reducing moralizing, adverse childhood experiences content indirectly increased fear/dangerousness by 0.09 scale points (95%CI = 0.01, 0.21).

• By reducing moralizing, schizophrenic content indirectly increased likability by 0.11 scale points (95%CI = 0.04, 0.20).

• By reducing moralizing, adverse childhood experiences content indirectly increased likability by 0.05 scale points (95%CI = 0.01, 0.14).

Regressing fear/dangerousness on all of the explanatory modes simultaneously found only moralizing to be a significant predictor ($\beta = -.55$, $p < .001$), indicating that each one-point increase in moralizing was associated with a decrease of just over half a point in fear/dangerousness. The regression model was significant ($F = 8.841, 3, 237, p < .001$) and explained 10.1% of the variance.

Regressing likability on all of the explanatory modes simultaneously again found only moralizing to be a significant predictor ($\beta = -.23$, $p < .001$), indicating that each one-point increase in moralizing was associated with a decrease of just under a quarter point in likability. The regression model was significant ($F = 5.062, 3, 237, p = .002$) and explained 6.0% of the variance.

Participants' Perceptions of Research

A large majority of participants (70.5%) guessed that the study was about mental illness; these participants had significantly higher scores on medicalizing ($t = 3.165, 149, p = .002$) and significantly lower scores on moralizing ($t = 2.0, 104, p = .047$) and psychologizing ($t = 1.97, 239, p = .05$). There were no significant differences on the stigma variables. A small minority of participants (4.6%) guessed that the study was about childhood experiences or trauma; these participants had significantly lower scores on medicalizing ($t = 11.0, 120, p < .001$), and significantly higher scores on psychologizing ($t = 5.9, 27, p < .001$) and likability ($t = 2.8, 13.251, p = .014$). There were no statistically significant differences on moralizing or fear/dangerousness.

A minority of participants (19.9%) guessed that the researcher expected responses consistent with medicalizing; these participants had significantly higher scores on medicalizing
(t = 2.5, 70.8, \( p = .016 \)). Fewer than one percent of participants guessed that the researcher expected responses consistent with moralizing; these participants did not differ significantly on moralizing. A minority of participants (17.0\%) guessed that the researcher expected responses consistent with psychologizing; these participants had significantly higher scores on psychologizing (t = 3.1, 77.1, \( p = .002 \)). One third (33.7\%) of participants guessed that the researcher was expecting responses indicating low levels of likability; these participants scored significantly lower on likability (t = 2.0, 250, \( p = .045 \)). A large minority (45.2\%) of participants guessed that the researcher was expecting responses indicating perceptions of dangerousness; these participants scored significantly higher on fear/dangerousness (t = 3.6, 222.3, \( p < .001 \)).
CHAPTER 5
DISCUSSION

The present study has built on Haslam's (2003) *folk psychiatry model*, which suggests that mental health nonprofessionals use three modes of thought in explaining the behavior of persons identified as having mental illness: moralizing, which attributes a reason (motive) – and therefore personal responsibility - for behavior; medicalizing, which attributes behavior to a biological essence outside of the individual's control; and psychologizing, which attributes a reason (motive) for behavior but also offers a cause for the reason itself, thus attenuating personal responsibility. The present research introduces a new measurement scheme for the explanatory modes of the folk psychiatry model, and showed that participants' use of the explanatory modes (at least as measured here), could be manipulated in hypothesized ways via vignette content. However, as detailed below, the present results provide only modest support for links between the explanatory modes and stigma.

Implications of Results

**Psychologizing, dangerousness, and adverse childhood experiences.**

The present study focuses on Haslam, Ban, and Kaufman's (2007) suggestion that encouraging the public to psychologize may be an effective strategy for reducing mental illness stigma. However, the results provide no support for that proposition: the intervention to increase psychologizing (inclusion of adverse childhood experiences in the vignette content) was successful in doing so; yet it had the ironic effect of *increasing* stigma (specifically, fear/dangerousness). To the extent adverse childhood experiences may have had some indirect effect of reducing fear/dangerousness, the results suggest this operated through a reduction in medicalizing, not through any difference in psychologizing. In fact, the study found no evidence that psychologizing had any impact on stigma at all. Thus the present study offers little or no encouragement for pursuing the role of psychologizing in explaining mental illness stigma. Moreover, the present study urges caution in trying to reduce stigma by providing information.
about adverse childhood experiences or histories of personal trauma: such efforts may backfire, increasing fear and perceptions of dangerousness.

Still it may be possible to modify the strategy adopted here to make it an effective approach to reducing stigma. Perhaps it was certain specific, concrete details of adverse childhood experiences (e.g. “Robert's stepfather would sometimes punch and kick Robert's mother, or threaten her with a knife.”) that participants found troubling and therefore fear-inducing. Future research could compare concrete descriptions of adverse childhood experiences (as appear in the present study) to more vague descriptions. (E.g., “Robert had a difficult childhood. There was a lot of conflict in his family.”) Or perhaps some details could be provided, but the more graphic or violent ones omitted. Such watered-down adverse childhood experiences information may reduce fear/dangerousness instead of increasing it; and this reduction might be mediated by psychologizing – though there is nothing in the present results to suggest that.

Likability, schizophrenia symptoms, and adverse childhood experiences

Participants' reported perceptions of protagonist likability did not change based on the protagonist's schizophrenic symptoms or the protagonist's childhood experiences. The Scale of General Likability (SGL) performed reliably (α = .87) in the present study. A previous validation study (Anson, in preparation) showed convergent and discriminant validity for the SGL, in addition to excellent reliability. The previous validation study used vignettes attributing a mixture of desirable and undesirable behaviors to the protagonist. Vignettes with a higher ratio of desirable to undesirable behaviors elicited higher likability scores, and the effect was quite large. These very same desirable and undesirable behaviors were used in the ordinary behaviors segment of the vignettes in the present study; however the present study did not vary the ratio of desirable to undesirable behaviors.

The strong validation results of the SGL in the previous study whose design was similar to the present study indicate that the present likability results should be considered valid. Thus one must ask why the vignette variables in the present study had effects on fear/dangerousness but no effects on likability. This result is first of all a reminder that the various components of stigma must be considered and measured separately; we cannot assume that whatever increases one component will increase others. In the present case, it may be that participants reason thus: “These behaviors [schizophrenic symptoms] are frightening, but I realize the person has a mental illness, so I'm not going to unfairly discriminate against them by liking them less.” Similarly,
participants may have seen adverse childhood experiences as a cue for dangerousness and yet been unwilling to indicate dislike for the person as it would be unfair or socially unacceptable to do so. Future research could explore these possibilities by using free-form response prompts asking participants to explain why they gave the ratings they did for various stigma measures. Another possibility involving likability is discussed in the following section in connection with moralizing and fear/dangerousness.

Moralizing and dangerousness

The strongest evidence of a role for any of the explanatory modes was an unexpected anti-stigma effect of moralizing: at least a small component of the fear-inducing effect of schizophrenic content and of adverse childhood experiences could be attributed to the reduction of moralizing (0.15 and 0.09 scale points, respectively). Moreover, when fear/dangerousness was regressed on the explanatory modes, moralizing was the only significant predictor, and was associated with reduced fear/dangerousness ($\beta = -.55, p < .001$). These results for moralizing must be interpreted with caution as they come from exploratory analyses: they were not predicted and have no theoretical basis. Still, we may speculate as to why moralizing may reduce stigma, in the interest of generating hypotheses for future research.

It is puzzling at first that moralizing would be associated with stigma reductions, because moralizing is closely associated with blame and personal responsibility. Moralizing explanations are those that attribute the protagonist's problems to their own decisions, voluntary actions, and moral qualities. Discourse on mental illness stigma seems to assume that individuals will be more stigmatized when they are seen as personally responsible for their problems.

However, the confusion may arise from the multifariousness of stigma: as the present results show, fear/dangerousness and likability are distinct issues; what influences one may not influence the other. Similarly, blame may not be closely linked to either. Blame and responsibility were not measured in the present study, unless one equates moralizing itself with one or both of these. It would be useful in future research to examine the relationship between moralizing, and for example, the Blame/Responsibility subscale of the Attribution Questionnaire (Brown, 2008). Attributions of blame and responsibility need not be associated with anger, but they often are; and anger is not the same as fear: the two emotions are associated with distinct neurobiological processes (Stemmler, Aue, and Wacker, 2007). It may even be that moralizing is in part a cognitive strategy to reduce fear: respondents may manage their anxiety about dealing
with a potentially threatening individual by finding reasons to blame – and therefore feel anger toward – the individual. The anger may then displace their feelings of fear. Perhaps when participants found it difficult to reconcile moralizing explanations with schizophrenic content, they were deprived of a fear-reducing cognitive strategy; thus, their fear of the protagonist increased. Under this theory – which may be called the moralizing fear-displacement hypothesis - moralizing does not reduce stigma; it merely gives stigma a different form (anger or blame instead of fear).

Consistent with this hypothesis, exploratory conditional process modeling showed that schizophrenia content and adverse childhood experiences each indirectly increased likability by reducing moralizing. Moreover, when likability was regressed on the explanatory modes, moralizing was associated with reduced likability. If schizophrenic content and adverse childhood experiences each made the protagonist seem less blameworthy (even as he seemed more dangerous) this could explain the indirect effects of the vignette content variables on likability.

Future research could test this idea with a similar design that measured participants' anger toward the vignette protagonist as well as fear. If schizophrenic content and adverse childhood experiences reduced anger as well as increasing fear, and these effects were mediated by a reduction in moralizing, then the moralizing fear-displacement hypothesis would be supported.

Medicalizing and dangerousness

Haslam, Ban, and Kaufman (2007) argued that most anti-stigma efforts in the past had essentially encouraged medicalizing among mental health nonprofessionals, and that this ironically increased some aspects of stigma. The present study provides modest support for the latter proposition: Schizophrenic content did increase both medicalizing and fear/dangerousness; however medicalizing was not found to mediate the relationship between schizophrenic content and fear/dangerousness. Adverse childhood experiences indirectly reduced fear/dangerousness (by 0.17 scale points) by reducing medicalizing, providing additional support for the idea that medicalizing is stigmatizing; however this indirect effect was small and not predicted and should thus be interpreted with caution.

Moralizing and likability

Although neither schizophrenic content nor adverse childhood experiences content had a main effect on likability, both had indirect effects of increasing likability, mediated by reductions
in moralizing. These effects should be interpreted with caution, since they were quite small and were not predicted. However these effects are at least consistent with the common notion that moralizing encourages stigmatization; the exploratory regression analyses are also consistent with this; these findings suggest that likability should be measured along with fear and anger in future research testing the moralizing fear-displacement hypothesis discussed previously. Moreover, future research might attempt to manipulate likability more directly (most obviously by varying the ratio of desirable to undesirable behaviors in the ordinary behaviors segment of the vignette) to see whether changes in likeability are accompanied by changes in moralizing.

Limitations

Vignette research and the manticore problem

The use of vignettes as research stimuli raises serious concerns regarding external validity (Gould, 1996): it cannot be known whether the response of study participants to vignette materials serves as a proxy for what their response would be in a real life situation. Maher (1978) argues that when any stimuli are presented to research participants to elicit responses, the stimuli themselves should be randomly sampled from a clearly defined population, in order to support statistical generalizability. For example, if one wishes to draw a general conclusion about the effect of eccentric behavior on perceptions of dangerousness, one must sample randomly from the population of all eccentric behaviors. Unfortunately, there is no apparent way to define such a population. Maher (1978) criticizes the use of what he calls manticores (named for the mythical half-man, half-beast). These are research stimuli that are contrived by the researcher rather than selected from real world stimuli. Like the manticore of legend, such stimuli have never existed in the real world. Maher insists that one simply cannot draw valid generalizations from imaginary circumstances to real ones. Vignettes are by their nature manticores, so Maher’s reasoning would render invalid all vignette research on mental illness stigma – or any other topic, for that matter.

Mook (1983) offers a perspective contrary to Maher’s (though Mook does not directly address “manticores” nor does he cite Maher). Mook discusses the broader issue of laboratory conditions that differ from the real world conditions in which the phenomenon of interest occurs. Mook argues that science can serve two different purposes: generalization and theory testing. If the purpose is to generalize - to predict what will happen when a particular intervention is applied in a particular real world situation - then indeed the experimental conditions must closely
resemble the real world. However, if the purpose is to test a theory, then the laboratory conditions do not need to resemble the real world. They need only be based on the predictions of the theory being tested.

The proposed dissertation research is consistent with the perspective of Mook (1983): the vignette content has been designed in order to test the research hypotheses, without any attempt to ensure that it is representative of any particular real-world situation or class of situations. It is difficult to imagine how vignettes could be representative in that way. Still, the present research has attempted to improve external validity by providing a rich informational context in which participants make their judgments about the vignette protagonists, hopefully making the judgments more realistic than they would otherwise be.

But the inherent limitations of written vignettes argue for more realistic research stimuli, providing a still richer informational context. For example, a video of an actor portraying a psychiatric patient being interviewed would provide a far richer and more realistic informational context than a written vignette. With the ability to recruit research participants online and have them watch video vignettes online, the written research vignette may perhaps soon be considered an anachronism; though in any case, Maher’s (1978) manticore problem will persist.

Validation of the Medicalizing-Moralizing-Psychologizing Coding System (MMPCS)

The present study introduced a new coding scheme for the measurement of medicalizing, moralizing, and psychologizing, the MMPCS. This scheme was developed to accommodate the present study's free-form responses which were holistic assessments of the causes of the protagonist's problems, rather than explanations of particular discreet behaviors.

Excellent or very good inter-rater reliability was obtained for each of the explanatory modes. Each of the explanatory mode measures had a small but statistically significant negative correlation with each of the others, showing evidence of discriminant validity for each of the explanatory modes. Most of the hypotheses regarding the impact of vignette content on the explanatory modes were supported, showing construct validity: e.g., schizophrenic content increased medicalizing; adverse childhood experiences content increased psychologizing.

However the lack of validation for the present coding scheme outside of the present study is less than ideal. Further research should provide additional validation and refinement of the coding process. Validation would be stronger if future research showed that coders who have not
been trained by the researcher who developed the process can nevertheless attain acceptable inter-rater reliability.

Moreover, the personal and professional relationship between coders should be considered. It is common practice in social science for coders to be professional colleagues, or for one coder to be the student of the other. In the present research, the second coder was the spouse of the first. Arguably, such relationships may compromise the independence of the ratings because the coders share common tacit assumptions that are not necessarily shared among the general public or among the social science research community. Ideally, coders should be personally unknown to one another and have disparate perspectives; inter-rater reliability should arise from an explicit and replicable training process rather than from shared tacit assumptions.

**Participants' perceptions of research**

Four questions were used to elicit free-form responses assessing participants' perceptions of the research. The purpose was to ascertain whether participants' responses were influenced by their perceptions of what the researcher expected. The results suggested that perceived researcher expectations may have influenced the outcome variables: participants who indicated a belief that the researcher expected elevated levels of fear/dangerousness, likeability, medicalizing, and psychologizing, also scored significantly higher on each of these variables, respectively. Moreover, participants who guessed the study concerned mental illness had significantly higher scores on medicalizing, and significantly lower scores on moralizing and psychologizing. Finally, participants who guessed the study concerned the impact of childhood experiences or trauma scored significantly higher on psychologizing and significantly lower on medicalizing.

However, it cannot be decisively concluded that participants' perceptions of the researchers expectations caused participants to respond as they did: an alternative explanation is that participants responded to vignette content without considering the researcher's expectations, and then, when asked about the researcher's expectations, inferred those expectations from their own behavior; i.e., participants may have assumed that their own behavior was consistent with the researcher's expectations and thus indicative of them.

Moreover, interpretation of the results concerning the perception that the study was about mental illness is particularly problematic: participants may have inferred that the study was about mental illness from the content of the Level of Contact Report, rather than from the content of
the vignette or the stigma measures. Finally, the results concerning the perception that the study was about the impact of childhood experiences or trauma should be interpreted with caution as less than five percent of participants expressed this perception.

Future research in this area should incorporate stronger methodology for assessing participants' perceptions of researchers' expectations, and the potential impact of these perceptions on study outcomes. If free-form responses are elicited, methods of analysis for the responses should be planned in advance. Moreover, the order of presentation of research materials should be carefully considered.

Additional limitations

As described earlier, the reliability and validity of the measures to be used has been established in various ways in previous research. However, none of these measures have been shown to have predictive validity in a real-world, practical context. For example, it has not been investigated whether responses to the Fear/Dangerousness Scale or the Scale of General Likability predict how a respondent will behave toward an actual person. This problem is pervasive in social science, though rarely acknowledged.

Finally, the use of a convenience (non-probability) sample is a threat to external validity. Although it is common practice to use convenience samples in experimental social science research, statistical theory does not support generalizing beyond the sample in the absence of random sampling. Thus findings from the present research could be more rigorously supported by future, representative population studies using random sampling.

Future Research

This section outlines a program of research to follow in the line of the present dissertation study. Four potential studies are proposed.

Study 1. Further development of the explanatory mode coding system

The limitations of the present research arising from the coding process have been discussed. Although the inter-rater reliability results were excellent, they may be challenged because the coders may have shared tacit common assumptions that would not be shared by others. The proposed Study 1 would remedy these limitations by 1) refining the MMPCS coding instructions in consultation with experts in the folk psychiatry model; 2) developing an explicit self-training process for the MMPCS that future coders may employ without needing to consult an expert or researcher for guidance; and 3) validating the revised MMPCS by having new
coders apply it to the existing explanatory responses from the present research. The new coders would be unknown to each other and would have minimal contact with the researchers. Their coding decisions would be based on the newly established self-training process. This study may require multiple rounds of revision to the coding instructions. Focus groups may be useful to provide feedback on the coding instructions during the development process.

**Study 2. Convergent validation of the explanatory mode coding system**

The MMPCS has not been validated outside of the present study. The second proposed study would remedy this by developing traditional multi-item measurement scales for each of the explanatory modes to serve the purpose of convergent validation. A pool of potential items would first be developed for the measurement scales. Undergraduate participants would be recruited, as in the present study; instead of reading vignettes, these participants would read the explanatory responses generated in the present research. Each participant would read more than one response; and each response would be read by more than one participant.

Participants would then rate each of the responses they read using the potential measurement scale items. Measurement scale items would be judged by 1) their factor loadings (items developed for the same scale should correlate with each other when used by the same participant to judge the same response) and 2) their inter-rater reliability (the same item should yield similar scores across participants judging the same response). The best performing items would be retained for the final measurement scales. The scores obtained from the final measurement scales would be construed as measures of the explanatory modes. These would then be hypothesized to correlate with MMPCS scores, to test the convergent validity of the MMPCS.

**Study 3. Video vignettes and low-detail adverse childhood experiences**

The present research failed to support the strategy of encouraging psychologizing in order to reduce mental illness stigma. However, as has been proposed in this chapter, it is still possible that psychologizing may have the potential to reduce mental illness stigma, if it is induced by a manipulation that does not also induce fear, as adverse childhood experiences did in the present study.

Thus the proposed Study 3 would test this idea by exposing participants to vignettes with three levels of childhood experiences: 1) benign; 2) high-detail adverse; and 3) low-detail adverse. As in the present research, there would also be two levels of schizophrenic content:
absent and present. Considering the inherent limitations of written research vignettes discussed earlier, Study 3 would use video vignettes instead. The videos would show an actor portraying a fictional protagonist being interviewed about his life. The manipulation of the independent variables would be accomplished by having six versions of the video with the actor describing a different set of experiences in each.

It would be hypothesized that low-detail adverse childhood experiences would decrease fear in the presence of schizophrenic content; whereas high-detail adverse childhood experiences would increase fear regardless of schizophrenic content. The reduction of fear in the low-detail condition would be hypothesized to be mediated by psychologizing. As in the present study, participants would be asked to complete freeform explanations of the protagonist’s problems. The MMPCS, as refined in proposed Study 1 & 2, would be used to measure the explanatory modes.

The same study could be used to test the moralizing fear-displacement hypothesis (discussed earlier). Participants' anger toward the vignette protagonist would be measured as well as fear. If schizophrenic content and adverse childhood experiences reduced anger as well as increasing fear, and these effects were mediated by a reduction in moralizing, then the moralizing fear-displacement hypothesis would be supported.

Study 4. Clinical social workers as a population of interest

The present study has examined laypersons – specifically college undergraduates – as a population of interest. Additional research on nonprofessional populations is certainly warranted; however, it may be even more valuable to study mental health professionals, such as social workers. Arguably, the attitudes of mental health professionals toward individuals diagnosed with mental illness, and the way these professionals understand such diagnoses, may have more impact than the thinking of nonprofessionals about mental illness. It would also be of theoretical interest to learn whether and how mental health professionals' expert knowledge leads them to think differently about mental illness than do nonprofessionals. Thus the proposed Study 4 would replicate the proposed Study 3 using licensed clinical social workers as participants.

Conclusions

The present research advances understanding of the cognitive mechanisms of mental illness stigma. The study has examined Haslam, Ban, and Kaufman's (2007) suggestion that encouraging laypersons to psychologize may be an effective strategy for reducing mental illness
stigma. The results show that providing information about a vignette protagonist’s adverse childhood experiences does increase psychologizing as expected, but also increases perceptions of dangerousness. Thus, social workers and other mental health professionals should exercise caution in emphasizing the role of adverse childhood experiences in contexts where stigma reduction is an important goal. However, it is suggested that low-detail information about adverse childhood experiences may reduce stigma by increasing psychologizing; future research (Study 3) is proposed to test this possibility.

In an unexpected result, moralizing was found to be associated with lower levels of fear/dangerousness. The moralizing fear-displacement hypothesis is proposed to explain this: in this view, moralizing is seen as a cognitive strategy for reducing fear, so that when information impedes moralizing (as both schizophrenia content and adverse childhood experiences content do), fear increases. The proposed Study 3 would test this hypothesis as well. Those seeking to reduce mental illness stigma should bear in mind that stigma is multifaceted; what reduces one aspect of it may increase another.

From a methodological perspective, the present research has used a more sophisticated process of vignette construction than has appeared previously in the mental illness stigma literature, with the intention of providing a rich informational context for participants to make judgments in. However, given the inherent limitations of written research vignettes, it is proposed that future studies in this area use more informationally rich research stimuli – such as video interviews – whenever possible.

Finally, the present study has introduced a new system for measuring the explanatory modes of the folk psychiatry model: the Medicalizing-Moralizing-Psychologizing Coding System. The system achieved high levels of inter-rater reliability in the present study and show promise. However, further development and validation are required and are recommended in the proposed Study 1 and Study 2.
APPENDIX A

VIGNETTE:
NO SCHIZOPHRENIA/ADVERSE CHILDHOOD EXPERIENCES

The people who know Robert have mixed feelings about him. He's usually a good listener, but sometimes he insists on giving unwanted advice. He is often willing to do favors for his friends, but he also gets on their nerves sometimes by talking a lot about himself.

Robert gets along well with his roommates for the most part, but there are some problems. He sometimes plays loud music even though he knows his roommates are trying to sleep. He also sometimes leaves his dirty dishes in the sink for his roommates to find. On the other hand, he has never been late paying his share of the rent.

At his job, Robert is known as a fairly reliable worker. He rarely shows up late for work, if he knows his coworkers are depending on him. He does sometimes ask other employees to do things that are supposed to be part of his job but he usually agrees to help his coworkers when they fall behind on their own work.

When Robert was growing up, there were some serious problems in his family. His parents were divorced when he was five. He lived with his mother and stepfather throughout most of his childhood. They often insulted and humiliated him. They often pushed and slapped him as well.

The family was sometimes short on money. Robert often did not have enough to eat or clean clothes to wear. Robert's stepfather would sometimes punch and kick Robert's mother, or threaten her with a knife. Both of Robert’s parents drank alcohol heavily throughout his childhood. Robert felt like no one in his family loved him or thought he was important.

For the past year, Robert has been having some problems. He has been having more conflict with his friends, his grades have gone down, and his manager has noticed he hasn't been doing as well at work. Sometimes Robert decides that one of his close friends doesn't really like him or care about him, and he refuses to talk to that friend for a few weeks.

When Robert’s roommates complain to him about his loud music or dirty dishes, he usually corrects the problem right way. But sometimes he has the feeling that his roommates really just want him to move out, and he gets angry and walks out of the apartment, slamming the door. When Robert’s manager points out that he has overlooked one of his job responsibilities, Robert sometimes decides the manager has a personal grudge against him.
APPENDIX B

VIGNETTE:
NO SCHIZOPHRENIA/BENIGN CHILDHOOD EXPERIENCES

The people who know Robert have mixed feelings about him. He's usually a good listener, but sometimes he insists on giving unwanted advice. He is often willing to do favors for his friends, but he also gets on their nerves sometimes by talking a lot about himself.

Robert gets along well with his roommates for the most part, but there are some problems. He sometimes plays loud music even though he knows his roommates are trying to sleep. He also sometimes leaves his dirty dishes in the sink for his roommates to find. On the other hand, he has never been late paying his share of the rent.

At his job, Robert is known as a fairly reliable worker. He rarely shows up late for work, if he knows his coworkers are depending on him. He does sometimes ask other employees to do things that are supposed to be part of his job but he usually agrees to help his coworkers when they fall behind on their own work.

When Robert was growing up, there were not too many serious problems in his family. His parents were married. He lived with them throughout his childhood. They were always caring and encouraging toward him. They never hit or spanked him as a child.

The family was sometimes short on money, but Robert always had enough to eat and clean clothes to wear. His father was always kind and loving toward his mother. Both of Robert’s parents drank alcohol occasionally throughout his childhood, but never excessively. Robert always felt that his family loved him and thought he was important.

For the past year, Robert has been having some problems. He has been having more conflict with his friends, his grades have gone down, and his manager has noticed he hasn’t been doing as well at work. Sometimes Robert decides that one of his close friends doesn't really like him or care about him, and he refuses to talk to that friend for a few weeks.

When Robert’s roommates complain to him about his loud music or dirty dishes, he usually corrects the problem right way. But sometimes he has the feeling that his roommates really just want him to move out, and he gets angry and walks out of the apartment, slamming the door. When Robert’s manager points out that he has overlooked one of his job responsibilities, Robert sometimes decides the manager has a personal grudge against him.
The people who know Robert have mixed feelings about him. He's usually a good listener, but sometimes he insists on giving unwanted advice. He is often willing to do favors for his friends, but he also gets on their nerves sometimes by talking a lot about himself.

Robert gets along well with his roommates for the most part, but there are some problems. He sometimes plays loud music even though he knows his roommates are trying to sleep. He also sometimes leaves his dirty dishes in the sink for his roommates to find. On the other hand, he has never been late paying his share of the rent.

At his job, Robert is known as a fairly reliable worker. He rarely shows up late for work, if he knows his coworkers are depending on him. He does sometimes ask other employees to do things that are supposed to be part of his job but he usually agrees to help his coworkers when they fall behind on their own work.

When Robert was growing up, there were some serious problems in his family. His parents were divorced when he was five. He lived with his mother and stepfather throughout most of his childhood. They often insulted and humiliated him. They often pushed and slapped him as well.

The family was sometimes short on money. Robert often did not have enough to eat or clean clothes to wear. Robert's stepfather would sometimes punch and kick Robert's mother, or threaten her with a knife. Both of Robert's parents drank alcohol heavily throughout his childhood. Robert felt like no one in his family loved him or thought he was important.

For the past year, Robert has been having some problems. He has been having more conflict with his friends, his grades have gone down, and his manager has noticed he hasn’t been doing as well at work. During this time, Robert has been hearing a voice that is not real. The voice gives a running commentary on what Robert does and says, and sometimes even on what he thinks. Sometimes he believes the voice is a real person in the next room, speaking to him or about him. At other times he realizes that the voice is only in his imagination.

Sometimes the voice tells Robert that one of his close friends does not really like him or care about him, and he refuses to talk to that friend for a few weeks. When Robert’s roommates complain to him about his loud music or dirty dishes, he usually corrects the problem right way. But sometimes the voice tells him that his roommates really just want him to move out, and he gets angry and walks out of the apartment, slamming the door. When Robert’s manager points out that he has overlooked one of his job responsibilities, the voice sometimes tells Robert that the manager has a personal grudge against him.
APPENDIX D

VIGNETTE:
SCHIZOPHRENIA/BENIGN CHILDHOOD EXPERIENCES

The people who know Robert have mixed feelings about him. He's usually a good listener, but sometimes
he insists on giving unwanted advice. He is often willing to do favors for his friends, but he also gets on
their nerves sometimes by talking a lot about himself.

Robert gets along well with his roommates for the most part, but there are some problems. He sometimes
plays loud music even though he knows his roommates are trying to sleep. He also sometimes leaves his
dirty dishes in the sink for his roommates to find. On the other hand, he has never been late paying his
share of the rent.

At his job, Robert is known as a fairly reliable worker. He rarely shows up late for work, if he knows his
coworkers are depending on him. He does sometimes ask other employees to do things that are supposed
to be part of his job but he usually agrees to help his coworkers when they fall behind on their own work.

When Robert was growing up, there were not too many serious problems in his family. His parents were
married. He lived with them throughout his childhood. They were always caring and encouraging toward
him. They never hit or spanked him as a child.

The family was sometimes short on money, but Robert always had enough to eat and clean clothes to
wear. His father was always kind and loving toward his mother. Both of Robert’s parents drank alcohol
occasionally throughout his childhood, but never excessively. Robert always felt that his family loved
him and thought he was important.

For the past year, Robert has been having some problems. He has been having more conflict with his
friends, his grades have gone down, and his manager has noticed he hasn’t been doing as well at work.
During this time, Robert has been hearing a voice that is not real. The voice gives a running commentary
on what Robert does and says, and sometimes even on what he thinks. Sometimes he believes the voice is
a real person in the next room, speaking to him or about him. At other times he realizes that the voice is
only in his imagination.

Sometimes the voice tells Robert that one of his close friends does not really like him or care about him,
and he refuses to talk to that friend for a few weeks. When Robert’s roommates complain to him about his
loud music or dirty dishes, he usually corrects the problem right way. But sometimes the voice tells him
that his roommates really just want him to move out, and he gets angry and walks out of the apartment,
slamming the door. When Robert’s manager points out that he has overlooked one of his job
responsibilities, the voice sometimes tells Robert that the manager has a personal grudge against him.
APPENDIX E
MEASUREMENT ITEMS

Table 2. Attribution Questionnaire (AQ), Fear/Dangerousness subscale. Complete list of items in order of presentation to participants. Items used 9-point scale.

1. How scared of Robert would you feel?
2. I would feel threatened by Robert.
3. How frightened by Robert would you feel?
4. Robert would terrify me.
5. How dangerous would you feel Robert is?
6. I would feel unsafe around Robert.
7. I think Robert poses a risk to his neighbors unless he is hospitalized.

Table 3. Scale of General Likability (SGL). Complete list of items in order of presentation to participants. Items used 7-point scale.

1. How thoughtful was the person?
2. In general, how likable was the person?
3. How good-natured did the person seem to be?
4. How nice did the person act?
5. How trustworthy did the person seem to be?
6. In general, how hard to get along with did the person seem to be?
7. In general, how annoying was the person?
8. How obnoxious was the person?
9. How inconsiderate was the person?
10. In general, how aggravating was the person?
11. How mean did the person seem to be?
12. How selfish did the person act?
Table 4. Level of Contact Report. Complete list of items in ascending order of intimacy. Score is the number of the most intimate item endorsed. For order of presentation to participants, see Appendix H.

1. I have never observed a person that I was aware had a severe mental illness.
2. I have observed, in passing, a person I believe may have had a severe mental illness.
3. I have watched a movie or television show in which a character depicted a person with mental illness.
4. I have watched a documentary on television about severe mental illness.
5. I have observed persons with a severe mental illness on a frequent basis.
6. I have worked with a person who had a severe mental illness at my place of employment.
7. My job includes providing services to persons with a severe mental illness.
8. My job involves providing services/treatment for persons with a severe mental illness.
9. A friend of the family has a severe mental illness.
10. I have a relative who has a severe mental illness.
11. I live with a person who has a severe mental illness.
12. I have a severe mental illness.

Table 5. Participant demographic questions. Questions appear as presented to participants.

GENDER :  Female ________     Male ________
AGE: _________
RACE/ETHNICITY:
Asian, Asian-American, or Pacific Islander _____  Black or African-American _______
Hispanic or Latino/a_________  White or European-American (non-Hispanic) ______
Other or Multiracial ______
MAJOR AT FSU: ____________________________
APPENDIX F

MEDICALIZING-MORALIZING-PSYCHOLOGIZING CODING SYSTEM (MMPCS): INSTRUCTIONS FOR CODERS

This coding system measures the extent to which study participants' free-form explanatory responses involve each of three explanatory modes: medicalizing, moralizing, and psychologizing.

Explanatory Modes

Below each of the explanatory modes is defined.

Medicalizing explanations feature medical or biological causes, including:

- Any illness, disorder, sickness, or medical condition (including mental illnesses/psychiatric conditions), which may be expressed as:
  - Any specific medical or psychiatric diagnosis (e.g., Alzheimer's disease or schizophrenia);
  - Any category of medical or psychiatric diagnoses (e.g., heart conditions, personality disorder or mood disorder); or
  - In general terms (e.g., simply "medical problem" or "mental illness").
- Brain injury/brain damage.
- Chemical imbalance.
- Genetic (or inherited) conditions or factors.

Moralizing explanations feature an individual's reasons (motives) for their actions, or moral or personal qualities. These explanations include:

- Any voluntary choice or decision made by the protagonist (even if the choice or decision was influenced by external factors or personal history).
- Any intentional action of the protagonist (even if the action was motivated by external factors or personal history).
• Conscious motives or desires of the protagonist.
• Moral or ethical qualities of the protagonist.
• Bad or evil nature of the protagonist.
• Yielding to temptation by the protagonist.
• Sin by the protagonist.
• Personality or character traits of the protagonist that have a moral connotation (e.g., "self-centered," "cruel," "greedy.").
• Irresponsibility/neglect of duty.
• Bad habits (e.g., poor diet) where the habits seem to be construed by the respondent as a matter of choice.
• Epithets of condemnation (e.g., "jerk," "scumbag.")

Psychologizing explanations provide a causal history of the reasons (motives) for and individual's actions. This means these explanations address why the individual has the motives or moral or personal qualities. These explanations include:

• Previous experiences of the protagonist that seem to be construed by the respondent as having an important psychological or emotional impact on the protagonist.
• Current circumstances of the protagonist that seem to be construed by the respondent as having an important psychological or emotional impact on the protagonist.
• Traumatic experiences of the protagonist.
• Stress.
• Family or relationship dynamics (past or present).
• Unconscious or subconscious motives or desires.
• Moods, emotions, or emotional problems (except where clearly and explicitly construed as a symptom of mental illness)
• Psychological manipulation of the protagonist by another person (not direct coercion by use or threat of force).

Unclassifiable explanations are those that do not fit any of the categories medicalizing, moralizing, and psychologizing. These include:

• Transient somatic states (e.g., hunger, exhaustion/sleep deprivation), except where the context suggests these are indicative of an illness or medical problem.
• Drug or alcohol use, including intoxication, abuse, addiction, or withdrawal, unless the context suggests one or more of the explanatory modes.
• Direct coercion of the protagonist by another person by use of threat or force (not merely psychological manipulation).
• Supernatural causes (e.g., demonic possession, divine intervention, or a magical spell or curse)
• Explanations too vague to classify (e.g., "personal problems")
• Vague terms (e.g. "mental problems" or "mental instability") or slang terms (e.g. "crazy") that may or may not refer to mental illness, unless the context suggests one of the explanatory modes.

**Indicators**

Free-form responses must be assessed to determine whether they include indicators of one or more of the explanatory modes. Indicators may be either weak or strong:

*Weak indicator*: a statement, word, or phrase that may reasonably be interpreted as exhibiting a particular explanatory mode but does not clearly exhibit the mode.

*Strong indicator*: a statement, word, or phrase that clearly exhibits a particular explanatory mode.

**Scoring**

Each free-form response must be coded as one of the following scores for each of the explanatory modes:

0 = The response contains no indicators of the explanatory mode.
1 = The response contains one weak indicator of the explanatory mode.
2 = The response contains one strong indicator or more than one weak indicator.
3 = The response contains one strong indicator and one or more additional indicators (weak or strong).

**NOTE**: There may be indicators of more than one explanatory mode in the same response. Thus any combination of scores is possible for the three explanatory modes within a single response.
APPENDIX G
SAMPLE EXPLANATORY RESPONSES

Table 6. Sample free-form explanatory responses from actual participants. Final scores are provided for each of the explanatory modes: medicalizing (Med.), moralizing (Mor.), and psychologizing (Psy.).

<table>
<thead>
<tr>
<th>Explanatory Response (Complete Text)</th>
<th>Med</th>
<th>Mor</th>
<th>Psy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert may have these problems because he may have schizophrenia. Sometimes he was able to suppress</td>
<td>2.5</td>
<td>0.0</td>
<td>3.0</td>
</tr>
<tr>
<td>it but when it seems when he was put under stress or was not in a good mood was when it was most active. Another thing that could be wrong with Robert is he unconsciously talks to himself. All of his suppressed feelings as a child may be finally coming out.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I believe Robert has been having these problems recently because of unresolved issues with his family. Maybe because he is coming to the age his parents may have been at during their own turning point.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>2.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>His main problem is that he is listening to this voice in his head. It's telling him that his roommates want him to move out and his manager has a grudge towards him. The voice in his head is making him see the situation in a negative way and making him turn defensive towards the people involved.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>0.5</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Sounds like self-pity, as to what would induce it I can only guess. It may have to do with alcohol but often times it is something miniscule that festers on the inside and slowly grows until the person begins to show signs of depression which can lead to laziness and poor effort.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>3.0</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>He is insecure, not understanding his worth. He doesn't know Jesus as his savior, (based on the information given), and so his life and self sense of worth is incomplete. They're also could be other people in his life demeaning his characters so he feels the need to justify himself often by talking about himself.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Because he is a pussy and didn't adjust correctly after having a shitty childhood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>2.5</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Robert doesn't have any problems that are serious. Everybody goes through things and use it as an excuse. This kid has no problems other than the fact that he needs to spend more time on hygiene than playing music.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>3.0</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX H

SAMPLE PARTICIPANT PACKET

PARTICIPANT PACKET
Below you will find a description of a college student named Robert. Please read the description to get an idea of what Robert is like.

The people who know Robert have mixed feelings about him. He's usually a good listener, but sometimes he insists on giving unwanted advice. He is often willing to do favors for his friends, but he also gets on their nerves sometimes by talking a lot about himself.

Robert gets along well with his roommates for the most part, but there are some problems. He sometimes plays loud music even though he knows his roommates are trying to sleep. He also sometimes leaves his dirty dishes in the sink for his roommates to find. On the other hand, he has never been late paying his share of the rent.

At his job, Robert is known as a fairly reliable worker. He rarely shows up late for work, if he knows his coworkers are depending on him. He does sometimes ask other employees to do things that are supposed to be part of his job but he usually agrees to help his coworkers when they fall behind on their own work.

When Robert was growing up, there were some serious problems in his family. His parents were divorced when he was five. He lived with his mother and stepfather throughout most of his childhood. They often insulted and humiliated him. They often pushed and slapped him as well.

The family was sometimes short on money. Robert often did not have enough to eat or clean clothes to wear. Robert's stepfather would sometimes punch and kick Robert's mother, or threaten her with a knife. Both of Robert's parents drank alcohol heavily throughout his childhood. Robert felt like no one in his family loved him or thought he was important.

For the past year, Robert has been having some problems. He has been having more conflict with his friends, his grades have gone down, and his manager has noticed he hasn't been doing as well at work. Sometimes Robert decides that one of his close friends doesn't really like him or care about him, and he refuses to talk to that friend for a few weeks.

When Robert's roommates complain to him about his loud music or dirty dishes, he usually corrects the problem right way. But sometimes he has the feeling that his roommates really just want him to move out, and he gets angry and walks out of the apartment, slamming the door. When Robert's manager points out that he has overlooked one of his job responsibilities, Robert sometimes decides the manager has a personal grudge against him.

Robert has been having some problems for the past year. Why do you think he has been having these problems? Please write as many explanations as you want on the following page.
Robert has been having some problems for the past year. Why do you think he has been having these problems? Please write as many explanations as you want on this page.
Please answer the questions below about Robert, the person you read about.

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>How scared of Robert would you feel?</td>
<td>Not at all</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Very much</td>
</tr>
<tr>
<td>I would feel threatened by Robert.</td>
<td>Not at all</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Very much</td>
</tr>
<tr>
<td>How frightened by Robert would you feel?</td>
<td>Not at all</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Very much</td>
</tr>
<tr>
<td>Robert would terrify me.</td>
<td>Not at all</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Very much</td>
</tr>
<tr>
<td>How dangerous would you feel Robert is?</td>
<td>Not at all</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Very much</td>
</tr>
<tr>
<td>I would feel unsafe around Robert.</td>
<td>Not at all</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Very much</td>
</tr>
<tr>
<td>I think Robert poses a risk to his neighbors unless he is hospitalized.</td>
<td>Not at all</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Very much</td>
</tr>
</tbody>
</table>

PLEASE CONTINUE TO NEXT PAGE.
Please answer the questions below about Robert, the person you read about.

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>How thoughtful was the person?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In general, how likable was the person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>How good-natured did the person seem to be?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>How nice did the person act?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>How trustworthy did the person seem to be?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>In general, how hard to get along with did the person seem to be?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>In general, how annoying was the person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>How obnoxious was the person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>How inconsiderate was the person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>In general, how aggravating was the person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>How mean did the person seem to be?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>How selfish did the person act?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Please read each of the following statements carefully. After you have read all of the statements below, place a check by the statements below, place a check by the statements that best depict your exposure to persons with a severe mental illness.
<table>
<thead>
<tr>
<th>I have watched a movie or television show in which a character depicted a person with mental illness.</th>
</tr>
</thead>
<tbody>
<tr>
<td>My job involves providing services/treatment for persons with a severe mental illness.</td>
</tr>
<tr>
<td>I have observed, in passing, a person I believe may have had a severe mental illness.</td>
</tr>
<tr>
<td>I have observed persons with a severe mental illness on a frequent basis.</td>
</tr>
<tr>
<td>I have a severe mental illness.</td>
</tr>
<tr>
<td>I have worked with a person with a severe mental illness at my place of employment.</td>
</tr>
<tr>
<td>I have never observed a person that I was aware had a severe mental illness.</td>
</tr>
<tr>
<td>My job includes providing services to persons with a severe mental illness.</td>
</tr>
<tr>
<td>A friend of the family has a severe mental illness.</td>
</tr>
<tr>
<td>I have a relative who has a severe mental illness.</td>
</tr>
<tr>
<td>I have watched a documentary on television about severe mental illness</td>
</tr>
<tr>
<td>I live with a person who has a severe mental illness.</td>
</tr>
</tbody>
</table>
Please answer the following questions about yourself.

GENDER: Female ________ Male ________ AGE: ________

RACE/ETHNICITY:
Asian, Asian-American, or Pacific Islander ______ Black or African-American ______
Hispanic or Latino/a ______ White or European-American (non-Hispanic) ______
Other or Multiracial ______

MAJOR AT FSU: ______________________________

What do you think this research is about?

How do you think the researcher was expecting you to respond to the question about why Robert was having problems?

How do you think the researcher was expecting you to respond to the questions about how likable you thought Robert was?

How do you think the researcher was expecting you respond to the questions about how dangerous Robert was?

YOU ARE DONE. THANK YOU!
APPENDIX I

INFORMED CONSENT FORM

You are being asked to participate in a research study being conducted by Joseph Anson, MSW, a graduate student in the Florida State University College of Social Work. **YOUR PARTICIPATION IS VOLUNTARY.** By signing and returning this form, you provide your informed consent to participate in this study and you indicate that you understand the following:

- You are NOT required to participate in this study. Your participation is completely voluntary.
- There is no reward for participating in this study and there is no penalty for refusing to participate.
- You may ask questions before participating, or later.
- Even if you begin participating in the study, you will still have the right to stop participating at any time, without penalty.
- Although you have been asked to participate in this study during class time, your participation is NOT a required part of the course. Whether you participate in this study will NOT affect your grade in the course.
- The responses you give to questions in this study will be kept confidential to the extent allowed by law. Your name or identifying information will NOT be associated with the responses you give.
- Your participation would take no longer than ten minutes. It would involve reading some brief materials and providing brief written responses to some questions. Some of the questions will relate to your personal experiences. This study is intended to increase knowledge of how college students perceive certain common problems in various contexts.
- Only “minimal risk” is associated with participation in this study – risk no greater than that encountered in everyday life. You are not expected to experience any harm or discomfort in the study. If you become upset by participating for some reason, please stop right away.
- In the unexpected event that you experience distress, you may wish to call 2-1-1 Big Bend, a hotline that provides free, 24-hour crisis counseling as well as referrals for additional services. You can do this by dialing 2-1-1 in Tallahassee.
- If you have any questions about this study later, you may email the researcher Joseph Anson at [personal contact information removed] or call [personal contact information removed]. You may also call the researcher’s faculty advisor, Dr. Tomi Gomory, at [personal contact information removed]. For questions regarding your rights as a research participant, you may also call Julie Haltiwanger, Secretary of the Human Subjects Committee, at 850-644-7900.
Human Subjects <humansubjects@magnet.fsu.edu>

2/1/12

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 2/1/2012

To: Joseph Anson

Address: [Personal contact information removed.]
Dept.: SOCIAL WORK

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
Psychologizing and Mental Illness Stigma

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and one member of the Human Subjects Committee. Your project is determined to be Expedited per per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 1/30/2013 you must request a renewal of approval for
continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is FWA00000168/IRB number IRB00000446.

Cc: Tomi Gomory, Advisor
HSC No. 2011.7394

Human Subjects <humansubjects@magnet.fsu.edu>
2/8/12

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM (for change in research protocol)

Date: 2/8/2012

To: Joseph Anson

Address: [Personal contact information removed.]
Dept.: SOCIAL WORK

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research (Approval for Change in Protocol)
Project entitled: Psychologizing and Mental Illness Stigma

The form that you submitted to this office in regard to the requested change/amendment to your research protocol for the above-referenced project has been reviewed and approved.
If the project has not been completed by 1/30/2013, you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is FWA00000168/IRB number IRB00000446.

Cc: Tomi Gomory, Advisor
HSC No. 2012.7824
REFERENCES


Anson, J.A. (in preparation). Validation of the Scale of General Likability (SGL) and the Scale of Perceived Depressive Affect (SPDA).


BIOGRAPHICAL SKETCH

Joseph D. Anson earned his Bachelor of Arts (BA) degree in psychology in 2002 and his Master of Social Work (MSW) with clinical concentration in 2005, both from the Florida State University (FSU). He also attended St. John’s College in Santa Fe, New Mexico. He has previously served as a faculty member in the FSU College of Social Work where he taught courses on social welfare/healthcare policy, research methods, and statistics. He currently serves as Baker Act & Marchman Act Policy Director for the State of Florida. In this role he is responsible for behavioral healthcare policy development with a focus on crisis services, quality improvement, and managed care. His research interests include mental illness stigma and healthcare policy.