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Folk Conceptions of Mental Disorders

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FOLK CONCEPTIONS OF MENTAL DISORDERS

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A Thesis presented to the Graduate Faculty of the College of William and Mary in Candidacy for the Degree of Master of Arts

Department of Psychology

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ABSTRACT

During the past century, conceptualizing mental disorders has fluctuated between biomedical and psychosocial models of psychopathology. By theorizing the nature of psychopathology, the social constructivist and essentialist perspectives each explain these fluctuations in understanding mental disorders. According to the social constructivist perspective, mental disorders are abstract ideas, which are defined by the sociocultural values of the time. Conversely, the essentialist perspective maintains that mental disorders are discrete, naturally occurring entities with a biological basis. Extant research suggests that essentialist beliefs may underlie lay conceptions of mental disorders (Haslam & Ernst, 2005). The present study investigated how lay preconceived notions about mental disorders influenced inferences about the nature and treatment of various mental disorders. 394 undergraduates read diagnostic vignettes for mental disorders and reported their beliefs on dimensions of essentialism, global functioning, and treatment. In addition, participants reported the degree to which they intuitively adhered to a biomedical or psychosocial model of mental disorders. Results indicated that laypeople conceptualize mental disorders into three broad clusters. Laypeople believed that Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder were biologically-oriented and categorical in nature. On the other hand, laypeople believed that Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder were influenced by psychosocial factors and that they were dimensional in nature. Interestingly, laypeople conceptualized Major Depressive Disorder and Dysthymic Disorder as having both a biological and psychosocial basis. Moreover, results indicated that laypeople who adhere to a biomedical model, psychosocial model, or biomedical-psychosocial dialectic model of mental disorders conceptualize clusters of mental disorders differently. Findings suggest that attribution models of mental disorders frame laypeople’s beliefs and intuitions about mental disorders.
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Folk Conceptions of Mental Disorders

"Men are so necessarily mad, that not to be mad would amount to another form of madness." ~ Blaise Pascal

What is a mental disorder? Although the definition of psychopathology has fluctuated through the centuries (for review, see Alexander & Selesnick, 1995), its definition has tried to identify the line which divides normal human behavior from the psychological dysfunction of mental disorders. The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR, 2000) currently defines mental disorders as "clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress or disability or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom" (p. xxxi). Unfortunately, the *DSM-IV-TR* definition of mental disorders does not pinpoint exactly *what* a mental disorder is. After all, how does one distinguish "clinically significant behavior" from "not clinically significant" behavior? Moreover, is the determination of "clinically significant behavior" reserved exclusively for psychiatrists and other mental health care professionals?

Indeed, the *DSM-IV-TR* definition of mental disorders is ambiguous, and as a result, it fails to label the defining properties of mental disorders. Regardless, this definition contains the two core components of prototypical definitions of mental disorders: scientific and value judgments. According to the theory of harmful dysfunction for conceptualizing mental disorders, mental disorder
attributions require both a scientific judgment that there exists a failure of
designed function and a value judgment that design failure harms the individual
(Wakefield, 1992, 1999). In a two-pronged manner, Wakefield’s (1992, 1999)
definition of mental disorders recognizes that biological criteria are essential
components of defining mental disorders. That is, mental disorders arise from a
biological “failure,” which is identified and evaluated according to scientific
judgment. Secondly, Wakefield’s (1992, 1999) definition concedes that
sociocultural criteria are likewise an important component of defining mental
disorders. Without the value judgment of assaying mental disorder-induced
“harmful” outcomes for the individual, mental disorders would not exist. Hence,
the definition of mental disorders must simultaneously address universal
biological criteria and relative sociocultural criteria.

From prehistoric times to the modern era, the definition, latent features,
and names of mental disorders have fluctuated. These changes in the historical
conceptions of mental disorders can be attributed to evolving understanding of the
biological functioning of humans and dynamic sociocultural trends. Cumulatively,
the advancement of medicine and changing cultural values regarding
psychopathology have conceded shifts in thinking about mental disorders. Before
the modern era of science in the late 19th century, the conception of mental
disorders was relatively stable and widely held, for it fluctuated over spans of
centuries. However, the last 150 years of psychiatry has been demarcated by
radical transitions in the conception of mental disorders which occurred in the
span of decades. Moreover, mental health professionals embroiled in a debate on
the nature of psychopathology have often espoused widely divergent views on
mental disorders. To illustrate these changing trends in modern psychiatric
thought, we will provide a brief survey of historical conceptions of mental
disorders.

_Historical Conceptions of Mental Disorders_

_Medical Model of the Modern Era._ During the late 19th century,
psychiatry became a branch of medicine and mental disorders were
conceptualized as biologically-based diseases (for review, see Alexander &
Selesnick, 1995; Horwitz, 2002). The medical model for understanding mental
disorders was developed by psychiatrist Emil Kaepelin, the founder of modern
scientific psychiatry. Kraepelin believed that all mental disorders were biological
disturbances with the brain. The behavior, cognitions, and affect of an individual
with mental illness were merely symptoms of this brain-based disease. From this
medical model, Kraepelin observed the "symptoms" of mental disorders to
classify and diagnose various brain-based diseases (i.e., mental disorders), which
parallels physicians observing the physiological symptoms of a patient to
diagnose a disease. Through this scientific system of observation of symptoms
and diagnosis, Kraepelin was able to differentiate manic depression from
dementia praecox (i.e., schizophrenia). The realm of psychiatry was still limited
to select cases of severe psychosis, and these individuals were institutionalized in
asylums. For instance, Kraepelin limited his diagnostic system to dementia
praecox, manic depression, and severe depression. People with everyday problems sought clerical guidance, and they were not considered to have a mental disorder.

*Psychoanalytic Model.* Throughout the early to mid twentieth century, psychoanalytic model of mental disorders reigned over psychiatry (for review, see Alexander & Selesnick, 1995; Horwitz, 2002; Valenstein, 1998). “In 1950, it was rare that someone not committed to psychoanalytic theory would head a major psychiatry department” (Valenstein, 1998, p. 1). Instead of conceptualizing mental disorders as a brain-based disease, psychiatry interpreted mental disorders according to Sigmund Freud’s psychoanalytic theory. Mental disorders were attributed to early childhood experiences. In particular, one’s relationship with one’s mother was emphasized, and the quality of that relationship strongly influenced the presence of mental illness later in life. Moreover, mental disorders were caused by repression, sexual desires, fixations, or one’s libido. In addition, the legacy of Freud demystified and humanized mental disorders. Mental disorders were no longer limited to the madmen warehoused in Bedlam (Bethlem Royal Hospital in London). Mental disorders now extended to all people coping with everyday problems of living. As such, treatment for mental disorders became a process of self exploration. Intellectuals, artists, bohemians, teachers, health professionals, and those that frequented museums or concerts comprised the clientele base of psychoanalytic psychiatry. These individuals often were
naturally inclined toward introspection and a strong individual identity and were marginalized by mainstream society.

Antipsychiatry & Deinstitutionalization. From 1950 to 1970, the history of psychiatry was punctuated by antipsychiatry and deinstitutionalization (for review, see Alexander & Selesnick, 1995; Horwitz, 2002; Valenstein, 1998). These two events radically shifted the conception of mental disorders by countering the psychoanalytic model and restoring the medical model. Antipsychiatric writings, such as Szasz's (1960) *The Myth of Mental Illness*, challenged the very existence of mental disorders. Antipsychiatry, although a short-lived movement, had lasting repercussions for psychiatry. It exposed that yesterday's socially deviant behavior could become today's mental disorder.

Occurring simultaneously with the antipsychiatry movement, advancements in psychopharmaceuticals revolutionized the treatment of mental disorders. Compared to psychotherapy, pharmacotherapy was immediately effective and less time consuming. As a result, psychiatrists began using pharmacotherapy to treat patients at mental hospitals. Due to the efficacy of pharmacotherapy, thousands of mentally ill individuals were deinstitutionalized, or released from mental hospitals. The dramatic impact of pharmacotherapy on psychiatry is most evident between 1950 and 1970. In 1950, it was considered unethical to conduct schizophrenia research without psychotherapy, yet by 1970, it was considered unethical to conduct this research without pharmacotherapy (Gunderson, 1977).
Biomedical Model. Since antipsychiatry and deinstitutionalization, the conception of mental disorders has returned to the neo-Kraepelin biomedical model (for review, see Alexander & Selesnick, 1995; Horwitz, 2002). Modern psychiatry has shifted from blaming the mother for mental disorders to blaming the brain (Valenstein, 1998). According to the biomedical model, people with mental disorders “suffer from a sick or broken brain, not from weak will, laziness, bad character, or bad upbringing” (Andreasen, 1984, p.8). For many health care professionals, mental disorders are considered to be brain-based, biological dysfunctions and chemical imbalances, which result in disturbances in cognition, affect, and behavior. Like physiological diseases, mental disorders are diagnosed by a medical professional observing a pattern of symptoms and prognosticated with psychopharmaceuticals. Despite the similarities, the medical model of Kraepelin’s era and the current biomedical model differ in two important ways. For one, the current biomedical model posits that since mental disorders are brain-based dysfunctions, mental disorders can be treated and potentially reversed, or “cured,” with psychopharmaceuticals. Secondly, the current biomedical model extends mental disorders to problems of living, whereas Kraepelin’s medical model restricted mental disorders to select cases of severe psychosis.

Conclusion. This historical survey of the conception of mental disorders demonstrates that thinking about psychopathology has come full circle, from Kraepelin’s medical model to the Freudian psychoanalytic model to the neo-Kraepelin biomedical model.
Conceptualizing Mental Disorders

These radical transformations in thinking about mental disorders illustrate broader sociocultural fluctuations in defining and conceptualizing mental disorders. Over the past century, defining mental disorders has swung between Wakefield’s (1992, 1999) two-pronged criteria. Specifically, defining mental disorders has oscillated between emphasizing scientific values with the biomedical model and emphasizing sociocultural values with the psychosocial model. This fluctuation reflects a transition between two perspectives of conceptualizing and understanding mental disorders – social constructivism and essentialism.

According to the social constructivist perspective, mental disorders are abstract ideas that are socially constructed, instead of scientifically constructed (Maddux, Gosselin, & Winstead, 2005). Mental disorders are not universal and stable across time. In fact, social constructivism asserts that mental disorders are defined by the sociocultural values of the time. Accordingly, since the definitions of mental disorders fluctuate, psychopathology has a dimensional nature, in that people merely vary by the extent to which they express psychological phenomena, such as emotion, mood, intelligence, and behavior. The psychoanalytic model of mental disorders is closely analogous to the social constructivist perspective, for it redefined psychopathology in a unique manner that suited the philosophical climate of the time. For instance, during the early 20th century, Freudian theory
allowed for broadening the definition of mental disorders to include common problems of living.

Conversely, the essentialist perspective maintains that mental disorders are discrete, naturally occurring entities with a biological basis (Haslam, 2005; Rosenblum & Travis, 1996). In addition, mental disorders can be discovered and studied scientifically. As such, essentialism asserts that mental disorders have a biological essence, which makes them universal and immutable, or stable across historical epochs. According to this perspective, any fluctuation in thinking about psychopathology would be propelled by advancements in scientific understanding. The essentialist perspective asserts that mental disorders are biologically-oriented, discrete entities, and that their classification has a categorical nature. Not surprisingly, the biomedical model of mental disorders and the current diagnostic system of the *DSM-IV-TR* are closely analogous to the essentialist perspective.

Throughout the radical transformations in popular thought on psychopathology, mental health professionals have espoused the social constructivist and essentialist perspectives simultaneously. These divergent perspectives on the nature of psychopathology have historically have pitted the biological and psychosocial origins of mental disorders against each other. In its historical context, this debate is known as the “Nature versus Nurture” debate. Proponents of the “Nature” argument traditionally supported a model of genetic inheritance of mental disorders. On the other hand, proponents of the “Nurture”
argument traditionally supported the importance of life experiences in the
development of mental disorders.

Despite compelling empirical evidence for both “Nature” and “Nurture”
arguments, the conflicting views on origin of mental disorders are, unfortunately,
not merging into a grand synthesis of the two (Valenstein, 1998). Indeed,
genetics can influence one’s interactions with the environment, just as interactions
with the environment can influence genetic expression. Regardless of the
interplay between genes and the environment, a multitude of factors, such as
publishing opportunities, empirical methodology trends, funding for research
grants, aggressive advertising from psychopharmaceutical companies, and third
party supported treatment options for mental disorders, indicate that the
biomedical model of mental disorders dominates current professional and public
thinking about mental disorders (Luhrmann, 2000).

Lay Beliefs about Mental Disorders

Unlike mental health professionals, the general public is less likely to have
been inculcated with the biomedical model of mental disorders from
psychological training or from reading empirical studies and other psychological
writings. Realistically, the public has probably received most of its information
on the biomedical model of mental disorders from the advertising campaigns of
mental disorder advocacy groups and psychopharmaceutical companies.
Psychopharmaceutical companies are a multibillion dollar industry. Similar to all
companies, their economic viability is dependent upon the retention of current
clients and the recruitment of new clients. As a result, the marketing campaigns of psychopharmaceutical campaigns promote the biomedical model of mental disorders. By increasing public opinion that psychopharmaceuticals effectively treat mental disorders, the psychopharmaceutical companies, in effect, increase their clientele base and profit margin. Furthermore, in adherence with the biomedical model, psychopharmaceutical companies advertise that mental disorders are biologically-based, disease-like entities. For instance, Eli Lilly advertised for Prozac, which is a popular drug treatment for depression, “Like diabetes or arthritis, depression is a physical illness” (cited in, Valenstein, 1998, p. 181). Hence, lay conceptions of mental disorders and their knowledge of the biomedical model of mental disorders are shaped by psychopharmaceutical companies.

Laypeople’s conceptions of mental disorders could resemble diluted reflections of professional views on mental disorders (Jorm, 2000). Conversely, laypeople could actively construct their own understandings of mental disorders based on broader sociocultural views (Haslam, 2005). Regardless of how laypeople conceptualize mental disorders, it is likely that current lay conceptions of mental disorders are, at least loosely, based on the biomedical model of mental disorders. According to Haslam (2000), the biomedical model is characterized by four tenets: 1) mental disorders are caused by abnormalities of biological structures, 2) each mental disorder has a specific, brain-based etiology, 3) mental disorders are real, categorically distinct entities which can be diagnosed, and 4)
mental disorders are historically and panculturally universal. If the biomedical model of mental disorders shapes public opinion, it is unclear just how stringently laypeople adhere to Haslam's (2000) "pure" biomedical model. Similarly, the extent to which the biomedical model filters lay conceptions of mental disorders is unclear.

Evidence that laypeople hold a biomedical model of mental disorders is partially supported by extant research on essentialist beliefs about mental disorders. People tend to essentialize, that is attribute an underlying essence, to naturally occurring social categories. That is, people can construct social categories, such as ethnic or sexual orientation categories, according to these biological essences (Hirschfeld, 1995; Rothbart & Taylor, 1992). Since the biomedical model of mental disorders maintains that each mental disorder is universal and has a biologically-based etiology with discrete categories (Haslam, 2000), it follows that laypeople with a biomedical model would view mental disorders as real, disease-like entities with essences (Haslam & Ernst, 2002; Haslam, Rothschild, & Ernst, 2000; Kendell, 1986).

Haslam and Ernst (2005) examined essentialist beliefs about mental disorders. Using a college sample, they presented a vignette describing the diagnostic criteria of a mental disorder and a debate on its origin for bulimia nervosa, hypochondriasis, major depression, obsessive-compulsive disorder and schizophrenia. Following each vignette and its accompanying etiology debate, participants responded to the Essentialist Beliefs Scale (Haslam et al., 2000, 2002),
which assesses 8 dimensions of an essentialist perspective: informativeness, historical invariance, discreteness, uniformity, immutability, necessary features, inherence, and naturalness. They found that participants tend to view most as natural kinds, meaning that they are discrete, immutable, and natural. However, their findings did not support the notion that mental disorders are entitative, for laypeople believed that the mental disorder diagnosis did not convey much information and that people with this disorder were not similar to one another). Hence, Haslam and Ernst (2005) found partial support that laypeople maintain essentialist beliefs about mental disorders.

In general, the direct link between essentialist beliefs about mental disorders and the biomedical model is better supported by theory than empirical research. Research suggests that essentialist beliefs may only loosely guide conceptions of mental disorders (Haslam & Ernst, 2005; Haslam, Rothschild, & Ernst, 2000). For example, Haslam and Ernst (2005) found that laypeople only endorsed the natural kinds dimension of essentialist beliefs, not the entitative dimension. Moreover, both mental health professionals and laypeople essentialize mental disorders less than medical disorders, such as allergies, high blood pressure, or chickenpox (Ahn, Flanagan, Marsh, & Sanislow, 2006). These findings suggest that laypeople may conceptualize mental disorders as disease-like, but it is unlikely that laypeople strictly view mental disorders as biological, brain-based disease entities.
In fact, research suggests that laypeople may differentially apply models of mental disorders. Specifically, laypeople may attribute different causes and suggest different treatments depending on the mental disorder and whether the diagnosis is provided. For instance, Schomerus, Matschinger, and Angermeyer (2006) found that laypeople were more likely to attribute biological causes, such as brain disease and heredity, to schizophrenia, whereas they were more likely to attribute psychosocial causes, such as drug abuse and stress, to depression. Moreover, a cross-cultural review of research over the last 15 years on lay beliefs about mental illness echoed similar findings (Angermeyer & Dietrich, 2006). According to their review (Angermeyer & Dietrich, 2006), most studies on the lay beliefs of mental disorders are descriptive in nature, and they use a vignette empirical paradigm. In addition, a substantial proportion of the public cannot recognize specific mental disorders well. When presented with a vignette without a diagnosis, laypeople worldwide tended to use a psychosocial model for understanding mental disorders, and they recommended psychological interventions for treatment. However, when laypeople were presented with both a vignette and a diagnosis, laypeople tended to use a psychosocial model for conceptualizing depression, but they used a biomedical model for conceptualizing schizophrenia.

Angermeyer’s and Dietrich’s (2006) cross-cultural review reveals several limitations of research on lay beliefs of mental disorders. For one, the findings are not easily generalizable to American folk conceptions of mental disorders.
Although some research came from America, Angermeyer and Dietrich (2006) primarily reviewed European research on lay beliefs. The American public may view mental disorder etiology and treatment different from Europeans, as they may have differential exposure to psychopharmaceutical advertising and different cultural views on mental disorders. Secondly, research on lay beliefs of mental disorders has disproportionately focused on depression and schizophrenia. This indicates that various other mental disorders need to be examined in order to investigate folk conceptions of mental disorders, in general. Finally, extant research on lay beliefs of mental disorders is primarily descriptive, instead of theory driven. As a result, it is difficult to ascertain how laypeople use models of mental disorders when they conceptualize mental disorders.

Present Study

The purpose of the present study is to explore lay conceptions of various mental disorders. Extant attitudinal research on population beliefs about mental disorders has focused on European samples, the mental disorders schizophrenia and depression, and describing public opinion (for review, see Angermeyer & Dietrich, 2006). The present study will examine American lay conceptions of mental disorders. In addition, it will not only investigate lay views on depression and schizophrenia, but it will also include less frequently studied mental disorders, such as Alcohol Dependence, Anorexia Nervosa, Bipolar I Disorder, Dysthymic Disorder, Posttraumatic Stress Disorder, and Schizotypal Personality Disorder. Furthermore, the present study will examine the aforementioned mental disorders
in an exploratory manner in order to generate a theory of lay conceptions of mental disorders. Finally, the present study will investigate how lay preconceived biases on the etiology of mental disorders influences beliefs about the nature and treatment of various mental disorders.

The methodology of the present study will be loosely based on Haslam’s and Ernst’s (2005) empirical paradigm for essentialist beliefs on mental disorders. The present study will administer a web-based, anonymous survey to a population of young adults, who are currently enrolled in a collegiate-level Introduction to Psychology course. Using a vignette empirical paradigm, participants will read diagnostic vignettes extracted from DSM-IV Casebook (1994). Moreover, the vignette content will be edited for comorbid disorder, such as drug dependence and psychotic symptoms. After reading each diagnostic vignette, participants will report their beliefs on dimensions of essentialism, global functioning, and treatment associated with mental disorder. In addition, the participants will report their beliefs on the historical Nature versus Nurture controversy, which will indicate the degree to which participants intuitively adhere to a biomedical or psychosocial model of mental disorders. Unlike the essentialism study by Haslam and Ernst (2005), the present study will not experimentally manipulate beliefs and intuitions about mental disorders.

The present study hypothesizes that lay conceptions of mental disorders will form two broad groupings: mental disorders that are viewed as biologically-oriented and categorical in nature and those that are influenced by psychosocial
factors and are dimensional in nature. Specifically, we hypothesize that laypeople with conceptualize Bipolar I Disorder, Major Depressive Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder as cluster of mental disorders, since these mental disorders have empirical support for a biological basis. Also, we hypothesize that laypeople will conceptualize Alcohol Dependence, Anorexia Nervosa, Dysthymic Disorder, and Posttraumatic Stress Disorder as a different cluster of mental disorders, since these mental disorders have empirical support for being influenced by psychosocial factors. Moreover, we hypothesize that laypeople will believe that clusters of mental disorders share similar latent qualities (i.e., Genetic Attribution, Informativeness, Mutability, Psychopharmaceutical Treatment, Psychosocial Attribution, Reification) and similar global functioning. In addition, we hypothesize that laypeople who adhere to a biomedical model, psychosocial model, or biomedical-psychosocial dialectic model of mental disorders will conceptualize clusters of mental disorders differently, since their attribution model of mental disorders will frame their beliefs and intuitions about the clusters of mental disorders.

Method

Participants

Total participants were 400 undergraduates enrolled in psychology introductory courses at the College of William and Mary. Since 6 participants withdrew from the study, data was collected from 394 participants (245 females and 149 males), who received course credit for research participation.
Participants consisted of 242 freshmen (age $M = 18.26, SD = 1.41$), 97 sophomores (age $M = 19.29, SD = 2.77$), 28 juniors (age $M = 20.50, SD = 1.77$), and 27 seniors (age $M = 21.41, SD = 3.98$). In addition, participants ethnically self-identified as African American (7.4 %), Asian (7.1 %), Biracial (3.6 %), Caucasian (75.1 %), Hispanic (3.6 %), Native American (.3 %), or Other (3 %).

For most participants (94.9 %), formal coursework in psychology was limited to introductory classes. Yet, some participants had completed 2 psychology courses (4.3 %) and 3 or more psychology courses (.8 %).

Participants’ academic majors included Undecided (22.6%), Psychology (7.6 %), Hard Sciences/Neuroscience (24.1 %), Other Social Sciences (10.9 %), Humanities (20.8 %), Education (2 %), and Business (11.9 %). 258 participants intended to double major, which is a common decision at the College of William and Mary. Double majors included Psychology (7.4 %), Hard Sciences/Neuroscience (14.5 %), Other Social Sciences (9.9 %), Humanities (24.4 %), Education (2.5 %), and Business (6.9 %).

Moreover, the degree of personal exposure to mental disorders varied among participants, (19.3 % None, 25.9 % Minimal, 20.1 % Somewhat, 15.2 % Fair Amount, and 19.5 % A lot). Participants reported personally knowing someone diagnosed with the following mental disorders: Diagnosis Unknown (5.36 %), Depression (17.6 %), Anxiety (2.79 %), Bipolar Disorder (16.52 %), Schizophrenia (4.51 %), Obsessive Compulsive Disorder (5.58 %), Eating Disorder (1.72 %), Attention Deficit Disorder/Attention Deficit Hyperactive
Disorder (3.43 %), Alcoholism (.43 %), Borderline Personality Disorder (.21 %), Narcissism (.43 %), Autism (5.58 %), Learning Disorder (.86 %), Mental Retardation (11.16 %), Alzheimer’s/Dementia (3.0 %), Tourette’s (1.07 %), Insanity (.64 %), Biological Disease (e.g., stroke or cancer, 1.72 %), and Reactive Attachment Disorder (.21 %). 57 participants (14.5 %) listed multiple mental disorder diagnoses.

Materials

*Mental Disorder Diagnostic Vignettes.* Eight diagnostic vignettes illustrating mental disorders were extracted from the *DSM-IV Casebook* (1994). Content was edited for comorbid disorder, such as drug dependence and psychotic symptoms. The researchers revised the following diagnostic vignettes: *Thunderbird* for Alcohol Dependence (see Appendix A), *Sixty-seven Pound Weakling* for Anorexia Nervosa (see Appendix B), *Roller Coaster* for Bipolar I Disorder (see Appendix C), *Junior Executive* for Dysthymic Disorder (see Appendix D), *Foster Mother* for Major Depressive Disorder (see Appendix E), *Under Surveillance* for Paranoid Schizophrenia (see Appendix F), *Flashbacks* for Posttraumatic Stress Disorder (see Appendix G), and *Wash Before Wearing* for Schizotypal Personality Disorder (see Appendix H). Since diagnostic vignettes originated from the *DSM-IV Casebook* (1994), all mental disorders were presented in a manner consistent with traditional psychiatric diagnostic procedures and context. Each diagnostic vignette described the respective mental
disorder symptomology and concluded with the psychiatrist diagnosing the mental disorder.

*Nature vs. Nurture Debate.* A prompt overviewed the classic *nature vs. nurture* psychology debate (see Appendix I). To maintain an untendentious stance, the debate overview only acknowledged that some psychological professionals attribute mental disorders to genetic factors, whereas other psychological professionals attribute mental disorders to environmental factors.

**Measures**

*Genetic Attribution.* “This disorder is most likely primarily caused by a genetic, neurochemical, or brain-based dysfunction.” This item was assessed by a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

*Informativeness.* “This disorder is an informative diagnostic category. Knowing that someone has this disorder tells us a lot about the person.” This item was assessed by a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

*Mutability.* “This disorder can be cured.” This item was assessed by a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

*Psychopharmaceutical Treatment.* “This disorder can be effectively treated with psychopharmaceuticals (i.e., meds).” This item was assessed by a 5-
point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

*Psychosocial Attribution.* “This disorder probably is the result of the combination of stress and life experiences.” This item was assessed by a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

*Reification.* “This disorder refers to a social construct rather than an objective bodily disorder.” This item was assessed by a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

*Global Assessment of Functioning Scale (GAF).* The GAF scale (see Appendix J; *DSM-IV-TR*, 2000) quantifies the quality of one’s occupational and relational pursuits according to a numerical continuum of 100 (optimal mental health) to 0 (severely mental illness). The GAF Scale satisfies Axis V, or Global Functioning, of the Multiaxial Assessment of mental disorders, and it is used by all diagnosticians.

*Nature Argument.* The nature argument strongly endorses the biomedical model of mental disorders (see Appendix K). It argues that mental disorders are caused by genetic factors, or one’s “nature.” This item was assessed by a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

*Nurture Argument.* The nurture argument strongly endorses the psychosocial model of mental disorders (see Appendix L). It argues that mental
disorders are caused by environmental factors, or one’s “nurture.” This item was assessed by a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

Procedure

Using Sona Systems, participants completed an anonymous, online computer survey that explored their beliefs and conceptualizations about various mental disorders. Participants completed a demographic questionnaire that assessed their educational background in psychology, their anticipated academic major, and their prior exposure to mental disorders.

Next, participants were presented with 8 mental disorder diagnostic vignettes. Following each diagnostic vignette, participants responded to items that assessed their individual understanding of each illustrated mental disorder (i.e., Genetic Attribution, Informativeness, Mutability, Psychopharmaceutical Treatment, Psychosocial Attribution, Reification, and GAF). The online computer survey research design allowed participants to be presented with all diagnostic vignettes and their accompanying items in randomized order.

Finally, participants read an overview of the Nature vs. Nurture Debate. Participants then responded to the degree to which they endorsed the Nature Argument and the Nurture Argument, which were likewise presented in randomized order.

Results

*Exploratory Factor Analysis (EFA)*
Table 1 presents the descriptive analyses for the clinical vignette measures (i.e., Genetic Attribution, Informativeness, Mutability, Psychopharmaceutical Treatment, Psychosocial Attribution, Reification, and GAF). Using these clinical vignette measures, we performed a series of exploratory factor analyses (EFA) to generate a theory regarding the latent structure of lay classification of various mental disorders (Henson & Roberts, 2006).

To evaluate the appropriateness of EFA with the data set, we considered our sample size, Bartlett’s test of sphericity, and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. Firstly, Tabachnik and Fidell (1996) recommend at least 300 cases for a data set to be suitable for factor analysis. With 394 participants, our sample size was suitable for EFA. Secondly, Bartlett’s test of sphericity was used to check for variable independence in conjunction with EFA. Bartlett’s test of sphericity was obtained for each clinical vignette measure: Genetic Attribution (410.17, p < .001), Informativeness (829.53, p < .001), Mutability (567.58, p < .001), Psychopharmaceutical Treatment (480.54, p < .001), Psychosocial Attribution (380.95, p < .001), Reification (501.05, p < .001), and GAF (479.85, p < .001). These values for Bartlett’s test of sphericity suggest that the variables are independent and are, therefore, suitable for EFA. Finally, we obtained the KMO measure of sampling adequacy to indicate the proportion of common variance in the measured variables. As a general rule of thumb, KMO values over .60 are considered appropriate for EFA. The KMO value obtained for each clinical vignette measure suggested were Genetic
Attribution (.767), Informativeness (.853), Mutability (.793),
Psychopharmaceutical Treatment (.762), Psychosocial Attribution (.731),
Reification (.794), and GAF (.838). Based on the sample size, Bartlett's test of
sphericity, and KMO measure of sampling adequacy, we determined that the data
set was, indeed, appropriate for EFA.

We proceeded to separately test each clinical vignette measure across all
mental disorders using a series of principal components analyses with direct
oblimin rotation. We used an oblique rotation, because it more accurately reflects
real-world phenomena, which are often correlated. For all EFA analyses, factors
were extracted according to the Kaiser criterion that eigenvalues be at least 1.00
(Kaiser, 1960). Moreover, for a mental disorder to be retained for a factor, its
factor loading on the structure matrix exceeded .40 and its loadings demonstrated
a similar trend on the pattern matrix.

**Genetic Attribution.** The EFA defined two factors (see Table 2). The first
factor had an eigenvalue of 2.513, and it explained 31.4% of the variance. The
second factor had an eigenvalue of 1.335, and it explained 16.7% of the variance.
Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder
loaded on the first factor, whereas, Alcohol Dependence, Anorexia Nervosa, and
Posttraumatic Stress Disorder loaded on the second factor. Dysthymic Disorder
and Major Depressive Disorder loaded on both factors.

**Informativeness.** The EFA only defined a single factor, which terminated
further analysis.
Mutability. The EFA defined two factors (see Table 3). The first factor had an eigenvalue of 2.931, and it explained 36.6% of the variance. The second factor had an eigenvalue of 1.107, and it explained 13.8% of the variance. Bipolar I Disorder, Paranoid Schizophrenia, Posttraumatic Stress Disorder, and Schizotypal Personality Disorder loaded on the first factor. Alcohol Dependence and Anorexia Nervosa loaded on the second factor. Again, Dysthymic Disorder and Major Depressive Disorder loaded on both factors.

Psychopharmaceutical Treatment. The EFA defined two factors (see Table 4). The first factor had an eigenvalue of 2.585, and it explained 32.3% of the variance. The second factor had an eigenvalue of 1.456, and it explained 18.2% of the variance. Bipolar I Disorder, Dysthymic Disorder, Major Depressive Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder loaded on the first factor. Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder loaded on the second factor.

Psychosocial Attribution. The EFA defined two factors (see Table 5). The first factor had an eigenvalue of 2.372, and it explained 29.6% of the variance. The second factor had an eigenvalue of 1.400, and it explained 17.5% of the variance. Bipolar I Disorder, Dysthymic Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder loaded on the first factor. Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder loaded on the second factor. Major Depressive Disorder loaded on both factors.
Reification. The EFA defined two factors (see Table 6). The first factor had an eigenvalue of 2.771, and it explained 34.6% of the variance. The second factor had an eigenvalue of 1.221, and it explained 15.3% of the variance. Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder loaded on the first factor. Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder loaded on the second factor. Dysthymic Disorder and Major Depressive Disorder loaded on both factors.

GAF. The EFA only defined a single factor, which terminated further analysis.

EFA Series Analyses Interpretation. Using visual qualitative inspection of the pattern and structure matrices for the EFA series analyses, we determined that the laypeople do not classify various mental disorders as conceptually distinct. The EFA analyses series suggest that laypeople intuitively cluster mental disorders according to their latent qualities. The mental disorders Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder were consistently clustered on the first factor. Since research suggests that Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder have a strong genetic component, the first factor could be defined as genetic factors. Hence, Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder could be clustered as Genetic Disorders.

Conversely, Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder consistently loaded on the second factor. Since research suggests
that Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder are strongly influenced by one’s environment, the second factor could be defined as environmental factors. Hence, Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder could be clustered as Psychosocial Disorders.

Interestingly, Dysthymic Disorder and Major Depressive Disorder tended to load on both factors. This pattern suggests that laypeople conceptualize Dysthymic Disorder and Major Depressive Disorder as being influenced by both genetic and environmental factors. The consistent straddling of the genetic and environmental factors suggests that Dysthymic Disorder and Major Depressive Disorder are a distinct mental disorder cluster, which could be categorized as Depressive Disorders.

Figure 1 depicts the clustering of mental disorders according to factor loadings on genetic and environmental factors from the EFA series analyses.

**Confirmatory Mental Disorder Clustering MANOVA**

To confirm the clustering of mental disorders according to EFA were conceptually distinct, a 3 (Mental Disorder Cluster: Genetic, Depressive, and Psychosocial Disorders) X 7 (Clinical Vignette Measures: Genetic Attribution, Informativeness, Mutability, Psychopharmaceutical Treatment, Psychosocial Attribution, Reification, and GAF) multivariate analysis of variance (MANOVA) with repeated measures was performed. The MANOVA revealed a significant overall effect between mental disorder clustering and lay beliefs about mental disorders, Wilks’ $\Lambda = .326$, $F(14, 2346) = 126.05$, $p < .001$. In addition,
univariate analyses of variance (ANOVAs) indicated significant main effects between mental disorder clustering and each clinical vignette measure (see Table 7).

Since the purpose of the MANOVA was to confirm the clustering of mental disorders into Genetic, Depressive, and Psychosocial Disorders, we used Tukey’s HSD homogenous subsets post-hoc test, which significantly described the data ($p < .05$). Except for Informativeness, each clinical vignette measure grouped into a significantly distinct homogenous subsets which orthogonally corresponded with the mental disorder clusters of Genetic, Depressive, and Psychosocial Disorders from the EFA (see Table 8). For Informativeness, Genetic Disorders ($M = 3.41, SD = .78$) grouped into one subset, Depressive Disorders ($M = 3.23, SD = .77$) grouped into the other subset, and Psychosocial Disorders ($M = 3.32, SD = .75$) grouped into both subsets, suggesting that Informativeness may not be an important criterion for mental disorders with laypeople.

The results of Tukey’s HSD homogenous subsets post-hoc analysis confirm that laypeople group Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder into a one classification, which could be labeled *Genetic Disorders*; Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder into another classification, which could be labeled *Psychosocial Disorders*, and Dysthymic Disorder and Major Depressive Disorder into a third classification, which could be labeled *Depressive Disorders*. Theses findings
suggest that relative to other mental disorders, laypeople tend to classify and conceptualize the mental disorders within a cluster in a similar manner.

**Attribution Model of Mental Disorders**

To test our final hypothesis, we examined the interaction between a layperson's attribution model of mental disorders and his or her beliefs regarding the mental disorders within each clustering.

**Attribution Model Profiles.** Using a 5-point Likert scale, participants responded to the degree to which they agreed or disagreed with the Nature Argument and the Nurture Argument. From combined responses to the Nature and Nurture Arguments, we created profile for each participant to reflect his or her world view on the attribution of mental disorders. For the Biomedical Profile \((N = 110)\), participants responded \(\text{Nature} \geq 4\) and \(\text{Nurture} \leq 2\). The Biomedical Profile characterizes strong support for biological explanations of mental disorders and relatively low support for psychosocial explanations. For the Moderate Profile \((N = 210)\), participants responded \(\text{Nature} = 3 \mid 4\) and \(\text{Nurture} = 3 \mid 4\). The Moderate Profile incorporates the interaction of gene expression within one's environment into one's attribution model of mental disorders. For the Psychosocial Profile \((N = 15)\), participants responded \(\text{Nature} \leq 2\) and \(\text{Nurture} \geq 4\). The Psychosocial Profile is characterized by strong support for psychosocial explanations of mental disorders and relatively low support for biological explanations. For the Mixed Predictor Profile \((N = 59)\), participants did not satisfy the criteria for the Biomedical, Moderate, and Psychosocial Profiles.
Participants in the Mixed Predictor Profile either had converging, polarized responses, or they had one moderate response and one extreme response. Hence, inferences on the attribution model of mental disorders for participants with a Mixed Predictor Profile could not be made.

*Analytic Strategy.* A series of 4 (Attribution Model Profile: Biomedical, Moderate, Psychosocial, and Mixed Predictor) X 7 (Clinical Vignette Measures: Genetic Attribution, Informativeness, Mutability, Psychopharmaceutical Treatment, Psychosocial Attribution, Reification, and GAF) multivariate analysis of variance (MANOVA) with repeated measures were performed for each mental disorder cluster. A significant interaction was followed by Tukey’s HSD post-hoc test for multiple comparisons to locate the effect.

*Genetic Disorders Cluster.* The MANOVA revealed a significant overall effect between mental disorder clustering and lay beliefs about mental disorders, \( Wilk's A = .013, F(7, 384) = 4166.56, p < .001 \). In addition, univariate analyses of variance (ANOVAs) indicated significant main effects between mental disorder clustering and each clinical vignette measure (see Table 9).

These main effects were located using Tukey’s HSD post-hoc test for multiple comparisons. For Genetic Attribution, the Biomedical Profile was significantly different from the Moderate (.29, \( p < .001 \)), Psychosocial (.52, \( p < .01 \)), and Mixed Predictor Profiles (.28, \( p < .01 \)). For Mutability, the Biomedical Profile was significantly different from the Moderate (-.22, \( p < .05 \)) and Psychosocial (-.51, \( p < .05 \)) Profiles. For Psychosocial Attribution, the
Biomedical Profile was significantly different from the Moderate (-.48, \( p < .001 \)), Psychosocial (-.69, \( p < .01 \)), and Mixed Predictor Profiles (-.57, \( p < .001 \)). For Reification, the Biomedical Profile was significantly different from the Moderate (-.38, \( p < .001 \)), Psychosocial (-.77, \( p < .001 \)), and Mixed Predictor Profiles (-.32, \( p < .05 \)). For GAF, the Psychosocial Profile was significantly different from the Biomedical (9.04, \( p < .05 \)) and Mixed Predictor Profiles (8.15, \( p < .05 \)).

**Depressive Disorders Cluster.** The MANOVA revealed a significant overall effect between mental disorder clustering and lay beliefs about mental disorders, Wilks' \( \Lambda = .015 \), \( F (7, 384) = 3608.70, p < .001 \). In addition, univariate analyses of variance (ANOVAs) indicated significant main effects between mental disorder clustering and each clinical vignette measure (see Table 10).

These main effects were located using Tukey’s HSD post-hoc test for multiple comparisons. For Genetic Attribution, the Biomedical Profile was significantly different from the Moderate (.34, \( p < .001 \)), Psychosocial (1.06, \( p < .001 \)), and Mixed Predictor Profiles (.58, \( p < .001 \)). For Informativeness, the Biomedical Profile is significantly different from the Psychosocial (-.65, \( p < .001 \)) and Mixed Predictor Profiles (-.36, \( p < .05 \)). For Mutability, the Psychosocial Profile was significantly different from the Biomedical (.75, \( p < .01 \)) and the Moderate Profiles (.58, \( p < .05 \)). For Psychopharmaceutical Treatment, the Psychosocial Profile was significantly different from the Biomedical (-.75, \( p < .001 \)), Moderate (-.66, \( p < .01 \)), and the Mixed Predictor Profiles (-.59, \( p < .05 \)). For Psychosocial Attribution, the Biomedical Profile was significantly different
from the Moderate (−.26, \( p < .01 \)) and Psychosocial Profiles (−.52, \( p < .05 \)). For Reification, the Biomedical Profile was significantly different from the Moderate (−.40, \( p < .001 \)), Psychosocial (−.67, \( p < .01 \)), and Mixed Predictor Profiles (−.50, \( p < .001 \)). For GAF, the Psychosocial Profile was significantly different from the Biomedical Profile (8.05, \( p < .05 \)).

*Psychosocial Disorders Cluster.* The MANOVA revealed a significant overall effect between mental disorder clustering and lay beliefs about mental disorders, *Wilks’ Λ* = .011, \( F(7, 384) = 4911.18, p < .001 \). In addition, univariate analyses of variance (ANOVAs) indicated significant main effects between mental disorder clustering and each clinical vignette measure (see Table 11).

These main effects were located using Tukey’s HSD post-hoc test for multiple comparisons. For Genetic Attribution, the Biomedical Profile was significantly different from the Psychosocial Profile (−.53, \( p < .05 \)). For Informativeness, the Biomedical Profile is significantly different from the Moderate (−.31, \( p < .01 \)), Psychosocial (−.58, \( p < .05 \)), and Mixed Predictor Profiles (−.34, \( p < .05 \)). For Mutability, the Psychosocial Profile was significantly different from the Biomedical Profile (−.62, \( p < .01 \)). For Psychosocial Attribution, the Mixed Predictor Profile was significantly different from the Biomedical (−.27, \( p < .01 \)) and Moderate Profiles (−.22, \( p < .01 \)).

**Discussion**

The findings partially supported the hypothesis that laypeople cluster mental disorders into two broad groupings: one cluster of mental disorders that
are biologically-oriented and categorical in nature and the other cluster of mental disorders are influenced by psychosocial factors and are dimensional in nature. In actuality, the results indicated that laypeople conceptualize mental disorders into three broad clusters. The first cluster of mental disorders, which included Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder, were labeled Genetic Disorders, since these mental disorders have a strong biological, brain-based component. Laypeople believed the Genetic Disorders cluster shared latent qualities, according to the dimensions of genetic attribution, mutability, psychopharmaceutical treatment, psychosocial attribution, and reification. The second cluster of mental disorders, which included Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder, were labeled as Psychosocial Disorders, since these mental disorders are likely to be strongly influenced by psychosocial factors, such as life stressors. Laypeople believed that the Psychosocial Disorders cluster shared similar latent qualities, according to the dimensions of genetic attribution, psychopharmaceutical treatment, psychosocial attribution, and reification. For the dimension of mutability, only Alcohol Dependence and Anorexia Nervosa were viewed similarly. The third cluster of mental disorders, which included Dysthymic Disorder and Major Depressive Disorder, was labeled Depressive Disorders. Laypeople conceptualize the Depressive Disorders cluster as being influenced by both genetic and environmental clusters. As a result, the Depressive Disorders cluster shares some latent qualities with the Genetic Disorders and other latent qualities with the
Psychosocial Disorders. Firstly, laypeople believed the Depressive Disorders shared genetic attribution, mutability, and reification with both the Genetic Disorders and the Psychosocial Disorders. Secondly, laypeople believed the Depressive Disorders shared psychopharmaceutical treatment with the Genetic Disorders. Thirdly, laypeople believed that Dysthymic Disorder shared psychosocial attribution with the Genetic Disorders, whereas Major Depressive Disorder shared psychosocial attribution with both the Genetic Disorders and Psychosocial Disorders.

Our second set of hypotheses regarding the influence of intuitive attribution models on beliefs about mental disorders was also partially supported. For the Genetic Disorders cluster of mental disorders, laypeople who ascribe to a biomedical model conceptualized the latent qualities of genetic attribution, mutability, psychosocial attribution, reification, and GAF from laypeople who espouse a psychosocial model or dialectic model. For the Depressive Disorders cluster of mental disorders, laypeople with a biomedical model conceptualized the latent qualities genetic attribution, informativeness, mutability, psychopharmaceutical treatment, psychosocial attribution, reification, and GAF differently that laypeople with a psychosocial model of mental disorders. Laypeople with a dialectic model of mental disorders sided with those with a biomedical model for mutability and psychopharmaceutical treatment, whereas they sided with those with a psychosocial model for genetic attribution, psychosocial attribution, and reification. For the Psychosocial Disorders cluster
of mental disorders, laypeople with a biomedical model conceptualized the latent qualities genetic attribution, informativeness, mutability, and psychosocial attribution differently than laypeople with a psychosocial model. Laypeople with a dialectic model of mental disorders sided with those with a biomedical model for the psychosocial attribution, whereas they sided with those with a psychosocial model for informativeness.

Cumulatively, the results suggest that laypeople do not conceptualize each mental disorder as a distinct category. In fact, the findings indicate that laypeople cluster mental disorders into three broad groupings, with each cluster sharing common properties along a continuum of genetic and environmental influences. Specifically, laypeople cluster Alcohol Dependence, Anorexia Nervosa, and Posttraumatic Stress Disorder, because they view these mental disorders as largely the result of psychosocial factors. On the other hand, laypeople cluster Bipolar I Disorder, Paranoid Schizophrenia, and Schizotypal Personality Disorder, because these disorders are influenced by genetic factors. Laypeople cluster Major Depressive Disorder and Dysthymic Disorder, because they apparently view these mental disorders as influenced by both genetic and environmental factors.

Interestingly, laypeople’s beliefs about mental disorders were contextualized by their own intuitive attribution model for mental disorders. In general, laypeople with a biomedical model viewed Genetic Disorders and Psychosocial Disorders differently than laypeople with a psychosocial model or
biomedical-psychosocial model. For the Depressive Disorders, there was more variance in how laypeople conceptualized mental disorders. Although laypeople with a biomedical model differed from those with a psychosocial model, laypeople with a dialectic biomedical-psychosocial model held varying beliefs.

Firstly, the results suggest that laypeople do not conceptualize mental disorders according the a “pure” biomedical model. According to Haslam (2000), the biomedical model asserts that each mental disorder has a specific, brain-based etiology and mental disorders are real, categorically distinct entities which can be diagnosed. Yet, laypeople differentially conceptualized mental disorders according to broad groupings, not discrete categories. In addition, laypeople believed some disorders (i.e., the Genetic Disorders cluster) had a biologically-oriented, brain based etiology, other disorders (i.e., the Psychosocial Disorders cluster) had a psychosocial etiology, and still other disorders (i.e., the Depressive Disorders cluster) had a dualistic etiology stemming from both genetic and environmental factors. This suggests that regardless of one’s intuitive causal model, laypeople categorize mental disorders into broad clusters. Secondly, laypeople conceptualize discrete clusters of mental disorders along a dimensional continuum of mental disorder etiology. This finding might explain why extant research on lay beliefs about mental disorders report laypeople categorize mental disorders as either biomedical or psychosocial in nature (for review, see Angermeyer & Dietrich, 2006). After all, most studies on lay beliefs about mental disorders only investigate schizophrenia and depression. Since only two
mental disorders are examined, researchers can only detect a bifurcated perspective, not a continuum. Thirdly, the results of the present study indicate that lay biases and preconceived notions on the causal attribution of mental disorders does contextualize one's conceptions of mental disorders.

These findings have several implications. For one, they raise important questions about the current diagnostic system and the prevalence of the neo-Kraepelin biomedical model of mental disorders. After all, the results indicated that laypeople do not conceptualize and categorize mental disorders in manner consistent with the *DSM-IV-TR*. Specifically, laypeople do not view each mental disorder as a unique entity. This may suggest that some mental disorders, such as Paranoid Schizophrenia and Bipolar I Disorder, are conceptualized as "true" mental disorders by laypeople, whereas other mental disorders, such as Alcohol Dependence and Posttraumatic Stress Disorder, are conceptualized as common problems of living. Hence, the *DSM-IV-TR* diagnostic classification of mental disorders and the biomedical model may be appropriate for some mental disorders, but not others. Secondly, the findings of the present study could have interesting implications for the stigma of mental disorders. Historically, individuals with mental disorders have been stigmatized and deligitimized by society (Alexander & Selesnick, 1995; Hinshaw & Cicchetti, 2000). A biomedical model for understanding the Genetic Disorders cluster could minimize stigma. After all, the biomedical explanation of mental disorders could alleviate personal responsibility from having a mental disorder. On the other hand, there is the possibility that a
biomedical explanation of mental disorders could augment stigmatization, since essentialist beliefs are associated with prejudice (e.g., Haslam & Levy, 2006).

The present study had several empirical limitations. For one, the study used a college sample of undergraduates who are currently enrolled in an Introductory Psychology course. The curriculum of the Psychology department requires that students take an introduction to psychology as a social science and an introduction to psychology as a natural science. Hence, the sample may be familiar with the biomedical and psychosocial models of mental disorders, despite the fact that they have no formal training in psychopathology. For this reason, the present sample may not be representative of other college samples in which the participants are enrolled in an Introductory Psychology course.

The second limitation of the study was the vignette empirical paradigm. Since one of the implications of lay conceptions of mental disorders is stigmatization, then it is important to understand how laypeople conceptualize mental disorders in a real-world context. The current study used diagnostic vignettes. However, laypeople will realistically encounter mental disorders through the media and personal experience. Hence, it may be advantageous to use a video paradigm in which participants could view clips of individuals with mental disorders. A third limitation of the study is the statistical analyses. The most appropriate statistical test to investigate lay conceptions of mental disorders is a hierarchical factor analysis. During a hierarchical factor analysis, an exploratory factor analysis is followed by a confirmatory factor analysis. This, in
effect, generates a theoretical model, and it then tests that model. However, the statistical software available would not accommodate this statistical procedure.

The present study suggests several directions for future research. For one, it is important for future studies to investigate lay conceptions of mental disorders among the general population, psychological researchers, and other mental health care professionals. This work could have important implications for the structure of the psychological and psychiatric professions. Specifically, it might provide much needed guidance and consensus for the classification of mental disorders. In addition, future research should consider more realistic paradigms. In order to examine the interaction between conceptions of mental disorders and the stigma of mental disorders, it is important to investigate lay perceptions of mental disorders in realistic contexts.
References


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Appendix A

Alcohol Dependence Vignette

A 43-year-old divorced carpenter is examined in the hospital emergency room because for the last few days he has been confused and unable to take care of himself. The patient's sister is available to provide some information. The sister reports that the patient has consumed large quantities of cheap wine daily for over 5 years. He had a reasonably stable home life and job record until his wife left him for another man 5 years previously. The sister indicates that the patient drinks more than a fifth of wine a day, and that this has been an unvarying pattern since the divorce. He often has blackouts from drinking and has missed work; consequently, he has been fired from several jobs. Fortunately for him, carpenters are in great demand, and he has been able to provide marginally for himself during those years. However, 3 days ago he ran out of money and wine and had to beg on the street to buy a meal. The patient has been poorly nourished, eating perhaps one meal a day and evidently relying on the wine as his prime source of nourishment. The psychiatrist diagnosed the carpenter with Alcohol Dependence.
Appendix B

Anorexia Nervosa

When Peggy was first evaluated for admission to an inpatient eating disorder program, she was a 20-year-old woman who had difficulty supporting her 5'3" body with a weight of only 67 pounds. She had begun to lose weight 4 years earlier, initially dieting to lose and unwanted 6 pounds. Encouraged by compliments on her new body, she proceeded to lose 8 more pounds. Over the next 2 years she continued to lose weight, increased her physical activity, and stopped menstruating. When Peggy went off to college, where, with increased academic and social demands, she dieted until she weighed 67 pounds. Her eating habits were ritualized: she cut food into very small pieces, moved them around on the plate, and ate very slowly. She resisted eating foods with high fat and carbohydrate content. She was troubled by the changes in her body, and became increasingly anxious as her figure developed. Peggy was forced to drop out of school and to accept a hospitalization, where a psychiatrist diagnosed her with Anorexia Nervosa.
Appendix C

Bipolar I Disorder

The troubles of Ernest Eaton, age 37, began 7 years before when he was working as an insurance adjuster. Mr. Eaton began experiencing dramatic mood changes. This pattern of alternating periods of elation and depression, apparently with few "normal" days, repeated itself continuously over the following years. During his energetic periods, Mr. Eaton was optimistic and self-confident, but short tempered and easily irritated. His judgment at work was erratic. He spent large sums of money on unnecessary and, for him, uncharacteristic purchases, such as a high-priced stereo system and several Doberman pinschers. He also had several impulsive sex flings. During his depressive periods, he often stayed in bed all day because of fatigue, lack of motivation, and depressed mood. He stopped eating, bathing, and shaving. After several days of this withdrawal, Mr. Eaton would rise from bed one morning feeling better and, within 2 days, be back at work, often feverishly, though ineffectively, to catch up on work he had let slide during his depressed periods. The psychiatrist diagnosed Mr. Eaton with Bipolar I Disorder.
Appendix D

Dysthymic Disorder

A 28-year-old junior executive was referred by a senior psychoanalyst for “supportive” treatment. She had obtained a master’s degree in business administration and moved to California 1.5 years earlier to begin work at a large firm. She complained of being “depressed” about everything: her job, her husband, and her prospects for the future. She claims that she’s had persistent feelings of depressed mood, inferiority, and pessimism since the age of 16 or 17. Although she did reasonably well in college, she consistently ruminated about those students who were “genuinely intelligent.” She dated during college and graduate school, but claimed that she never went after a guy she thought was “special,” always feeling inferior and intimidated. Just after graduation, she married the man she was going out with at the time. She thought of him as reasonably desirable, though not “special,” and married him primarily because she felt she needed a husband for companionship. Recently she has also been having difficulties at work. She is assigned the most menial tasks at the firm and is never given an assignment of importance or responsibility. The psychiatrist diagnosed the junior executive with Dysthymic Disorder.
Appendix E

Major Depressive Disorder

Cheryl Jones is a 44-year-old mother of 3 teenagers and a foster mother. One year previously, after an argument with her lover, she became acutely distraught. Over a 3-week period she stayed in her apartment, had new locks put on the doors, kept the shades down, and avoided everyone but her immediate family. Even once she began to feel “back to normal,” she seemed to lose her energy and motivation to do anything. She became increasingly depressed, lost her appetite, and woke at 4:00 a.m. or 5:00 a.m. every morning and was unable to get back to sleep. She could no longer read a newspaper or watch TV because she couldn’t concentrate. Ms. Jones’ condition has persisted for 9 months. She has done very little except sit in her apartment, staring at the walls. Her children have managed most of the cooking, shopping, bill paying, and so on. During Ms. Jones’ hospitalization for treatment, the psychiatrist diagnosed her with Major Depressive Disorder.
Appendix F

Paranoid Schizophrenia

Mr. Simpson is a 44-year-old, single, unemployed white man brought to the emergency room by the police for striking an elderly woman in his apartment building. His chief complaint is, “That damn bitch. She and the rest of them deserved more than that for what they put me through.” The patient has been ill since age 22. During his first year of law school, he gradually became more and more convinced that his classmates were making fun of him. He noticed that they would snort and sneeze whenever he entered the classroom. When a girl he was dating broke off the relationship with him, he believed that she had been “replaced” by a look-alike. He called the police and asked for their help to solve the “kidnapping.” Today, Mr. Simpson maintains that his apartment is the center of a large communication system that involves all three major television networks, his neighbors, and apparently hundreds of “actors” in his neighborhood. There are secret cameras in his apartment that carefully monitor all his activities. When he is watching TV, many of his minor actions (e.g., going to the bathroom) are soon directly commented on by the announcer. Whenever he goes outside, the “actors” have all been warned to keep him under surveillance. Everyone on the street watches him. His neighbors operate two different “machines;” one is responsible for all of his voices, except the “joker.” He is not certain who controls this voice, which visits him only occasionally and is very funny. The other voices, which he hears many times each day, are generated by this machine,
which he sometimes thinks is directly run by the elderly neighbor whom he
attacked. The psychiatrist diagnosed Mr. Simpson with Paranoid Schizophrenia.
Appendix G

Posttraumatic Stress Disorder

A 23-year-old Vietnam veteran was admitted to the hospital 1 year after the end of the Vietnam War, at the request of his wife, when he began to experience depression, insomnia, and "flashbacks" of his wartime experiences. He had been honorably discharged, having spent nearly a year in combat. At about the time of the fall of Saigon, he became preoccupied with watching TV news stories about this event. He then began to have difficulty sleeping, and at times would awaken at night in the midst of a nightmare in which he was reliving his past war experiences. His wife became particularly concerned one day when he had a flashback while out in the backyard: as a plane flew overhead, flying somewhat lower than usual, the patient threw himself to the ground, seeking cover, thinking it was an attacking helicopter. The more he watched the news on TV, the more agitated and morose he became. Stories began to spill out of him about horrifying atrocities like those he had seen and experienced, and he began to feel guilty that he had survived when many of his friends had not. At times he also seemed angry and bitter, feeling that the sacrifices he and others made were all wasted. His preoccupation with Vietnam had become so intense that he seemed uninterested in anything else and emotionally distant from his wife. When she suggested that they try to plan their future, including having a family, he responded as if his life currently consisted completely of the world of events experienced during Vietnam,
as if he had no future. The psychiatrist diagnosed the vet with Posttraumatic Stress Disorder.
Appendix H

Schizotypal Personality Disorder

A 41-year-old man was referred to a community health center’s activities program for help in improving his social skills. He had a lifelong pattern of social isolation, with no real friends, and spent long hours worrying that his angry thoughts about his older brother would cause his brother harm. He had previously worked as a clerk in civil service but had lost his job because of poor attendance and low productivity. On interview the patient was distant and somewhat distrustful. He described in elaborate and often irrelevant detail his rather uneventful and routine daily life. For instance, he told the interviewer that he had spent an hour and a half in a pet store deciding which of two brands of fish food to buy and explained their relative merits. He asked the interviewer whether, if he joined the program, he would be required to participate in groups. He said that groups made him very nervous because he felt that if he revealed too much personal information, such as the amount of money that he had in the bank, people would take advantage of him or manipulate him for their own benefit. The psychiatrist diagnosed this man with Schizotypal Personality Disorder.
Appendix I

Nature vs. Nurture Debate

The fields of psychology and psychiatry have been embroiled in controversy about whether or not biological factors cause mental disorders. Some psychologists and psychiatrists argue that most mental disorders are due to biological factors such as genes, disturbances in brain chemistry, or hormonal difficulties. Others argue that most mental disorders are due to non-biological factors such as psychological conflicts, traumatic life experiences, or dysfunctional family environments.
Appendix J

Global Assessment of Functioning Scale (GAF)

100 Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.

90 Absent or minimal symptoms, good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns.

80 If symptoms are present, they are transient and expectable reactions to psychosocial stressors; no more than slight impairment in social, occupational, or school functioning.

70 Some mild symptoms OR some difficulty in social, occupational, or school functioning, but generally functioning pretty well, has some meaningful interpersonal relationships.

60 Moderate symptoms OR moderate difficulty in social, occupational, or school functioning.

50 Serious symptoms OR any serious impairment in social, occupational, or school functioning.

40 Some impairment in reality testing or communication OR major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood.
30  Behavior is considerably influenced by delusions or hallucinations OR serious impairment, in communication or judgment OR inability to function in almost all areas.

20  Some danger of hurting self or others OR occasionally fails to maintain minimal personal hygiene OR gross impairment in communication.

10  Persistent danger of severely hurting self or others OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.
Appendix K

Nature Argument

However, in the past few years striking evidence has mounted in favor of the biological causation of mental disorders. For instances, genetic researchers have demonstrated that genes play a role in making people vulnerable to most mental disorders - e.g. mental disorders run strongly in families - and have located these genes on certain chromosomes. In addition, new technologies such as MRI and PET scans have allowed medical researchers to prove that people who suffer from mental disorders have abnormal levels of neurochemicals in their brains and/or structural abnormalities. These abnormalities disrupt the person's ability to overcome life stresses, so that their emotions and behaviors can no longer be controlled. Diagnostic categories can now be validated against these genetic and brain-based findings so that it has been demonstrated unequivocally that diagnostic categories are indicators of underlying brain-based disorders.
Appendix L
Nurture Argument
Yet, many years of clinical study and research have convinced most psychologists
that mental disorders are largely the result of painful and difficult life experiences,
and that few if any of these disorders can be understood solely as genetic and
biological problems
<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Genetic Attribution</th>
<th>Informativeness</th>
<th>Mutability</th>
<th>Psychopharmaceutical Treatment</th>
<th>Psychosocial Attribution</th>
<th>Reification</th>
<th>GAF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Dependence</td>
<td>2.74 (1.04)</td>
<td>3.30 (.99)</td>
<td>3.69 (1.03)</td>
<td>2.28 (.88)</td>
<td>4.20 (.75)</td>
<td>3.14 (1.03)</td>
<td>44.14</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>2.77 (1.00)</td>
<td>3.30 (.99)</td>
<td>3.26 (1.10)</td>
<td>2.30 (.88)</td>
<td>4.10 (.78)</td>
<td>3.68 (1.02)</td>
<td>42.34</td>
</tr>
<tr>
<td>Bipolar I Disorder</td>
<td>4.04 (.72)</td>
<td>3.30 (.99)</td>
<td>2.60 (.88)</td>
<td>3.73 (.78)</td>
<td>3.00 (.97)</td>
<td>2.21 (0.89)</td>
<td>47.46</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>3.17 (.95)</td>
<td>3.25 (.91)</td>
<td>3.07 (.90)</td>
<td>3.13 (.90)</td>
<td>3.73 (.83)</td>
<td>3.04 (0.96)</td>
<td>65.99</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>3.46 (.89)</td>
<td>3.22 (.96)</td>
<td>3.00 (.89)</td>
<td>3.63 (.83)</td>
<td>4.03 (.76)</td>
<td>2.78 (.95)</td>
<td>42.69</td>
</tr>
<tr>
<td>Paranoid Schizophrenia</td>
<td>4.18 (.79)</td>
<td>3.42 (1.03)</td>
<td>2.37 (.81)</td>
<td>3.52 (.84)</td>
<td>2.92 (1.04)</td>
<td>2.08 (.87)</td>
<td>28.17</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>2.27 (.91)</td>
<td>3.36 (.97)</td>
<td>2.69 (.88)</td>
<td>2.82 (.91)</td>
<td>4.71 (.56)</td>
<td>3.42 (1.16)</td>
<td>47.16</td>
</tr>
<tr>
<td>Schizotypal Personality</td>
<td>3.69 (.81)</td>
<td>3.51 (.91)</td>
<td>2.63 (.78)</td>
<td>3.32 (.81)</td>
<td>3.18 (.96)</td>
<td>2.57 (.95)</td>
<td>49.77</td>
</tr>
</tbody>
</table>
Table 2  

*Structure Matrix Rotated to the Oblimin Criterion for Genetic Attribution (N = 394)*

<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>( h^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Dependence</td>
<td>.188</td>
<td>.700</td>
<td>.491</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>.207</td>
<td>.742</td>
<td>.551</td>
</tr>
<tr>
<td>Bipolar I Disorder</td>
<td>.775</td>
<td>.034</td>
<td>.623</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>.488</td>
<td>.562</td>
<td>.451</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>.585</td>
<td>.437</td>
<td>.439</td>
</tr>
<tr>
<td>Paranoid Schizophrenia</td>
<td>.719</td>
<td>.086</td>
<td>.523</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>-.003</td>
<td>.608</td>
<td>.392</td>
</tr>
<tr>
<td>Schizotypal Personality</td>
<td>.611</td>
<td>.205</td>
<td>.377</td>
</tr>
</tbody>
</table>

| Eigenvalues | 2.513 | 1.335 |
| % of variance | 31.4 | 16.7 |

Note: Coefficients greater than .40 are bolded and retained for that factor.

Percentage variance is postrotation. The eigenvalue of the third, unretained factor is .836. \( h^2 = \) communality coefficient.
Table 3

*Structure Matrix Rotated to the Oblimin Criterion for Mutability (N = 394)*

<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>$h^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Dependence</td>
<td>.139</td>
<td>.793</td>
<td>.647</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>.374</td>
<td>.772</td>
<td>.610</td>
</tr>
<tr>
<td>Bipolar I Disorder</td>
<td>.709</td>
<td>.250</td>
<td>.503</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>.576</td>
<td>.491</td>
<td>.430</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>.541</td>
<td>.571</td>
<td>.462</td>
</tr>
<tr>
<td>Paranoid Schizophrenia</td>
<td>.737</td>
<td>.023</td>
<td>.602</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>.434</td>
<td>.327</td>
<td>.225</td>
</tr>
<tr>
<td>Schizotypal Personality</td>
<td>.746</td>
<td>.305</td>
<td>.559</td>
</tr>
</tbody>
</table>

Eigenvalues                      | 2.931    | 1.107    |
% of variance                     | 36.6     | 13.8     |

Note: Coefficients greater than .40 are bolded and retained for that factor.

Percentage variance is postrotation. The eigenvalue of the third, unretained factor is .889. $h^2 = \text{communality coefficient.}$
Table 4

*Structure Matrix Rotated to the Oblimin Criterion for Psychopharmaceutical Treatment (N = 394)*

<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>$h^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Dependence</td>
<td>.003</td>
<td>.782</td>
<td>.635</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>.146</td>
<td>.756</td>
<td>.572</td>
</tr>
<tr>
<td>Bipolar I Disorder</td>
<td>.719</td>
<td>.046</td>
<td>.526</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>.661</td>
<td>.322</td>
<td>.477</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>.720</td>
<td>.108</td>
<td>.520</td>
</tr>
<tr>
<td>Paranoid Schizophrenia</td>
<td>.631</td>
<td>.073</td>
<td>.401</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>.346</td>
<td>.640</td>
<td>.461</td>
</tr>
<tr>
<td>Schizotypal Personality</td>
<td>.668</td>
<td>.178</td>
<td>.449</td>
</tr>
</tbody>
</table>

Eigenvalues 2.585 1.456

% of variance 32.3 18.2

Note: Coefficients greater than .40 are bolded and retained for that factor.

Percentage variance is postrotation. The eigenvalue of the third, unretained factor is .822. $h^2 =$ communality coefficient.
Table 5

*Structure Matrix Rotated to the Oblimin Criterion for Psychosocial Attribution (N = 394)*

<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>h²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Dependence</td>
<td>.113</td>
<td>.769</td>
<td>.594</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>.156</td>
<td>.587</td>
<td>.345</td>
</tr>
<tr>
<td>Bipolar I Disorder</td>
<td>.711</td>
<td>.150</td>
<td>.505</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>.590</td>
<td>.258</td>
<td>.365</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>.432</td>
<td>.617</td>
<td>.473</td>
</tr>
<tr>
<td>Paranoid Schizophrenia</td>
<td>.739</td>
<td>.053</td>
<td>.558</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>.051</td>
<td>.641</td>
<td>.419</td>
</tr>
<tr>
<td>Schizotypal Personality</td>
<td>.715</td>
<td>.137</td>
<td>.511</td>
</tr>
</tbody>
</table>

Eigenvalues  
2.372 1.400

% of variance  
29.6 17.5

Note: Coefficients greater than .40 are bolded and retained for that factor.

Percentage variance is postrotation. The eigenvalue of the third, unretained factor is .904. \( h^2 = \) communality coefficient.
Table 6

*Structure Matrix Rotated to the Oblimin Criterion for Reification (N = 394)*

<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>h²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Dependence</td>
<td>.078</td>
<td>.718</td>
<td>.537</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>.218</td>
<td>.696</td>
<td>.484</td>
</tr>
<tr>
<td>Bipolar I Disorder</td>
<td>.762</td>
<td>.179</td>
<td>.584</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>.532</td>
<td>.436</td>
<td>.366</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>.612</td>
<td>.562</td>
<td>.530</td>
</tr>
<tr>
<td>Paranoid Schizophrenia</td>
<td>.711</td>
<td>.197</td>
<td>.506</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>.300</td>
<td>.680</td>
<td>.472</td>
</tr>
<tr>
<td>Schizotypal Personality</td>
<td>.711</td>
<td>.134</td>
<td>.514</td>
</tr>
</tbody>
</table>

| Eigenvalues | 2.771 | 1.221 |
| % of variance | 34.6 | 15.3 |

Note: Coefficients greater than .40 are bolded and retained for that factor.

Percentage variance is postrotation. The eigenvalue of the third, unretained factor is .853. \( h^2 = \) communality coefficient.
Table 7

Analysis of Variance for Main Effects between Mental Disorder Clusters and each Clinical Vignette Measure

<table>
<thead>
<tr>
<th>Measure</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetic Attribution</td>
<td>2</td>
<td>402.34</td>
<td>&lt; .001</td>
<td>.41</td>
</tr>
<tr>
<td>Informativeness</td>
<td>2</td>
<td>5.11</td>
<td>.006</td>
<td>.01</td>
</tr>
<tr>
<td>Mutability</td>
<td>2</td>
<td>98.04</td>
<td>&lt; .001</td>
<td>.14</td>
</tr>
<tr>
<td>Psychopharmaceutical Treatment</td>
<td>2</td>
<td>291.95</td>
<td>&lt; .001</td>
<td>.33</td>
</tr>
<tr>
<td>Psychosocial Attribution</td>
<td>2</td>
<td>428.15</td>
<td>&lt; .001</td>
<td>.42</td>
</tr>
<tr>
<td>Reification</td>
<td>2</td>
<td>220.23</td>
<td>&lt; .001</td>
<td>.27</td>
</tr>
<tr>
<td>GAF</td>
<td>2</td>
<td>125.81</td>
<td>&lt; .001</td>
<td>.18</td>
</tr>
</tbody>
</table>
Table 8

*Tukey’s HSD Post-Hoc Homogenous Subsets for Mental Disorder Clusterings and Clinical Vignette Measures*

<table>
<thead>
<tr>
<th>Measures</th>
<th>Genetic Disorders</th>
<th>Depressive Disorders</th>
<th>Psychosocial Disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>Genetic Attribution</td>
<td>3.97</td>
<td>.57</td>
<td>3.32</td>
</tr>
<tr>
<td>Mutability</td>
<td>2.53</td>
<td>.63</td>
<td>3.03</td>
</tr>
<tr>
<td>Psychopharmaceutical Treatment</td>
<td>3.52</td>
<td>.61</td>
<td>3.38</td>
</tr>
<tr>
<td>Psychosocial Attribution</td>
<td>3.04</td>
<td>.75</td>
<td>3.88</td>
</tr>
<tr>
<td>Reification</td>
<td>2.29</td>
<td>.69</td>
<td>2.91</td>
</tr>
<tr>
<td>GAF</td>
<td>41.80</td>
<td>10.90</td>
<td>54.34</td>
</tr>
</tbody>
</table>
Table 9

Analysis of Variance for Main Effects between Attribution Model Profiles and each Clinical Vignette Measure in the Genetic Disorders Cluster

<table>
<thead>
<tr>
<th>Measure</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetic Attribution</td>
<td>3</td>
<td>8.52</td>
<td>&lt; .001</td>
<td>.061</td>
</tr>
<tr>
<td>Informativeness</td>
<td>3</td>
<td>.90</td>
<td>.44</td>
<td>.007</td>
</tr>
<tr>
<td>Mutability</td>
<td>3</td>
<td>4.64</td>
<td>&lt; .01</td>
<td>.034</td>
</tr>
<tr>
<td>Psychopharmaceutical Treatment</td>
<td>3</td>
<td>2.30</td>
<td>&lt; .01</td>
<td>.017</td>
</tr>
<tr>
<td>Psychosocial Attribution</td>
<td>3</td>
<td>14.05</td>
<td>&lt; .001</td>
<td>.098</td>
</tr>
<tr>
<td>Reification</td>
<td>3</td>
<td>10.96</td>
<td>&lt; .001</td>
<td>.030</td>
</tr>
<tr>
<td>GAF</td>
<td>3</td>
<td>3.96</td>
<td>&lt; .001</td>
<td>.18</td>
</tr>
</tbody>
</table>
Table 10

*Analysis of Variance for Main Effects between Attribution Model Profiles and each Clinical Vignette Measure in the Depressive Disorders Cluster*

<table>
<thead>
<tr>
<th>Measure</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetic Attribution</td>
<td>3</td>
<td>15.31</td>
<td>&lt; .001</td>
<td>.105</td>
</tr>
<tr>
<td>Informativeness</td>
<td>3</td>
<td>5.11</td>
<td>.002</td>
<td>.038</td>
</tr>
<tr>
<td>Mutability</td>
<td>3</td>
<td>4.87</td>
<td>.002</td>
<td>.036</td>
</tr>
<tr>
<td>Psychopharmaceutical Treatment</td>
<td>3</td>
<td>4.83</td>
<td>.003</td>
<td>.036</td>
</tr>
<tr>
<td>Psychosocial Attribution</td>
<td>3</td>
<td>5.98</td>
<td>&lt; .001</td>
<td>.044</td>
</tr>
<tr>
<td>Reification</td>
<td>3</td>
<td>9.32</td>
<td>&lt; .001</td>
<td>.067</td>
</tr>
<tr>
<td>GAF</td>
<td>3</td>
<td>3.51</td>
<td>.015</td>
<td>.026</td>
</tr>
</tbody>
</table>
Table 11

*Analysis of Variance for Main Effects between Attribution Model Profiles and each Clinical Vignette Measure in the Psychosocial Disorders Cluster*

<table>
<thead>
<tr>
<th>Measure</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>(\eta^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetic Attribution</td>
<td>3</td>
<td>2.96</td>
<td>.032</td>
<td>.022</td>
</tr>
<tr>
<td>Informativeness</td>
<td>3</td>
<td>5.98</td>
<td>.001</td>
<td>.044</td>
</tr>
<tr>
<td>Mutability</td>
<td>3</td>
<td>3.53</td>
<td>.015</td>
<td>.026</td>
</tr>
<tr>
<td>Psychopharmaceutical Treatment</td>
<td>3</td>
<td>1.97</td>
<td>.118</td>
<td>.015</td>
</tr>
<tr>
<td>Psychosocial Attribution</td>
<td>3</td>
<td>4.41</td>
<td>.005</td>
<td>.033</td>
</tr>
<tr>
<td>Reification</td>
<td>3</td>
<td>.91</td>
<td>.434</td>
<td>.007</td>
</tr>
<tr>
<td>GAF</td>
<td>3</td>
<td>.88</td>
<td>.454</td>
<td>.007</td>
</tr>
</tbody>
</table>
Figure Caption

*Figure 1.* Exploratory factor analysis mental disorder clusterings.
Genetic Factors
- Bipolar I Disorder
- Paranoid Schizophrenia
- Schizotypal Personality

Psychosocial Disorders:
- Alcohol Dependence
- Anorexia Nervosa
- Posttraumatic Stress Disorder

Depressive Disorders:
- Dysthymic Disorder
- Major Depressive Disorder
MIMI MARGARET POE

Mimi Margaret Poe was born on September 4, 1983 in Memphis, TN. She graduated from Cordova High School with honors in May 2001. At the University of Tennessee at Knoxville, Mimi graduated *Summa Cum Laude* with an *Artium Baccalaureus* in Psychology in May 2004. She received a *Magister Artium* in Psychology at the College of William & Mary in May 2007. She will pursue a *Juris Doctor* at the University of Colorado at Boulder.