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Attribution theory and perceptions of mental illness in a university population.

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Attribution theory and perceptions of mental illness in a university population

by

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ABSTRACT

People with mental disorder have to cope with the symptoms of their disorder as well as deal with the stigmatization they face because of their illness. Two main models of mental illness have dominated popular and professional thinking. However neither model is adequate in improving attitudes toward mental illness. The current study explored the concept of multiple models of mental illness, attributions about controllability and stability, and how these factors relate to attitudes about mental illness. One hundred and seven undergraduate students were recruited from the University of Windsor. Participants endorsed multidimensional models of mental illness, and tended to endorse both the psychosocial and biomedical models in relation to mental disorder, depression, and schizophrenia. There was no clear pattern between attributions about controllability and stability and model preference, or attitudes toward mental illness. Attitudes toward mental illness varied depending on the measure used.

DEDICATION

This study is dedicated to those people who were of particular inspiration to me throughout the course of this study:

Dr. Patrick Corrigan, with the Chicago Consortium for Stigma Research, whose work has been so instrumental in the evolution of my research, and whose passion and dedication helped me discover my own desire to contribute to the effort being put forth by so many worthy people.

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CHAPTER ONE

Introduction

It is estimated that 20% of Canadians will experience mental illness over the course of their life (Health Canada, 2002). Recent studies report that approximately 30.5% of the population of the United States was affected by at least one mental disorder between 2001 and 2003 (Kessler et al., 2005). According to Wittchen and Jacobi (2005), about 27% of the adult population in the European Union have had a mental disorder in the 12 months prior to their study. Prevalence rates in the United States were estimated at 29.4% in the 1980s (Robins & Regier, 1991), and 30.5% in the 1990s (Kessler et al., 1994). Yet in spite of the prevalence of mental illness within the population, there remains a pall of negativity directed toward those suffering from mental disorder. People with mental disorder not only have to cope with the symptoms of their disorder, but also have to deal with the stigmatization they face because of their illness (Corrigan et al., 2000; Kirby, 2006; Link, 1987; Link, Cullen, Frank, & Wozniak, 1987; Link, Cullen, Strueing, Shrout, & Dohrenwend, 1989).

In past decades, some researchers have argued that people who suffer from mental illness are not viewed negatively by society, and that there is no stigma associated with being mentally ill (Crocetti, Spiro, & Siassi, 1974; Gove & Fain, 1973; Kirk, 1974; Lehman, Joy, Kreisman, & Simmens, 1976; Weinstein, 1979, 1983). However, numerous studies provide evidence that stigmatization was and still is an enduring reality for those who live with mental illness. Mental illness is viewed as one of the most highly rejected status conditions, and has been reported as being comparable to prostitution, substance

addiction, and criminality (Albrecht, Walker, & Levy, 1982; Skinner, Berry, Griffith, & Byers, 1995). With such significant proportions of the population suffering from mental illness, it is increasingly important that the nature of mental illness stigma is understood so that this relevant and sobering issue can be better addressed. The aim of the present study was to increase this understanding by examining lay people's perceptions of mental disorder, and how their models of mental illness are related to causal attributions.

Stigma

Stigma involves both a negative attitude about a characteristic a person might have, as well as negative attributions about that person's character and identity. Stigma involves the perception that the person believed to have the stigmatizing characteristic is less valuable than someone without it. In his influential book *Stigma: Notes on the management of spoiled identity*, Erving Goffman (1963) talks of how stigmatizing attitudes seem to "discredit" the bearer, causing others to view the bearer as being "tainted", "spoiled", "undesirable" and as having a "failing". He also comments on how people who are stigmatized are seen as being not quite human.

In addition to involving perceptions relating to a person's character, stigma has also been defined as involving the concept of deviance. Deviance has been defined as "a perceived behavior or condition that is thought to involve an undesirable departure in a compelling way from a putative standard" (Archer, 1985, p. 748). In this sense, stigma involves judgements in relation to some sort of norm, and a devaluing of characteristics that are perceived as straying from what is judged to be normal. In other words, a person who is stigmatized is believed to deviate from normative expectations (Dovidio, Major,

& Crocker, 2000).

In linking stigma to deviance, it is important to note that the process of stigmatization is relative, in that a characteristic viewed as deviant by one person may be seen as quite normal by another (Jones et al., 1984). Stigma is a social construction of what constitutes desirable versus undesirable traits or characteristics, as well as perceptions relating to norms and judgements of deviance. For this reason, recent discussions of stigma stress that it is only to be understood in relation to a particular social context in a particular point in time (Crocker, Major, & Steele, 1998). Because of its relationship with a particular social context, conditions that were once viewed by one group or culture as being stigmatizing may in time be viewed in a more positive and acceptable light, and vice versa. For example, homosexuality was once viewed as a highly stigmatizing status condition, yet in recent years there has been increasing acceptance of homosexuality, and it is no longer perceived to be as shameful as it was in past decades.

Stigma Associated with Mental Illness

The negative consequences of the stigma of mental illness are pervasive and widespread, having the potential to have a profound effect on those with mental disorder, as well as their families. People with mental illness find it more difficult to find employment (Bordier & Drehmer, 1986; Government of Canada, 2006; Link, 1987) and housing (Page, 1977, 1983, 1995), and are more likely to be charged with violent crimes (Steadman, 1981). People with mental illness are portrayed in the media as being violent, dangerous, unpredictable, less competent, and fundamentally different (Coverdale, Nairn,

& Claason, 2001; Day & Page, 1986; Kirby, 2006; Read & Harré, 2001; Wahl, 1992, 1995). People with mental illness may find themselves rejected by family, friends and acquaintances (Kirby, 2006; Wahl, 1999). They may also find that few people are willing to become friends with a person who is suffering from mental illness, or be willing to help them with their problems (Meeks & Murrel, 1994). People are reluctant to become romantically involved with people with mental illness or to have them live in the same neighbourhood (Read & Harré, 2001). In fact, many people do not wish to even have community-based psychiatry facilities in their area (Cheung, 1988, 1990).

Stigmatization has been shown to put those with mental illness at risk for lowered self-esteem and feelings of self-efficacy (Link, 1987; Link et al. 1989; Mechanic, 1994;), thus lowering their quality of life (Mechanic, McAlpine, Rosenfield, & Davis, 1994). People who are close to people with mental illness are also at risk; family members can suffer from loss of self-esteem due to stigmatization, resulting in strained family relationships (Kirby, 2006; Wahl & Harman, 1989).

Destigmatizing Mental Illness

Past efforts to reduce the stigma attached to mental illness have included protest, educating the public, and increasing contact with people who have mental illness (Corrigan & Penn, 1999). Protest "seeks to suppress negative attitudes and representations of mental illness" (Corrigan, River, et al., 2001, p. 187). Protest is a strategy used by advocacy groups as a means of diminishing negative attitudes about mental illness by seeking to prevent stereotypes and other negative messages from being displayed or endorsed. The problem with protest is that it attacks negative messages or

images but does not necessarily promote positive messages. One result of this is that people no longer endorse stigmatizing ideas publicly because it is socially unacceptable, yet still endorse them privately. Another problem with protest is that ordering people to suppress negative stereotypes can lead to their becoming *more* sensitized to them, thus having the opposite effect (Macrae, Milne, Bodenhausen, & Jetten, 1994; Macrae, Milne, Bodenhausen, & Wheeler, 1996)

Efforts involving education have focussed on attacking the various myths people hold about mental illness and replacing them with factual information (Corrigan & Penn, 1999). Research has shown that having a better understanding of mental illness can make it less likely that one will endorse stigma (Link & Cullen, 1986; Link et al., 1987); however, research has suggested that education about specific types of mental illness may not generalize to other types of disorders (Corrigan et al., 2000). It has been shown that education programs that intend to challenge stigma relating to specific disabilities must directly challenge specific myths about those particular groups (Penn & Martin, 1998).

Research on contact has suggested that interaction with people with mental illness can be related to a decrease in the likelihood that people will endorse stigma (Corrigan, River, et al., 2001; Corrigan et al., 2002; Link & Cullen, 1986; Penn et al., 1994). However, there has also been research suggesting that people who reported knowing someone with mental illness were no less likely than others to endorse stigmatizing statements about people with mental illness (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000). It is possible that a certain degree or quality of contact is necessary in order to change stigmatizing attitudes, or that benefits from contact may be overshadowed by

continuous exposure to negative stereotypes about mental illness in the media. Such negative stereotypes work to contribute to perceptions that people with mental disorder are dangerous, and this perception of dangerousness leads to fear of those with mental illness (Angermeyer & Matschinger, 1996b; Corrigan, Green, et al., 2001; Link & Cullen, 1986). Studies have shown there is a positive relationship between fear and a reluctance or unwillingness to have contact with people who have mental illness (Angermeyer & Matschinger, 1996b; Corrigan, Green, et al., 2001; Martin, Pescosolido, & Tuch, 2000). The issue of social distance is especially relevant because, as mentioned above, contact can lead to an improvement in attitudes toward people with mental illness. The problem is that it is difficult to increase people's knowledge of mental illness through contact, when it is that lack of understanding that influences whether or not one is willing to have contact with people with mental disorders. Thus, while contact has been demonstrated to reduce mental illness stigma, a person's familiarity and understanding of mental illness plays a critical role in efforts to destigmatize mental illness (Corrigan, Green, et al., 2001). In recent decades, a main issue involved in strategies aimed at addressing mental illness stigma has been the way that lay people understand mental illness, and the types of models they use to understand mental disorders.

Models of Mental Illness

Two main models of mental illness have tended to dominate popular and professional thinking. The biomedical model of mental illness is centred around the idea that mental illness is a disease, caused by biology. While the symptoms of mental disorders are primarily manifested in relation to psychological and behavioural

problems/disruptions, according to this model, the cause is believed to be physiological; psychological and/or sociocultural influences do not cause mental illness. As a result, the biomedical model of mental illness tends to focus on the effects of physical factors such as genes, neurotransmitters, biochemical functioning and the nervous system. In contrast, the psychosocial model of mental illness involves the belief that factors relating to psychology and sociology can cause mental illness. Instead of viewing mental illness as a purely biological disease, the psychosocial model looks to factors such as cognition, learning, relationships, personality, and socioeconomic status as causes of psychopathology. Inherent in the model is the idea that mental illness is experienced by thinking feeling people, within specific social contexts. Mental illness is a result of factors relating to psychology and the environment, and thus cannot be treated by simply focussing on the physical, as the biomedical model states.

In the past, destigmatization efforts have mainly focussed on promoting a biomedical model of mental illness to the public. The goal of many programs has been to promote the idea that mental illness is a disease like any other disease. The belief underlying such efforts is that if people view mental illness as a so-called brain disease, they will believe the illness is outside of the person's control, thus lowering feelings of anger and blame, and increasing feelings of compassion. This method of battling stigma is still very much in favour. The National Alliance for the Mentally Ill (NAMI) continues to advocate the biomedical model of mental illness, making such statements as, "Mental illnesses are biologically based brain disorders", and "Most people with serious mental illness need medication to help control symptoms" (The National Alliance for the

Mentally Ill, n.d.). However in spite of the popularity of destigmatizing mental illness by promoting the biomedical model, in reality doing so seems to have the opposite effect. While it has been found that attributing mental illness to biological causes can reduce feelings of blame (Mehta & Farina, 1997), it has also been found that promoting the biomedical model actually led to an increase in desire for social distance, as well as the belief that people with mental illness are more dangerous and unpredictable than those without mental disorder (Read & Harré, 2001; Read & Law, 1999; Walker & Read, 2002). In addition to this increase in negative attitudes, Mehta and Farina (1997) found that describing mental illness in disease terms led to harsher treatment than when mental illness was described in terms of psychosocial causes.

Where have these efforts to promote the biomedical model left us in terms of people's beliefs about mental illness? In the middle of the 20th century, the predominant view of mental illness held by the public was that psychopathology was related to early childhood experiences and familial influences (Hinshaw & Cicchetti, 2000). Current research seems to indicate that public perceptions of mental illness have changed; although people continue to believe that stressful life experiences and parenting play an important part in the development of mental illness, they also realize that biological and genetic factors can play a central role (Link, Phelan, Bresnahan, Steuve, & Pescosolido, 1999). However, despite a shift toward a broader understanding of mental illness in terms of both definitions and possible causes, research suggests that the public tends to favour a psychosocial model of mental illness over biomedical explanations (Angermeyer & Matschinger, 1996a; Jorm et al., 1997; Read & Harré, 2001; Read & Law, 1999; Sarbin

& Mancuso, 1970; Wahl, 1987). Research also suggests that perceptions of mental illness still tend to be negative; the stereotype of mental illness being associated with dangerousness has actually increased significantly since the 1950s (Phelan, Link, Steuve, & Pescosolido, 2000). As it stands, it seems as if neither model is the answer in and of itself when it comes to destigmatization. A psychosocial model of mental illness may be related to less negative attitudes compared to a biomedical model, but the attitudes associated with that model are still poor at best.

Rather than giving up on either the psychosocial or biomedical model as a means of combating mental illness stigma, the answer may lie in further exploring which factors are related to which attitudes and the outcomes of these relationships. Research has found that the degree to which a person attributes problems to either physical, medical, or biological causes can affect whether or not they view these problems as stigmatizing (Mechanic, 1994). The critical factor seems to be whether or not a person is perceived to have been the cause of his/her condition or status, or whether it is perceived to be the result of forces outside the person's control. An increased interest in perceptions of controllability has led to the application of attribution theory to mental illness stigma.

Weiner's Attributional Anaylsis

Attribution theory has been used in the past as a theoretical framework for conceptualizing mental illness stigma. The basis of attribution theory is the idea that people are motivated to understand their environment (Heider, 1958). Attributional analysis involves people's motivation to search for a cause for everyday events or outcomes. In terms of applying attribution theory to the topic of mental illness stigma,

people search for a reason as to why someone suffers from mental disorder. The problem is that, to the observer, there is usually a lack of an apparent cause of mental illness. The result of this is people may then attribute the cause of the mental illness to the person, which in turn leads to the belief that people with mental illness are to blame for their problems, and suffer some lack of self-control and/or competence in taking care of themselves (i.e., dispositional factors are the cause of their mental illness). Such perceptions can then lead to changes in behaviour, e.g., discrimination against people with mental illness.

Bernard Weiner's attribution theory proposes that three dimensions of causality are involved in perceptions of causality: locus (internal vs. external), stability (stable vs. unstable), and controllability (Weiner, 1985; Weiner, Perry, & Magnisson, 1988). Locus deals with whether the cause is believed to be internal (i.e., originated within the person) or external. Controllability involves the issue of whether the cause may be affected by personal will or effort. Stability deals with whether the cause is believed to be stable and fixed, or whether it is unstable over time.

Just as some physical illnesses are judged to be within the control of the afflicted (e.g., developing lung cancer after smoking heavily for decades, or liver problems after a lifetime of heavy drinking), the perception exists that mental illness is a result of a person's behaviours, meaning individuals control the outcome and are to blame for their condition (Corrigan et al., 2000; Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003; Weiner et al., 1988). People with stigmas that are perceived to be controllable tend to elicit feelings of anger and blame, and receive less pity and assistance than people with

stigmas that are perceived to be uncontrollable (Weiner et al., 1988). From the perspective of Weiner's attribution theory, one would expect that promoting a biomedical model of mental illness would reduce the stigma normally attached to such types of illness; while the cause (biology) may have an internal locus, it is still outside personal control. As stated previously, acceptance of the biomedical model does seem to reduce feelings of blame toward people with mental illness, which makes sense in relation to attribution theory (i.e., the person did not cause his/her illness and therefore is not at fault). The difficulty then becomes explaining why the biomedical model is also related to an increase of other negative attitudes such as those relating to beliefs of dangerousness and unpredictability. One possibility is that stating that the cause of mental illness is out of the control of the patient results in people then believing that the outcome of mental illness is also outside of a person's control (Read & Law, 1999; Walker & Read, 2002). This can lead to the perception that people with mental illness have no control over their behaviour, making them seen unpredictable and even dangerous.

In addition to factors involving issues relating to controllability, it may be that the negative attitudes resulting from promoting a biomedical model of mental illness also involve issues relating to stability. Attribution theory states that people's perceptions about causality not only affect how they react to individuals, but also their future expectations of that individual (Weiner et al., 1988). Along with inferences involving controllability, people make inferences about whether the cause of mental illness is stable. Causes that are perceived to be stable are believed to have the possibility of

changing over time, while causes perceived to be unstable are thought to be fixed. According to Weiner et al. (1988), when a cause is perceived to be unstable, it is believed that a person has the ability to recover. Conversely, if the cause of the problem is perceived to be stable over time, the person is not seen as being able to improve or recover. Promoting mental illness as a biological disease instead of being caused by psychosocial factors may give people the impression that mental illness is stable over time. There is some evidence which supports the idea that people believe mental illness is something from which people never recover, preventing them from leading productive lives (Corrigan et al., 1999; Weiner et al., 1988).

It is apparent that the relationship between models of mental illness and perceptions involving controllability and stability affects people's attitudes. More research is needed to further explore what kinds of attributions people make about these factors depending on the type of model of mental illness they are using. In order to do this, it is first necessary to better understand how people think of mental illness, and their perceptions relating to causation.

Multiple Models of Mental Illness

Past research has seemed to operate on the idea that people adhere to either a biomedical model of mental illness or a psychosocial one, without leaving room for the possibility that they may use both. For the most part it seems as if the two models have been pitted against each other, having the models as two poles on either end of a unidimensional scale. However, when Wyatt and Livson (1994) looked at the types of models mental health practitioners were using, they found evidence to support the idea

that people can view mental illness in a multidimensional way. The authors looked at practitioners' models using the Mental Health Questionnaire (Wyatt, 1989) which was designed to measure aspects of the two models as they relate to 12 different areas pertinent to mental health practitioners. Using a scale that does not put the two models on a unidimensional continuum, they found that the majority of practitioners tend to accept aspects of both models instead of strictly adhering to one model over the other. Indeed, a factor analysis yielded six different dimensions that were clearly distinguishable from each other. The factors identified involved four reflecting a biomedical perspective, and two reflecting the psychosocial model. Their data show that acceptance of some of the dimensions reflecting the biomedical model did not necessarily imply acceptance of other dimensions reflecting that model, or preclude acceptance of dimensions reflecting the psychosocial model.

The research conducted by Wyatt and Livson tells us that assuming people conceptualize mental illness by using either the biomedical model or the psychosocial model may not be accurate. The fact that practitioners accept dimensions of both models suggests that it would also be misguided to assume that lay people accept all aspects of one model over the other. Studying the public's models of mental illness by using measures that place the biomedical and psychocial models on a continuum precludes the possibility that lay people, like mental health practitioners, have a multidimensional model of mental illness.

Cermele (1998) used methods similar to those of Wyatt and Livson (1994) in order to examine whether or not lay people would also use a multidimensional model of

mental illness. However, instead of using the traditional psychosocial model as reflected in Wyatt and Livson's work, Cermele argued that the psychosocial model is in fact too general, and that it should in fact be broken down into more specific models. Cermele's "Early Experience model" reflects the idea that mental illness is caused by trauma or conflicts early in life. Her "Current Experience model" reflects the idea that mental illness is caused by negative life events that are in a person's current environment. Cermele also used items which reflected what she termed a "Character model", which states that mental illness is caused by flaws or weakness of character, or by a choice to engage in deviant behaviour. Using her Mental Health Beliefs Questionnaire, Cermele (1998) did in fact find that four separate and distinct factors emerged, reflecting the four hypothesized models (Biological, Character, Current Experience, and Early Experience). The results also showed that people did tend to endorse each of the models to varying degrees.

Specific Models of Mental Illness

Related to the issue of people having multidimensional models of mental illness is the issue of global versus specific models of mental illness. Cermele (1998) looked at whether or not the causal models people endorsed in relation to specific mental disorders were the same as the models they endorsed in relation to the construct of "mental illness". Cermele presented vignettes depicting one of four mental disorders (schizophrenia, alcoholism, bulimia, and depression) and then asked questions to learn what causal models were associated with the specific disorders. Cermele found that endorsing a particular model of mental illness as a general construct does not necessarily predict that

a person will endorse that same model in relation to specific mental disorders. She found that beliefs about biological causes of mental illness were related to beliefs in the biological basis of depression, bulimia, and schizophrenia, but not alcoholism. Endorsement of the Character model or the Early Experience model in relation to the global construct of mental illness was only related to endorsing similar causal beliefs for schizophrenia. Conversely, endorsement of the Current Experience model of mental illness was only related to endorsing the same cause for depression.

Cermele's research provides support for the idea that people may not necessarily have similar models for specific mental disorders and for the general concept of mental illness. The idea that people may think differently about similar concepts is not a novel one. Broverman, Broverman, Clarkson, Rosenkrantz and Vogel (1970) demonstrated that it is possible that people's beliefs about an adult's mental health may not be the same as their beliefs about the mental health of males and females, although arguably one would expect these concepts to overlap greatly. In their now classic study, Broverman et al. examined mental health clinicians' beliefs concerning an ideal standard of mental health. Specifically, the authors presented clinicians with one of three sets of instructions: to either describe a mature, healthy adult person; a mature, healthy adult man; or a mature, healthy adult woman. Using this method, the authors were able to look at the relationship between gender and beliefs about mental health; if clinicians' concepts of a mentally healthy adult were the same as their concepts for a mentally healthy male and/or female, then one would not expect there to be differences in participants' responses. However, the authors found that clinicians were less likely to associate traits they believed

indicative of a healthy adult to a woman than they were to associate them with a man. The research of Broverman et al. (1970) and Cermele (1998) demonstrates the importance of understanding how people think not only of the global concept of mental illness, but also how people understand specific mental disorders. This research also helps shed light on the findings, discussed previously, that efforts at educating people about certain mental disorders may not generalize to other forms of mental illness.

The Present Study

The present study was designed to further determine the usefulness of Weiner's attribution theory for understanding the basis of stigmatization. As with the research conducted by Cermele (1998), the present research proposed to study lay people's perceptions of the general concept of mental illness, as well as their perceptions of specific mental disorders. In particular, the current study focussed on the specific disorders of depression and schizophrenia. These two disorders were chosen because of the prevalence of their use in studies on attitudes toward mental illness (e.g., Angermeyer & Matschinger, 1996a, 1997; Corrigan et al., 2000; Corrigan, River, et al., 2001; Dietrich et al., 2004; Martin, Pescosolido, & Tuch, 2000), and because Cermele's (1998) research suggests that depression and schizophrenia are in fact regarded differently from the global concept of mental illness.

The first goal of the present research was to further explore the types of models lay people use to explain the global concept of mental illness, as well as the specific disorders of depression and schizophrenia (comprising three groups referred to from this point as illness groups). Similar to the studies conducted by Cermele (1998) and Wyatt

and Livson (1994), the current study intended to further explore whether or not lay people do in fact have multidimensional models of mental illness. The second goal of the present research was to examine people's attributions regarding controllability and stability in relation to these three illness groups, and to explore the relationship between these attributions and the types of models they are using. A third goal of this research was to determine the relationship between people's attitudes toward these illness groups, and their attributions and choice of models.

Hypotheses

Models of mental illness

(1) Participants will endorse each of the four models of mental illness (Current Experience, Character, Early Experience, and Biological) for each of the three illness groups (Mental Disorder, Depression and Schizophrenia).

(2a) The Biological Cause model will be endorsed less strongly than the Current Experience, Early Experience, and Character models for mental disorder and depression. (2b) The Biological Cause model will be endorsed more strongly than the Current Experience, Early Experience, and Character models for the Schizophrenia group.

Attributions of controllability and stability

(3) For all three illness groups (Mental Disorder, Depression, and Schizophrenia), endorsement of the Biological Cause model will be negatively related to attributions about controllability.

(4) For all three illness groups (Mental Disorder, Depression, and Schizophrenia), endorsement of the Biological Cause model will be positively related to attributions about

stability.

(5) For all three illness groups (Mental Disorder, Depression, and Schizophrenia), endorsement of the Early Experience model will be negatively related to attributions about controllability.

(6) For all three illness groups (Mental Disorder, Depression, and Schizophrenia), endorsement of the Early Experience model will be negatively related to attributions about stability.

Attitudes toward mental illness

(7a) For all three illness groups (Mental Disorder, Depression, and Schizophrenia), the belief that mental illness is uncontrollable will be related to less favourable attitudes toward mental illness. (7b) For all three illness groups the belief that mental illness is stable will be related to less favourable attitudes toward mental illness.

(8) For all three illness groups (Mental Disorder, Depression, and Schizophrenia), endorsement of the Character model will be related to less favourable attitudes.

CHAPTER TWO

Method

Participants

The sample consisted of 107 participants, including 98 females and 9 males, registered as undergraduate students at the University of Windsor in southern Ontario. Participants' ages ranged from 18 to 52 years ($M = 22.18$, $SD = 5.31$). Participants were recruited through the university's Psychology Participant Pool; a brief description of the study was posted, and interested students signed up for an available session. Participants were compensated by receiving two bonus points toward undergraduate Psychology courses.

Of the 107 participants, none identified as being of Aboriginal descent. As indicated in Table 1, approximately 73% of the sample can be described as Caucasian, while approximately 22% of participants identified their ethnicity as Asian. Roughly half of the sample (51 participants, or 47.7%) was made up of students either majoring in Psychology or completing a double major in Psychology and another subject (Table 2). As also demonstrated by Table 2, approximately 75% of the sample consisted of students in the Faculty of Arts and Social Sciences. For the remainder of the sample, participants were roughly split between the Sciences and other faculties/departments. The distribution was relatively even in regard to the number of years in university that participants had completed in their programs. As shown by Table 3, approximately 50% of participants were first and second year students.

Information was also gathered in relation to participants' experience with

Table 1

Participant ethnicity

Ethnicity	N	%
English Canadian	38	35.5
French Canadian	10	9.3
British (Scotland, Wales, England, N. Ireland)	7	6.5
W. European (France, Germany, Holland, etc.)	5	4.7
E. European (Russia, Poland, Baltic States, Hungary, etc.)	12	11.2
S. European (Italy, Spain, Portugal, Greece, etc.)	6	5.6
Scandinavian (Denmark, Sweden, Norway)	1	.9
Central American (El Salvador, Honduras, etc.)	1	.9
East Asian (Japan, China, etc.)	13	12.1
South Asian (India, Pakistan, etc.)	11	10.3
African	3	2.8
Caribbean	3	2.8
Middle Eastern (Israel, Lebanon, Iran, Iraq, etc.)	7	6.5
Latin American	1	.9
Mixed ethnicity	12	11.2
Other	2	1.9
Missing	2	1.9

Note: "Mixed ethnicity" refers to those participants who identified as belonging to 2 or more of the given ethnic groups. "Other" indicates the number of participants who identified as belonging to an ethnic group other than those given. "Missing" refers to the number of participants who did not indicate an ethnic group.

Table 2

Breakdown of participants' university major.

Faculty/Dept	N	%
Arts and Social Sciences		
Psychology	40	37.4
Psychology + Other	11	10.3
Sociology and Anthropology (also includes Family and Social Relations, Criminology and Forensics, and Social Justice)	17	15.9
Political Science	4	3.7
Communication Studies	1	.9
Music	2	1.9
Social Work	5	4.7
Sciences		
Biological Sciences	4	3.7
Chemistry and Biochemistry	5	4.7
Mathematics and Statistics	1	.9
General Science	4	3.7
Nursing	7	6.5
Human Kinetics	3	2.8
Industrial Engineering	1	.9
Business Administration	1	.9
Undeclared	1	.9

Note: "Psychology + Other" refers to the number of participants who indicated a double major in Psychology and another subject.

Table 3

Participants' responses regarding their year in university.

Year in University	N	%
First	23	21.5
Second	30	28.0
Third	34	31.8
Fourth	19	17.8

information/activities pertaining to mental health. Twenty-two participants (20.6%) indicated that they had attended psychology or mental health workshops, training seminars or informational meetings, and/or had read books about psychology or mental health, apart from training/reading related to university Psychology courses. Thirty-seven participants (34.6%) indicated that they had worked (either for pay or as volunteers) with people who have mental illness or emotional problems (e.g., in hospitals/nursing homes, youth groups).

Table 4 provides information relating to participants' personal experience with mental disorder, as well as their responses regarding family members and friends/peers experience with mental disorder. Thirty-one participants (29%) indicated that they have sought help for mental illness or emotional problems. When asked whether participants' family members have had experience with mental illness or emotional problems, 43 (40.2%) responded "*yes*", 35 (32.7%) responded "*no*", and 28 (26.2%) responded "*I don't know*". Participants were also asked to indicate whether they had friends/peers who have had experience with mental illness or emotional problems; 72 (67.3%) responded "*yes*", 23 (21.5%) responded "*no*", and 12 (11.2%) responded "*I don't know*".

Of the 31 participants who reported personal experience with mental disorder, 24 (22.4%) indicated having had experience with one disorder, five (4.7%) indicated experience with two disorders, and two (1.9%) indicated personal experience with three disorders. Two participants reported seeking help for five or more mental disorders; due to this uncommonly high number of disorders, the data for these participants were removed from the data set prior to analysis.

Table 4

Number of participants who indicated personal, familial, and/or peer experience with mental disorder.

	N	%
Personal	31	29.0
Mother	13	12.1
Father	7	6.5
Step-parent	1	.9
Brother or sister	10	9.3
Step-brother or –sister	0	0
Aunt or uncle	11	10.3
Grandparent	6	5.6
Cousin	6	5.6
Other	2	1.9
Friends/peers	72	67.3

Table 5 provides the list of specific disorders that were presented to the participants, and participants' responses regarding their personal experience with these disorders, as well as their family's and friend's experience. For purposes of clarity, the original list that was presented to participants has been reorganized such that various disorders are grouped according to type (the original list was presented in alphabetical order). Also, the list presented to participants did not split depression into two separate categories (i.e., major and minor), as can be found in Table 5. A significant number of participants used the "*Other*" category to indicate experience with depression, seeming to believe that it was different in some way from the category they were given ("*Major Depressive Disorder"*). Most of such responses used phrases like "*depression, but not major*", "*brief period of depression*", or "*mild depression*". As a result, the data are presented here with the category "*Major Depressive Disorder*" being renamed "*Depression (Major)*", and a category *"Depression (Minor)*" being added to accommodate the responses listed in the "*Other*" category that indicated experience with mild depression. The types of responses in the "*Other*" category included anxiety, self-injury, bereavement, Alzheimer's, anger management, gambling, and issues pertaining to marital conflict/divorce.

In terms of participants' experience with the specific disorders that were used as a focus in this study, few participants seem experienced with schizophrenia, while the majority of the sample have had experience with some form of depression and/or disorders similar to depression. As indicated in Table 5, no participants reported personal

Table 5

Participants' responses regarding experience with specific mental disorders.

	n (%)		
Type of Disorder	Personal Experience	Family Experience	Friends/Peers Experience
Schizophrenia	0	4 (3.7%)	4 (3.7%)
Mood Disorders			
Depression (Major)	6 (5.6%)	14 (13.1%)	30 (28.0%)
Depression (Minor)	10 (9.3%)	5 (4.7%)	4 (3.7%)
Seasonal affect disorder	2 (1.9%)	1 (.9%)	5 (4.7%)
Bipolar disorder	1 (.9%)	6 (5.6%)	18 (16.8%)
Anxiety Disorders			
Post traumatic stress disorder	9 (8.4%)	4 (3.7%)	8 (7.5%)
Panic disorder	8 (7.5%)	4 (3.7%)	15 (14%)
Phobia	0	0	4 (3.7%)
Obsessive compulsive disorder	3 (2.8%)	1 (.9%)	9 (8.4%)
Personality Disorders			
Borderline personality disorder	1 (.9%)	0	1 (.9%)
Antisocial personality disorder	0	0	1 (.9%)
Attention Deficit/Hyperactivity Disorder	2 (1.9%)	2 (1.9%)	14 (13.1%)
Eating Disorders			
Anorexia nervosa	1 (.9%)	2 (1.9%)	19 (17.8%)
Bulimia	0	1 (.9%)	18 (16.8%)
Substance-related Disorders			
Alcoholism	0	11 (10.3%)	15 (14.0%)
Substance abuse	1 (.9%)	10 (9.3%)	12 (11.2%)
Other	6 (5.6%)	7 (6.5%)	7 (6.5%)

experience with schizophrenia, although 4 (3.7%) reported having a family member who has had experience with the disorder, and 4 (3.7%) reported that a friend/peer has had experience. Sixteen participants (15%) reported personal experience with some form of depression, 19 participants (17.8%) reporting have a family member who has had some form of depression, and 34 (31.8%) reported that a friend/peer has had experience with some form of depression. It is also important to note participants' experience with the remaining mood disorders (seasonal affect disorder, and bipolar disorder), due to the similarity between these disorders and depression. Three people (2.8%) reported personal experience with these disorders, 7 (6.5%) reported a family member having experience, and 23 (21.5%) indicated a friend/peer has had experience with these disorders.

Measures

The measures used in the present study included: a modified version of the Mental Health Beliefs Questionnaire (Cermele, 1998), a modified version of the Attribution Questionnaire (Reisenzein, 1986; Corrigan et al., 2002), semantic differentials, and a demographics questionnaire.

The Mental Health Beliefs Questionnaire (MHBQ). The original MHBQ included 60 items examining beliefs relating to causes and treatment of mental illness (Cermele, 1998). The measure assessed four causal models and the treatment associated with each model (Current Cause/Treatment, Early Cause/Treatment, Character Cause/Treatment, Biological Cause/Treatment), as well a separate category relating to diagnosis. Items are worded in general terms and do not make reference to specific mental disorders. Items are given in a Likert scale format (ranging from 1=strongly disagree to 7=strongly agree).

After initial analysis, Cermele (1998) identified five factors with a minimum loading of .40. Of these five factors, a factor relating to issues of pharmacology (termed "Drug Treatment") was dropped from her analyses due to lack of relevance to her current study. Four factors were retained and used in her subsequent analyses, termed Early Experience, Current Experience, Character, and Biological Cause.

For purposes of the current study, the 34 items that pertain to the four factors identified by Cermele were used, comprising four subscales of the MHBQ. The wording of the MHBQ was altered slightly in order to create three versions of the scale, i.e., one for the global concept of mental disorder, one for depression, and one for schizophrenia (Appendix A), all of which were completed by participants. For example, the item "Strong people never develop mental disorders" was changed to "Strong people never develop depression", or "Strong people never develop schizophrenia".

Attribution Questionnaire (AQ). The AQ is a 20-item scale developed by Reisenzein (1986), and modified by Corrigan et al. (2002). As with the MHBQ, three versions of the AQ were used, one for mental disorder, one for depression, and one for schizophrenia (Appendix B), all of which were completed by participants. The AQ served two purposes: to provide a measure of attributions about controllability and stability, and to provide a measure of attitudes. Items are given in a Likert scale format ranging from 1-9, whereby 1 indicates disagreement and 1 indicates agreement.

Two of the scale items measured beliefs about controllability; "How controllable do you think mental disorders (depression, schizophrenia) are?", and "How responsible do you think a person with mental disorder (depression, schizophrenia) is for their present

condition?" Three items were added to the AQ in order to measure beliefs about stability: "People with mental disorder (depression, schizophrenia) will always have to deal with their symptoms', "It is possible to recover from mental disorder (depression, schizophrenia)", and "People with mental disorder (depression, schizophrenia) are able to lead satisfying, productive lives". The two items measuring controllability and one of the items measuring stability were worded in a negative direction, and were recoded prior to analysis.

The remaining 18 items of the scale (referred to in analyses as "AQ-Partial) were used as a measure of general attitudes toward mental disorder, depression, and schizophrenia. Eleven of the items were worded in a negative direction, and were recoded prior to analysis. The overall reliability of the original 20-item version of the AQ has been supported by previous studies (e.g., Corrigan et al., 2001b; Corrigan et al., 2002).

Semantic differentials. Attitudes toward mental illness were also measured with five semantic differentials (Read & Law, 1999). In three different versions, participants were asked to picture in their minds either someone with mental disorder, depression or schizophrenia, and to select one of seven points between each of the five antonyms to describe the person. The five antonym pairs were Safe-Dangerous, Unpredictable-Predictable, Sociable-Antisocial, Cold-hearted-Caring, and Intelligent-Simple. Three of the five word-pairings were presented with the positive antonym on the left and the negative antonym on the right, with the reverse being true for the remaining two word-pairings. These items were then recoded prior to analysis. Information was not available from previous studies concerning the reliability of the five semantic differentials that

were used

Demographics questionnaire. Participants were asked to provide information regarding age, gender, ethnicity, year in university, university major, education in psychology, and personal, family and peer experience with mental illness/emotional problems (Appendix C).

Procedure

Participants were given a letter of information describing the study and the researchers involved. Participants were then given a consent form, so that they could indicate their willingness to take part in the study. Upon consent, participants were given the described measures. The measures were grouped by illness group, i.e., Mental Disorder, Depression, and Schizophrenia. Within each group the measures were presented in the following order: MHBQ, AQ, Semantic differentials. At the end of the measures was the demographics questionnaire. While the measures were presented in the same order within each illness group, the order of presentation for the three groups of measures was counterbalanced systematically.

CHAPTER THREE

Results

Preliminary analyses

Missing Data. Since missing value analysis requires a minimum of 1% of responses to be missing in order to perform the necessary t-tests, cases with fewer than 1% of responses missing were deleted from analysis in a pair-wise fashion. In cases where missing data comprised more than 1% of responses on a particular scale, missing data analysis was performed to determine whether the missing responses appeared to be random. For all such cases, t-tests determined that the missing data showed no pattern, thus these cases were also excluded pair-wise from analysis. This method of excluding data resulted in minimal loss of data from the analyses; of the 24 variables used, only eight variables had missing data, with five of these variables only reduced by one participant (the largest loss being four participants for one of the variables).

Reliability of Measures. Internal consistency was determined for the measures used in the analysis. Reliability coefficients, means, standard deviations, and ranges are listed in Table 6. Internal consistency was measured by Cronbach's alpha, and was found to be satisfactory for the majority of the scales and subscales used. Scores are given for all three illness groups, and in regard to the MHBQ, are further broken down into the four subscales measuring the four models of mental illness: Early Experience, Current Experience, Character, and Biological Cause.

Although the scores for the complete version of the Attributions Questionnaire were not involved in any hypotheses or analyses, internal consistency was measured for

the total scale (AQ-Complete) containing the original items as well as the items added to the scale for the purpose of this study (Table 6). Cronbach's alpha showed satisfactory reliability for the complete scale for each of the three illness groups. As discussed previously, the AQ provided three separate indicators used in the analyses: an indicator of attributions relating to controllability, an indicator of attributions relating to stability, and an indicator of general attitudes of mental illness. Due to the small number of items that make up the indicators Controllability and Stability, reliability coefficients are not provided. Internal consistency was determined for the items used to measure general attitudes toward mental illness (AQ-Partial), and can be found in Table 6. Cronbach's alpha was lowest for the Semantic Differentials, particularly for the Depression group. The reason for these low alphas is unclear, since previous studies using Semantic Differentials (e.g., Friborg, Martinussen, & Rosenvinge, 2006; Shields, 2007) have shown satisfactory internal consistency as demonstrated by alpha values in the range of .75-.85.

Order effects. Analyses were performed on the data set to determine whether there were possible effects relating to the order in which the measures were presented. Since each participant received surveys for all three illness groups, the survey order was counterbalanced by illness group. Analyses indicated a significant effect of survey order for 2 of the 24 variables used in the planned analyses: Current Experience scores for the Depression group, $F(5, 106) = 3.43$, $p = .01$, and the Semantic Differentials score for the Mental Disorder group, $F(5, 104) = 1.43$, $p = .03$. Survey order was used as a covariate in any subsequent analyses in which these variables were involved.

Table 6

Reliability coefficients, ccale means, scale standard deviations and ranges for three illness groups

Mental Disorder	Alpha	N	Mean	Standard Deviation	Possible Range	Actual Range
MHBQ - Early Experience	.89	107	4.56	.79	1 - 7	2.57 – 6.29
MHBQ - Current Experience	.78	107	5.20	.65	1 - 7	3.00 – 6.50
MHBQ - Character	.76	107	2.04	1.06	1 - 7	1.00 – 5.00
MHBQ - Biological Cause	.73	106	5.00	.83	1 - 7	3.00 – 7.00
AQ-Complete	.83	106	6.53	.86	1 - 9	4.39 – 8.09
AQ-Partial	.87	107	6.71	1.02	1 - 9	4.17 – 8.67
Semantic Differentials	.73	105	.14	.93	-3 - 3	-2.00 – 2.20
Depression						
MHBQ - Early Experience	.92	107	4.17	.96	1 - 7	1.57 – 6.71
MHBQ - Current Experience	.81	107	5.50	.69	1 - 7	3.90 – 7.00
MHBQ - Character	.73	107	2.19	1.17	1 -7	1.00 – 6.00
MHBQ - Biological Cause	.81	107	4.77	1.06	1 - 7	2.40 – 7.00
AQ-Complete	.82	106	7.03	.79	1 - 7	4.48 – 8.74
AQ-Partial	.86	106	7.29	.92	1 - 9	4.44 – 9.00
Semantic Differentials	.59	104	.39	.87	-3 - 3	-2.00 – 2.40

Schizophrenia						
MHBQ - Early Experience	.94	106	3.94	1.09	1 - 7	1.00 – 6.86
MHBQ - Current Experience	.81	107	4.59	.85	1 - 7	1.40 – 7.00
MHBQ - Character	.71	107	1.96	1.03	1 - 7	1.00 – 4.75
MHBQ - Biological Cause	.84	107	5.46	.99	1 - 7	2.60 – 7.00
AQ -Complete	.85	107	6.01	.96	1 - 9	3.48 – 8.00
AQ-Partial)	.89	106	6.17	1.18	1 - 9	3.00 – 8.67
Semantic Differentials	.63	103	-.04	.89	-3 - 3	-2.40 – 2.40

Note: "MHBQ" refers to the Mental Health Beliefs Questionnaire. Scores on the MHBQ ranged from 1-7, whereby 1 indicates low endorsement and 7 indicates high endorsement. "AQ-Complete" refers to the original version of the Attributions Questionnaire in addition to the items added for the purposes of this study. "AQ-Partial" refers to the items of the Attribution Questionnaire that were used as a measure of attitudes toward mental illness. Scores for the AQ ranged from 1-9, whereby 1 indicates disagreement or a negative attitude, and 9 indicates agreement or a positive attitude. Scores on the Semantic Differentials ranged from -3- +3, whereby -3 indicates a negative attitude, and +3 a positive attitude.

Personal experience with mental disorder. Analyses were also performed on the data set to examine whether participants' responses differed as a result of whether they had had personal experience with mental disorder. Participants were divided into two groups; those who reported personal experience with mental disorder and those who did not. T-test comparisons of the means for the two groups indicated significant differences ($p < .05$) for 10 of the 24 variables (Table 7). Examination of the relevant means indicated that for the Mental Disorder group, personal experience with mental disorder was related to lower endorsement of the Early Experience model and more favourable attitudes toward mental disorder as measured by the AQ-Partial. For the Depression group, personal experience with mental disorder was related to a lesser degree of endorsement for the Character model, the idea that depression is controllable, and more favourable attitudes toward depression as measured by both the AQ-Partial and the Semantic Differentials. For the Schizophrenia group, personal experience with mental disorder was related to lower endorsement of the Early Experience model, the idea that schizophrenia is controllable, and more favourable attitudes toward schizophrenia as measured by both the AQ-Partial and the Semantic Differentials. Personal experience with mental illness was used as a covariate in any subsequent analyses in which these variables were involved.

Core Analyses

Models of mental illness. The first hypothesis was that participants would endorse each of the four models of mental illness (Early Experience, Current Experience,

Table 7

Results of t-tests comparing scores for people who reported personal experience with mental disorder to those who did not.

				Personal Experience with Mental Disorder					
				No			Yes		
Mental Disorder	df	*t*	*p*	Mean	*SD*	N	Mean	*SD*	N
MHBQ - Early Experience	105	-2.23	.03	4.67	.75	76	4.30	.84	31
AQ-Partial	105	2.52	.01	6.56	1.04	76	7.09	.86	31
Depression									
MHBQ - Character	105	-2.32	.02	2.36	1.26	76	1.79	.82	31
Controllability	105	-2.20	.03	5.26	1.58	76	5.98	1.49	31
AQ-Partial	104	2.78	.02	7.16	.94	76	7.64	.78	30
Semantic Differentials	102	3.15	.00	.23	.85	74	.81	.86	30
Schizophrenia									
MHBQ - Early Experience	104	-3.05	.00	4.14	1.00	75	3.46	1.16	31
Controllability	105	-2.61	.01	6.26	1.48	76	7.11	1.64	31
AQ-Partial	105	2.70	.01	5.98	1.20	75	6.64	1.00	31
Semantic Differentials	101	2.91	.01	-.19	.85	75	.38	.87	28

Note: "MHBQ" refers to the Mental Health Beliefs Questionnaire. "AQ-Partial" refers to the items of the Attribution Questionnaire that were used as a measure of attitudes toward mental illness. The possible range of scores for the MHBQ is 1-7. The possible range of scores for Controllability and for the AQ-Partial is 1-9. The possible range of scores for the Semantic Differentials is -3 – +3.

Character, and Biological Cause), providing support for the idea of multidimensional models of mental illness. The results (Table 8) show partial support for this hypothesis; participants endorsed at least two of the causal models for each of the three illness groups (with values above 4 indicating endorsement). Participants endorsed the Early Experience, Current Experience and Biological Cause models for the Mental Disorder and Depression groups, and endorsed the Current Experience and Biological Cause models for the Schizophrenia group.

The second hypothesis was that, for the Mental Disorder and Depression groups, participants would show a higher degree of endorsement for causal models reflecting a psychosocial perspective (Early Experience, Current Experience, and Character models), and that for the Schizophrenia group, the Biological Cause model would be endorsed to a higher degree. The variable reflecting the combined mean of the Early Experience, Current Experience, and Character models (referred to as "Psychosocial Combined") can be found in Table 8 for each illness group. Analyses of variance provided partial support for this hypothesis. There was a significant main effect for scores on the MHBQ for the Mental Disorder group, $F(3, 312) = 37.40, p < .001$, for the Depression group, $F(3, 318) = 245.70, p < .001$, and for the Schizophrenia group, $F(3, 315) = 273.24, p < .001$. As hypothesized, the mean for the Biological Cause model was significantly higher than the mean for Psychosocial Combined for the Schizophrenia group, $F(1, 105) = 218.1, p < .001$. However, contrary to expectations, the mean for the Biological Cause model was significantly *higher* than the mean for Psychosocial Combined for the Mental Disorder group, $F(1, 105) = 174.0, p < .001$, and for the Depression group, $F(1, 106) = 49.38, p <$

Table 8

Means andsStandard deviations for causal models.

Mental Disorder	N	Mean	SD
Early Experience	107	4.56	.79
Current Experience	107	5.20	.65
Character	107	2.04	1.06
Psychosocial Combined	321	3.94	1.67
Biological Cause	106	5.00	.83
Depression			
Early Experience	107	4.17	.96
Current Experience	107	5.50	.69
Character	107	2.19	1.17
Psychosocial Combined	321	3.96	1.66
Biological Cause	107	4.77	1.06
Schizophrenia			
Early Experience	106	3.94	1.09
Current Experience	107	4.59	.85
Character	107	1.96	1.03
Psychosocial Combined	320	3.50	1.37
Biological Cause	107	5.46	.99

Note: "Psychosocial combined" refers to the Early Experience, Current Experience, and Character variables combined

.001.

Contrasts were carried out on the means of the four causal models to more closely examine specific differences between the variables. Due to the lack of a between-subjects factor, it was not possible to use the Post Hoc Comparisons option of the Statistical Package for the Social Sciences (SPSS version 15.0). However, despite being unable to use a specific method of comparisons such as the Bonferroni test, the contrasts showed a satisfactory level of significance; out of 18 possible contrasts, 16 were significant at the $p < .001$ level, and one was significant at the $p < .01$ level. Endorsement of the Character model was the lowest of all the causal models for each of the illness groups. For both the Mental Disorder and Depression groups, the highest degree of endorsement was for the Current Experience model, not the Biological Cause model, which was the second highest. For the Mental Disorder group, there was no significant difference between endorsement of the Current Experience and the Biological Cause models; for the Depression group, endorsement of the Current Experience model was significantly higher than endorsement for the Biological Cause model.

Attributions of controllability and stability. Possible relationships between the four causal models and attributions of controllability and stability were tested by conducting Pearson correlations, the results of which can be found in Table 9. The third hypothesis was that for all three illness groups, endorsement of the Biological Cause model would be negatively correlated with beliefs about Controllability. The results mainly contradict this hypothesis. There was a modest but significant *positive* correlation between the two variables for the Schizophrenia group ($r = .22, p < .01$), such that

Table 9

Correlations between the subscales of the MHBQ and indicators of Controllability and Stability for the three illness groups.

Mental Disorder	Early Experience	Current Experience	Character	Biological Cause
Controllability	-.15[1]	-.05	-.18*	-.03
Stability	-.14[1]	-.04	-.24**	-.02
Depression				
Controllability	-.30[1]**	-.10[2]	-.39[1]**	-.15[1]
Stability	-.12	.01[2]	-.08[1]	.26**
Schizophrenia				
Controllability	-.18[1]*	-.24[1]**	-.31[1]**	.22[1]**
Stability	.10[1]	-.02	.06	-.20

Note: [1] = Personal experience with mental disorder used as a covariate.
[2] = Survey order used as a covariate.
* $p < .05$
** $p < .01$

endorsement of the Biological Cause model for Schizophrenia was related to the belief that schizophrenia is controllable. There was no significant correlation between the Biological Cause model and Controllability for the Mental Disorder group. However, the correlation between the Biological Cause model and controllability attributions for the Depression group approached significance ($r = -.15, p = .06$). These results indicate that for the Depression group, endorsement of the Biological Cause model tended to be related to the idea that depression is not under personal control.

It was also predicted (Hypothesis 4) that there would be a positive correlation between the Biological Cause model and beliefs concerning stability. The results partially support this hypothesis. For the Depression group, people who endorsed the Biological Cause model also tended to endorse the belief that depression is stable ($r = .26, p < .01$). However, endorsement of the Biological Cause model was *negatively* correlated to attributions about stability for the Schizophrenia group ($r = -.20, p < .05$).

It was expected (Hypothesis 5) that there would be a negative correlation between the Early Experience model and attributions about controllability. The results supported this hypothesis. The correlation between endorsement of this model and controllability scores for the Mental Disorder group approached significance ($r = -.15, p = .06$), and indicates that people who endorsed the Early Experience model also tended to believe that mental disorder is uncontrollable. There was a significant negative correlation between these variables for the Depression group ($r = -.30, p < .01$), indicating that the belief that depression is caused by events in early childhood is related to the idea that depression is uncontrollable. There was also a significant negative correlation between

the Early Experience model and attributions concerning controllability for the Schizophrenia group ($r = -.18, p < .05$), showing that endorsement of this model was related to the idea that the cause of schizophrenia is outside of personal control.

Hypothesis 6 was that there would be a positive correlation between the Early Experience model and beliefs about stability. The results contradict this hypothesis. The relationship between these variables for the Mental Disorder group approached significance ($r = -.14, p = .08$); however the negative correlation indicated that people who endorsed this model tended to believe that the cause of mental illness is *unstable*. There was no significant correlation between the Early Experience model and attributions about stability for the Depression and Schizophrenia groups.

No *a priori* hypotheses were made about possible relationships between the Current Experience and Character models and attributions about Controllability and Stability for any of the illness groups. For the Mental Disorder group, there was a significant negative correlation between endorsement of the Character model and attributions about controllability ($r = -.18, p < .05$), and attributions about stability ($r = -.24, p < .01$), indicating that the belief that mental disorder is caused by a person's character is also related to the idea that mental disorder is uncontrollable and unstable. For the Depression group, a moderate negative correlation was found between the Character model and Controllability ($r = -.39, p < .01$); the belief that depression is caused by a person's character was also related to the belief that the cause of depression is uncontrollable. For the Schizophrenia group, a modest negative correlation was found between the Current Experience model and attributions concerning Controllability ($r =$

-.24, $p < .01$); the belief that schizophrenia is caused by current experiences was related to the idea that schizophrenia is not under personal control. A modest negative correlation was also found between the Character model and Controllability ($r = -.31, p < .01$); beliefs that schizophrenia is caused by character was also related to the idea that the cause of schizophrenia is uncontrollable.

Attitudes toward mental illness. Two separate indicators were used to measure attitudes toward mental illness; mean scores on the AQ-Partial, and mean scores on a group of Semantic Differentials. Scores for the AQ-Partial ranged from 1 to 9, with a higher score reflecting a more positive attitude. Scores for the Semantic Differentials ranged from -3 to +3, with a higher number indicating a more positive attitude. The means for the AQ-Partial and the Semantic Differentials for the three illness groups can be found in Table 6. In regard to attitudes toward mental illness as measured by the AQ-Partial, for each of the illness groups the means were above the neutral point (five), indicating positive attitudes. Analyses of variance indicated that there was a significant main effect for illness group, $F(2, 210) = 73.34, p < .001$. Examination of the means for the three illness groups indicated attitudes toward those with depression were the most positive, and attitudes toward those with schizophrenia were the least positive.

With regard to attitudes toward mental illness as measured by Semantic Differentials, Figure 1 provides information regarding the means for each group on the 5 semantic differentials. The means tended to cluster close to the neutral point (zero), with the lowest individual mean being -1.57, $SD = 1.34$, and the highest being 1.3, $SD = 1.39$ out of a possible range of -3 to +3. Analyses of variance and contrasts between the means

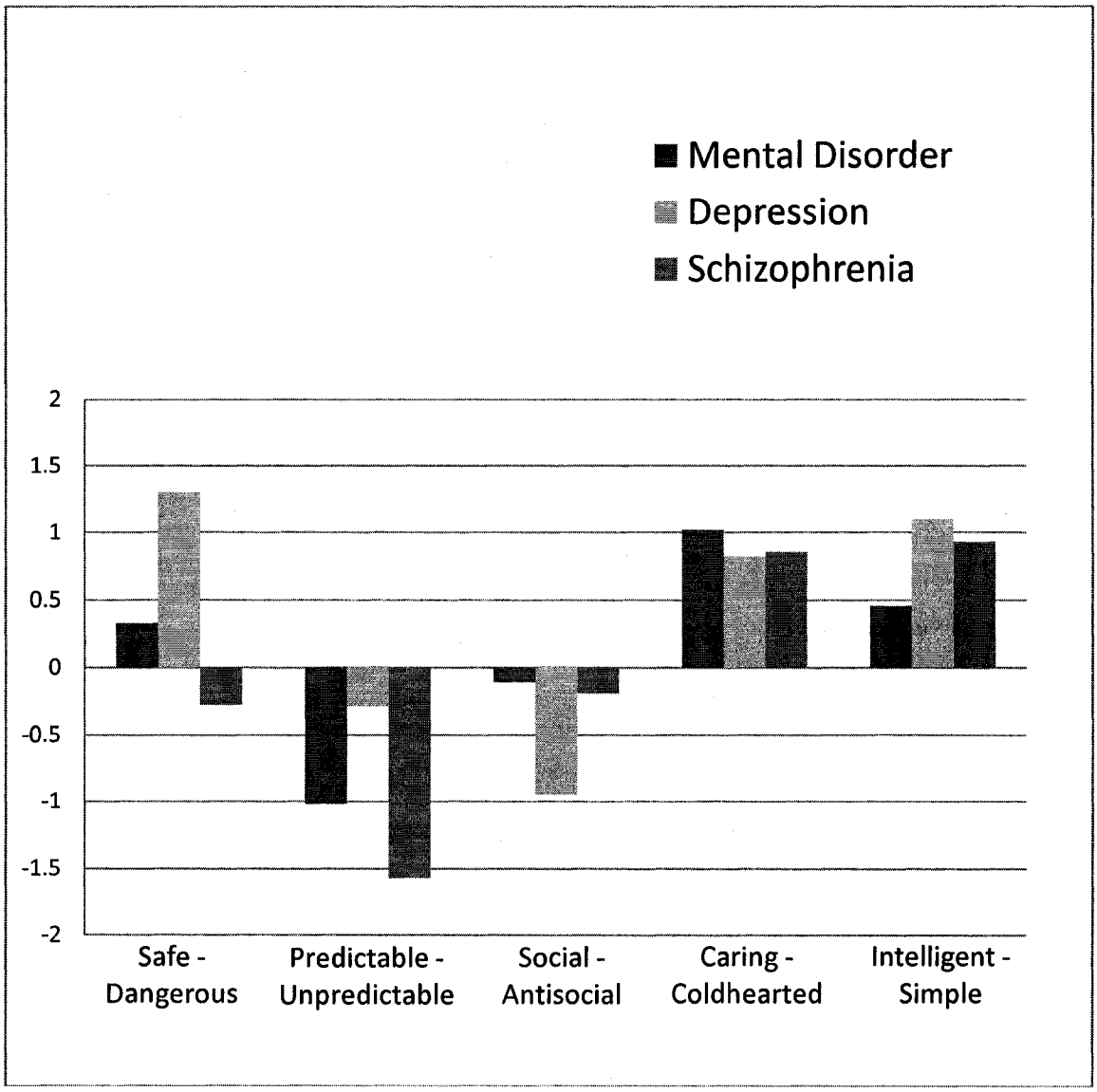

Figure 1: Means scores on the word-pairings for the Semantic Differentials by illness Group.

for each of the five word pairings were performed for the three illness groups.

For the Dangerous-Safe word pairing, the mean for the Depression group was significantly higher than the mean for the other illness groups, indicating that people with depression were regarded as safer than those with mental disorder or schizophrenia. In contrast, the negative mean for the Schizophrenia group indicated that people believed those with schizophrenia to be more dangerous than those with mental disorder or depression.

The means for the Unpredictable-Predictable word pairing were all in the negative direction (i.e., toward unpredictable). The mean for the Schizophrenia group was significantly lower than the means for the Depression group, which in turn was significantly lower than the mean for the Mental Disorder group, i.e., those with schizophrenia were believed to be the most unpredictable, followed by those with mental disorder.

The means for the Antisocial-Sociable word pairing were all in a negative direction (toward antisocial). The mean for the Depression group was significantly lower than the mean for Mental Disorder and Schizophrenia (i.e., people labelled those with depression as being more antisocial than those with mental disorder or schizophrenia).

The means for the final two word pairings (Cold Hearted-Caring and Simple-Intelligent) were all in a positive direction. The means for the Cold Hearted-Caring pairing were not significantly different from each other. For the Simple-Intelligent word pairing the mean for the Mental Disorder group was significantly lower than the mean for both the Depression and Schizophrenia groups (i.e., people with mental disorder were

believed to be less intelligent than those with depression and schizophrenia).

Hierarchical regression analysis was conducted to determine whether scores pertaining to Controllability and Stability would predict participants' attitudes toward mental illness. Controllability and Stability scores were used as predictor variables, and scores on the AQ-Partial and Semantic Differentials were used as criterion variables. Hierarchical regression was used due to the need to control for survey order and/or personal experience with mental illness. These variables were used as the first set of predictors entered in analyses where variables were involved that had showed an effect of survey order or personal experience with mental illness. Otherwise, Stability scores were entered in the first block, and Controllability scores in the second. The results for the regression analyses can be found in Table 10. It is to be noted that semi-partial correlations were not included in the table because only one predictor was added in each block of the analyses; thus ΔR^2 provides the unique variance accounted for by each predictor individually.

It was hypothesized (Hypothesis 7) that for all three illness groups, the belief that mental illness is uncontrollable and stable would be related to less favourable attitudes toward mental illness. In general, the results contradicted this hypothesis. Personal experience with mental illness accounted for 6% of the variance on the AQ-Partial for the Mental Disorder group, in that personal experience with mental illness was associated with lower scores on the AQ-Partial. Stability accounted for 4% of the variance, whereby higher Stability scores predicted higher AQ-Partial scores. When controlling for survey order, Stability scores accounted for 4% of the variance on the Semantic Differentials for

Table 10

Results of hierarchical regression analysis examining Controllability and Stability as predictors of attitudes toward mental illness as measured by the AQ-Partial and Semantic Differentials

Mental Disorder		R	R^2	ΔR^2	*F*	*df*	β	N
AQ-Partial								
Step 1:	Personal Experience	024	.06	.06*	6.35	1, 105	-.24*	106
Step 2:	Personal Experience						-.23*	106
	Stability	.12	.02	.04*	1.61	1, 104	.20*	
Step 3:	Personal Experience						-.22*	
	Stability						.22*	
	Controllability	.32	.11	.01	.95	1, 103	.09	106
Semantic Differentials								
Step 1:	Survey Order	.16	.02	.02	2.58	1, 103	-.16	105
Step 2:	Survey Order						-.13	
	Stability	.25	.07	.04*	4.40	1, 102	.20*	105
Step 3:	Survey Order						-.13	
	Stability						.20*	
	Controllability	.26	.07	.00	.01	1, 101	-.01	105

Depression		R	R^2	ΔR^2	F	df	β	N
AQ-Partial								
Step 1:	Personal Experience	.24	.06	.06*	6.14	1, 104	-.24*	106
Step 2:	Personal Experience						-.21*	
	Stability	.34	.11	.06*	6.67	1, 103	.24*	106
Step 3:	Personal Experience						-.21*	
	Stability						.24*	
	Controllability	.34	.11	.00	.04	1, 102	.02	106
Semantic Differentials								
Step 1:	Personal Experience	.30	.09	.09**	9.92	1, 102	-.30**	104
Step 2:	Personal Experience						-.28**	
	Stability	.37	.13	.05*	5.22	1, 101	.21*	104
Step 3:	Personal Experience						-.32**	
	Stability						.19*	
	Controllability	.41	.17	.03*	3.99	1, 100	-.19*	104

Schizophrenia		R	R^2	ΔR^2	F	df	β	N
AQ-Partial								
Step 1:	Personal Experience	.26	.07	.07**	7.30	1, 105	-.26**	106
Step 2:	Personal Experience						-.27**	
	Stability	.28	.08	.01	1.26	1, 104	.11	106
Step 3:	Personal Experience						-.266**	
	Stability						.12	
	Controllability	.28	.08	.00	.15	1, 103	.04	106
Semantic Differentials								
Step 1:	Personal Experience	.28	.08	.08**	8.44	1, 101	-.28**	103
Step 2:	Personal Experience						-.29**	
	Stability	.29	.08	.01	.77	1, 100	.09	103
Step 3:	Personal Experience						-.32**	
	Stability						.06	
	Controllability	.31	.10	.02	1.61	1, 99	-.13	103

Note: "AQ-Partial" refers to the items of the Attribution Questionnaire that were used as a measure of attitudes toward mental illness.

* $p < .05$

** $p < .01$

the Mental Disorder group, whereby higher Stability scores predicted higher scores on the Semantic Differentials. Controllability did not account for any unique variance on the AQ-Partial or Semantic Differentials for the Mental Disorder group.

Personal experience with mental illness accounted for 6% of the variance on the AQ-Partial for the Depression group, whereby personal experience with mental illness was associated with lower scores on the AQ-Partial. Stability accounted for 6% of the variance on the AQ-Partial, whereby higher scores for Stability predicted higher scores on the AQ-Partial. Controllability did not account for any unique variance on the AQ-Partial for the Depression group. Personal experience with mental illness accounted for 9% of the variance on the Semantic Differentials for the Depression group, whereby personal experience with mental disorder was associated with lower Semantic Differential scores. Stability accounted for 5% of the variance when controlling for personal experience, in that higher Stability scores predicted higher scores on the Semantic Differentials. Controllability accounted for 3% of the variance on the Semantic Differentials for the Depression group, in that lower Controllability scores predicted higher scores on the Semantic Differentials.

Personal experience with mental illness accounted for 7% of the variance on the AQ-Partial for the Schizophrenia group; personal experience with mental illness was associated with lower scores on the AQ-Partial. In addition, personal experience with mental illness accounted for 8% of the variance on the Semantic Differentials, in that personal experience with mental illness was associated with lower Semantic Differential scores. Stability and Controllability did not account for any unique variance on the AQ-

Partial or Semantic Differentials for the Schizophrenia group.

Pearson correlations were used to explore possible relationships between the four causal models and attitudes toward mental illness (Table 11). It was hypothesized (Hypothesis 8) that for all three illness groups, endorsement of the Character model would be negatively related to attitudes toward mental illness. There was support for this hypothesis. In relation to the Mental Disorder group, there was a modest negative correlation between the Character model and scores on the AQ-Partial ($r = -.24, p < .01$), and scores on the Semantic Differentials ($r = -.23, p < .01$), i.e., endorsement of this model was related to less favourable attitudes toward mental disorder. For the Depression group, there was a modest negative correlation between endorsement of the Character model and scores on the AQ-Partial ($r = -.17, p < .05$); endorsement of this model was related to less favourable attitudes toward depression as measured by the AQ-Partial. Although not statistically significant, the correlation between endorsement of the Character model and scores on the AQ-Partial for the Schizophrenia group was also negative ($r = .30, p = .06$); endorsement of this model was somewhat related to less favourable attitudes toward schizophrenia as measured by the AQ-Partial. With regard to possible relationships between the Early Experience, Current Experience, and Biological Cause models and attitudes toward mental illness, there was a significant positive correlation between the Current Experience model and scores on the AQ-Partial ($r = .28$, $p < .01$), whereby the belief that mental disorder is caused by current experiences was also related to more favourable attitudes toward mental disorder as measured by the AQ-Partial. The correlation between endorsement of the Early Experience model and scores

Table 11

Correlations between the subscales of the MHBQ and indicators of attitudes toward mental illness.

Mental Disorder	Early Experience	Current Experience	Character	Biological Cause
AQ-Partial	-.15[1]	.28**	-.24**	.06
Semantic Differentials	-.15[3]	.11[2]	-.23[2]**	.02[2]
Depression				
AQ-Partial	-.03	.14[2]	-.17[1]*	.11
Semantic Differentials	-.02[1]	-.11[2]	-.05[1]	-.01[1]
Schizophrenia				
AQ-Partial	-.11[1]	-.10[1]	-.16[1]	.04[1]
Semantic Differentials	-.17[1]	-.07[1]	-.01[1]	-.23[1]*

Note: [1] = Personal experience with mental disorder was used as a covariate.
[2] = Survey order was used as a covariate.
[3] = Personal experience with mental disorder and survey order were both used as covariates.
* $p < .05$
** $p < .01$

on the AQ-Partial for the Mental Disorder group approached significance ($r = -.15, p = .06$), indicating that the belief that mental disorder is caused by experiences in early childhood was somewhat related to less favourable attitudes toward mental disorder as measured by the AQ-Partial. A significant correlation was found between endorsement of the Biological Cause model and scores on the Semantic Differentials ($r = -.23, p < .05$), whereby endorsement of this model was related to less favourable attitudes toward mental illness as measured by the Semantic Differentials.

For purposes of clarity, a written summary of the results has been provided, and can be found in Table 12.

Table 12

Summary of findings across the three illness groups

	Mental Disorder	Depression	Schizophrenia
Models of mental illness	- multidimensional model - endorsed the Early Experience, Current Experience, and Biological Cause models - preferred the Current Experience and Biological Cause models	- multidimensional model - endorsed the Early Experience, Current Experience, and Biological Cause models - preferred the Current Experience model	- multidimensional model - endorsed the Current Experience and Biological Cause models - showed highest preference for the Biological Cause model
Attributions of Controllability and Stability	- Early Experience model was somewhat related to the belief that mental disorder is uncontrollable and unstable - Character model was related to the idea that mental disorder is uncontrollable and unstable	- Biological Cause model was somewhat related to the belief that depression is uncontrollable, as well as related to the idea that depression is stable - Early Experience model was related to the belief that depression is uncontrollable - Character model related to the belief that depression is uncontrollable	- Biological Cause model was related to the belief that schizophrenia is controllable and unstable - Early Experience model was related to idea that schizophrenia is uncontrollable - Current Experience model was related to the idea that schizophrenia is uncontrollable - Character model was related to the belief that schizophrenia is uncontrollable

Attitudes toward mental illness	- attitudes were positive overall as measured by the AQ-Partial, but negative overall as measured by the Semantic Differentials -people with mental disorder judged to be somewhat unpredictable, somewhat caring, and less intelligent than those with depression or schizophrenia - the belief that mental disorder is stable was related to more positive attitudes - personal experience with mental illness was related to less favourable attitudes on AQ-Partial - Early Experience model was somewhat related to negative attitudes - Character model was related to less favourable attitudes	- attitudes were positive overall as measured by the AQ-Partial, but negative overall as measured by the Semantic Differentials - people with depression judged to be somewhat caring, more predictable than those with mental disorder or schizophrenia, and more antisocial - the belief that depression is stable was related to more positive attitudes - the belief that depression is uncontrollable was related to less favourable attitudes on Semantic Differentials - personal experience with mental illness was related to less favourable attitudes on AQ-Partial - Character model related to more negative attitudes on AQ-Partial	- attitudes were positive overall as measured by the AQ-Partial, but negative overall as measured by the Semantic Differentials -people with schizophrenia judged to be somewhat dangerous, more unpredictable than those with mental disorder and depression, somewhat caring, and somewhat intelligent - personal experience with mental illness was related to less favourable attitudes on AQ-Partial - Character model was somewhat related to more negative attitudes on AQ-Partial - Biological Cause model was related to more negative attitudes on Semantic Differentials

CHAPTER FOUR

Discussion

The purpose of the current study was to further investigate the way lay people think about mental illness. First, the present research looked at whether people tend to view mental illness in a multidimensional way, and the types of causal models people are using in relation to both the global concept of mental illness and in relation to two specific mental disorders, depression and schizophrenia (termed illness groups). Second, the present study looked at people's attributions regarding controllability and stability in relation to these three illness groups, and how these attributions may be related to the type of causal models they are using. Finally, the current research examined attitudes toward these three illness groups, and how these attitudes are related to people's causal models as well as attributions of controllability and stability. In general, the hypotheses designed to address these research goals were partially supported.

Models of mental illness. Participants showed endorsement for more than one of the four causal models of mental illness, i.e., Early Experience, Current Experience, Character, and Biological Cause. These results supported the hypothesis that people prefer to use a multidimensional model in their understanding of mental illness. Furthermore, participants endorsed more than one of the causal models in relation to all three illness groups, demonstrating that they are using multidimensional causal models not only in relation to the global concept of mental illness, but also in relation to the specific disorders depression and schizophrenia.

These results support the findings by Wyatt and Livson (1994), and Cermele

(1998), who found that both mental health practitioners and lay people tend to use multidimensional models of mental illness. The current study provides further support for the idea that it is not useful to assume people think of mental illness in a unidimensional manner. This study further demonstrates that research studies which operate under this assumption are failing to get an accurate picture of how people are thinking about mental illness. As with the studies by Wyatt and Livson (1994) and Cermele (1998), the current study was not designed in such a way as to place two models on a continuum. By examining people's models of mental illness in such a way that endorsement of one model did not preclude endorsement of another, it was possible to see that participants do indeed endorse aspects of both the psychosocial and the biomedical model in relation to mental illness. In addition, participants showed endorsement of multiple models for all three of the illness groups, supporting Cermele's findings that participants endorsed more than one causal model in relation to the global concept of mental illness, as well as to the specific disorders of depression and schizophrenia. These results further suggest that research investigating models of mental illness would greatly benefit from adopting a multidimensional perspective in both theory and design.

With regard to model preference, when the Biological Cause model was compared to the three models that reflect a psychosocial perspective (the Early Experience, Current Experience, and Character models), the Biological Cause model was endorsed to a higher degree for all three illness groups. While it had been hypothesized that this would be the case for the Schizophrenia group, this contradicted the hypothesis that the opposite would be true for the Mental Disorder and Depression groups. However,

examination of the individual means did show that when the models were not grouped by the perspective they reflect (i.e., biomedical and psychosocial), for the Mental Disorder and Depression groups the Current Experience model had the highest level of endorsement, and the Biological Cause the second highest. These results support those of Cermele (1998), who found that college students preferred the Current Experience model as the cause of mental illness and depression, but preferred it to a lesser degree than the Biological Cause model in terms of schizophrenia.

It was hypothesized that participants would prefer to use a psychosocial model for understanding mental disorder and depression, and this hypothesis was partially supported in light of the fact that the Current Experience model (which reflects the psychosocial perspective) did have the highest level of endorsement for the two illness groups. What had been unanticipated was the fact that the Biological Cause model would be endorsed to such a high degree for both mental disorder and depression; indeed, for mental disorder, participants endorsed the Current Experience model and the Biological Cause model to similar degrees. The Early Experience model was endorsed for mental disorder and depression, but to a lesser degree, and was not endorsed at all for the schizophrenia group. Participants did not use the Character model as a means of explaining any of the three illness groups.

These results support those of Cermele (1998) in suggesting that university students prefer to explain mental disorder and depression in terms of current life events and circumstances. Cermele stated that this preference was understandable due to the fact that her sample was comprised of 68% first year students. She argued that the lives of

first year students are in a state of transition, resulting in an increase of stress and emotional problems. She argued that this makes it more natural for current experiences to be particularly salient as a possible cause to mental illness. In the current study, however, the sample was made up of a relatively even split across the four years of undergraduate university. The fact that the Current Experience model was preferred for mental disorder and depression in the current study suggests that university students' preference for the Current Experience model may not necessarily be due to being in a state of transition, as first year students are. It is possible that over time, explaining mental disorder and depression in terms of current life events has been becoming more popular among young people emerging from a high school setting, and that in the time of Cermele's study in 1998, this viewpoint would be more apparent in younger students (i.e., first year students). It is also possible that it may not be the transition from high school to post-secondary per se that makes current experiences so salient to university students, but rather the nature of university life in terms of stress, lifestyle, etc. Indeed, young Canadian men and women reported school as being their most important source of stress in a recent study (Government of Canada, 2006).

The high level of endorsement of the Biological Cause model for schizophrenia had been anticipated, in light of both Wyatt and Livson's (1994) and Cermele's (1998) findings that both mental health practitioners and lay people tended to think of schizophrenia in more biological terms. What had not been anticipated was the high level of endorsement of this model for the global concept of mental illness, and for depression. As discussed previously, a number of studies in past years have found that on the whole,

lay people prefer to explain mental illness in terms of the psychosocial model. The current study suggests that there may be a shift in current thinking in relation to lay people's model preference. The biomedical model seems to have gained in popularity, such that it is being endorsed to similar degrees as the psychosocial model in explaining mental disorder, and to only a slightly less degree in explaining depression.

The Early Experience model was also endorsed for the Mental Disorder and Depression groups, albeit to a lesser degree than the Current Experience and the Biological Cause models. Cermele (1998) also found that participants tended to explain mental disorder and depression in terms of childhood experiences to a lesser degree than they preferred to explain them in terms of current experiences. However, Cermele did find that participants endorsed the Early Experience model to similar degrees as the Biological Cause model in relation to schizophrenia. She surmised that the two models seem to operate on similar features in relation to this particular disorder. The fact that participants failed to endorse this model at all as a means of explaining schizophrenia suggests that these two models may not have features in common after all.

As demonstrated by endorsement scores that were well below the neutral point, participants showed little favour for the Character model in relation to all three of the illness groups. These results support those of Cermele (1998), who found that college students showed a similarly low level of endorsement for the Character model in relation to mental illness, depression or schizophrenia. The hypothesis that the Biological Cause model would be endorsed to a lesser degree than the other three models combined was based on the idea that the Early Experience, Current Experience, and Character models

are all reflecting the psychosocial model, and thus would show a similar pattern of endorsement. While the Character model should still be considered as being part of the psychosocial perspective, due to the fact that it reflects the idea that mental illness is caused by factors relating to personality, these results suggest that it may be a mistake to assume that participants will endorse models reflecting the psychosocial perspective to similar degrees. It could perhaps be argued that the Character model is not very useful in terms of understanding mental illness, since participants showed such a low level of endorsement for this model, however Cermele's research suggests that it may simply depend on the type of disorder used in the study. Cermele's study included a broader range of disorders, and she found that participants did in fact endorse the Character model to a higher degree than depression and schizophrenia in relation to bulimia and alcohol abuse. The current study supports the idea that people do not favour the Character model in relation to depression and schizophrenia specifically, but not necessarily that the Character model is not endorsed at all, particularly in light of Cermele's research..

Attributions of controllability and stability. As discussed previously, one goal of the current study was to investigate the usefulness of Weiner's attribution theory in understanding mental illness stigma. It was suggested that part of the stigma relating to mental illness is due to people attributing the cause of mental illness as being both controllable and stable over time. It was hypothesized that associating mental illness with biological causes, as well as with experiences in early childhood, would be related to the idea that mental illness is thus out of personal control, and stable over time.

There results did not tend to support for the hypothesis that endorsement of the

Biological Cause model would be related to the belief that mental illness is not under personal control. While endorsement of the Biological Cause model for depression was somewhat related to the belief that depression is not under personal control, the idea that schizophrenia is caused by biological factors was related to the belief that schizophrenia is in fact under personal control. No relationship was found between the belief that mental disorder is caused by biological factors and attributions concerning controllability.

The fact that believing depression and schizophrenia can both be caused by biological factors, and yet that schizophrenia is controllable and depression is not, shows that the belief that mental illness can be caused by biological factors is not automatically associated with the belief that that mental illness is under personal control. It is possible that participants believe that certain types of biological causes are under personal control (in this case, those dealing with schizophrenia) and certain types are not. It could be argued that people are highly exposed through the media to the message put forth by the drug companies that disorders like depression are commonly due to chemical imbalances in the brain (which can be easily treated by medication). High exposure to this kind of advertising may result in people becoming more aware of the role biology can play in disorders like depression. The high association between depression and biological causes may then in turn result in the belief that since depression is caused by chemical imbalances in the brain, it is obviously outside of personal control. It could then be argued that people are not necessarily exposed to similar advertisements concerning schizophrenia, therefore people may not have the same awareness of the exact way that biology may cause this particular disorder. People may believe that the cause of

schizophrenia operates under different biological mechanisms than those that cause depression, specifically mechanisms that are under personal control. For example, perhaps instead of believing that schizophrenia is caused by biological factors such as chemical imbalances in the brain, people may believe schizophrenia is the result of damaging the body's functioning through the use of drugs and/or alcohol.

There was also partial support for the hypothesis that endorsement of the Biological Cause model would be related to the belief that the cause of mental illness is stable. The belief that depression is caused by biology to also believe that depression is stable. Contrary to expectations however, the opposite relationship was found in regard to schizophrenia; the idea that schizophrenia is caused by biological factors was related to the idea that the cause of schizophrenia is *unstable*. No relationship was found between the belief that mental disorder is caused by biological factors and attributions about stability.

As with the relationship between endorsement of the Biological Cause model and attributions of controllability, it is interesting to note that again there is a different pattern of results for depression versus schizophrenia. The fact that participants believe depression and schizophrenia can both be caused by biology, and yet that the cause of depression is believed to be stable while the cause of schizophrenia is not, again suggests there are differences in the way people conceptualize the cause of the two disorders, despite endorsing biology for both. These results show that there are differences in the types of attributions people are making about these two disorders regardless of whether they endorse the biology as a cause of mental illness. The relationship between the idea

that biology causes depression and the idea that depression is stable fits with the pattern expected from perspective that promoting the biomedical model in relation to mental illness may also promote the idea that mental illness is a disease from which one cannot recover.

Since the Early Experience model reflects the idea that mental illness is caused by psychosocial factors that occurred in childhood, it was expected that endorsement of this model would also be related to the idea that the cause of mental illness is outside of personal control. There was in fact a tendency for participants who believed mental illness is caused by events in early childhood to also endorse the belief that mental illness is not under personal control. This was to be expected from the perspective that experiences in early childhood are not within our personal control because children tend to have little or no control over the events in their lives. In addition, as adults, we are unable to influence experiences we had in childhood because they are in the past.

However, contrary to expectations, endorsement of the Early Experience model was not similarly related to the idea that the cause of mental illness is also stable. In fact, endorsement of this model in relation to the global concept of mental disorder was somewhat related to the idea that mental disorder is in fact *unstable*. These results are difficult to explain from the viewpoint that childhood experiences are in the past, and thus would be expected to be stable. It could be argued that perhaps over time, people come to understand their childhood in a different light, and thus issues or problems that had been affecting one's current mental health may become resolved and no longer have a negative effect. An example would be a person who was experiencing trouble in adult

life due to his/her mistreatment in childhood at the hands of a parent, only to come to believe that this mistreatment was due to the parent's problem with alcohol abuse, and not with the person being unworthy in some way.

With regard to the relationship between the other causal models and attributions of controllability and stability, there was a tendency for people who believed mental disorder is caused by the Character model to believe that mental disorder is uncontrollable and unstable. The belief that that depression is caused by the factors involving character was also related to the idea that depression is not under personal control. In relation to schizophrenia, endorsement of both the Character and the Current Experience models was related to the idea that the cause of schizophrenia is uncontrollable.

The finding that people who believed that schizophrenia is caused by current experiences also believed that schizophrenia is uncontrollable is difficult to explain from the viewpoint that events which are happening in one's current life are related to the choices one is making. As discussed previously, the belief that schizophrenia is caused by biological factors was related to the belief that schizophrenia is under personal control. One would expect that if people believe that biological causal factors can be under personal control, people would also believe that causes related to our current experiences would be under personal control as well. This apparent contradiction is interesting because it demonstrates again that it is not possible to assume logical patterns between causal models and attributions. Clearly more research is needed to further understand these relationships.

The relationship between the endorsement of the Character model and attributions of controllability for all three illness groups suggests that people tend to associate factors relating to character as being outside of personal control. This finding suggests that people may view issues pertaining to character as being less about a choice to act in a deviant manner, and more about issues involving personality, i.e., one's character is not affected so much by one's choices, as it is by inherent personality traits. The fact that endorsement of the Character model for mental disorder was also related to the idea that mental disorder is unstable is difficult to explain; one would expect that if people cannot control their character, that one's character would also be stable and enduring over time. Perhaps people believe that while one cannot actively control one's character, it is possible that over time, one may be changed by life experiences, ultimately resulting in changes to character.

These results concerning attributions of controllability and stability were noteworthy for several reasons. First of all, the same pattern of results was not found across the three illness groups. Beliefs about whether or not the cause of mental illness is under personal control or stable over time differs depending on whether one is referring to the global concept of mental disorder, or the specific disorders of depression and schizophrenia. These results suggest that, as was the case with their causal models, people do not generalize across types of disorders in relation to their causal attributions. The second reason why the findings concerning attributions of controllability and stability are noteworthy is that one did not see the same pattern of results across the specific types of attributions themselves. It had been expected that attributing the cause of

mental illness as being out of personal control would also involve attributing the cause as being stable. However, participants did tend to believe that depression is uncontrollable and stable, and that schizophrenia is controllable and unstable, when caused by biology. In addition, participants believed that the cause of mental disorder can be both uncontrollable and stable, when caused by character. These results suggest that it would be hasty to assume that the belief that mental illness is uncontrollable will automatically be paired with the belief that mental illness is also stable.

Attitudes toward mental illness. As discussed previously, past research has found that people tend to have negative attitudes toward mental illness. Thus it came as a surprise that the current study found that as indicated by the mean scores on the AQ-Partial, people had a positive view toward mental illness overall, with attitudes being most positive toward depression, and least positive toward schizophrenia. These results are to be expected from the view that people tend to have more exposure, both personal and peripheral, to depression, and that traditionally attitudes toward schizophrenia have been extremely poor. However, despite attitudes toward schizophrenia being the least positive of the three illness groups, attitudes toward this disorder as measured by the AQ-Partial were nonetheless positive. In light of the nature of this particular sample (i.e., primarily psychology majors), it could be that participants were better educated about the nature of schizophrenia than most lay people, and thus have adopted a more positive attitude toward the disorder than others. It is also possible, due to the fact that participants tended to believe schizophrenia is caused by biology, that his belief may be related to more positive attitudes, as per the goal of mental health advocates such as NAMI.

Attitudes as measured by the Semantic Differentials revealed some very interesting insights into the types of judgements participants make about people with mental illness. Again there were differences across the illness groups, showing that people do not necessarily judge specific disorders the same way they do the global concept of mental illness. In particular, people with mental disorder were judged to be less intelligent than those with either depression or schizophrenia, regardless of the fact that they are both types of mental disorder. It was interesting to note that participants judged those with depression as being safe, which suggests that they conceptualized "safe" as having to do with depressed people's safety to others, and not to themselves. People with depression were also judged to be more predictable than those with mental disorder or schizophrenia, while people with schizophrenia were judged to be very unpredictable in comparison. As was expected, people with schizophrenia were judged to be more dangerous than those with mental disorder or depression, providing further support for the idea that schizophrenia is commonly associated with dangerousness.

It was expected that believing that mental illness is both uncontrollable and stable would also be related to negative attitudes toward mental illness. The only instance in which a relationship was found between the belief that mental illness is uncontrollable and negative attitudes was with regard to schizophrenia. Furthermore, the belief that mental illness is stable was instead related to more favourable attitudes toward mental illness with regard to mental disorder and depression. Again, these results suggest that it is not wise to assume one will be able to predict attributions concerning stability based on attributions about controllability (i.e., there does not seem to be a predictable pattern

between the two types of attributions). The fact that the relationship between participants' attributions of stability and their attitudes was consistent across all three illness groups suggests that this relationship may not necessarily be related to the type of disorder. The fact that attributing the cause of mental illness as stable was related to more positive attitudes toward mental illness was unexpected. It is possible that people believe health issues associated with stability to be cause for sympathy and/or pity. The enduring nature of mental illness may evoke more positive attitudes as a result of feelings of compassion toward the person with mental illness.

It was also hypothesized that the belief that mental illness is caused by factors relating to character would be related to negative attitudes toward mental illness. For each of the illness groups, endorsement of the Character model was related to less favourable attitudes. It was expected that since the Character model deals with perceptions of weak will, that endorsement of this model would be related to more negative attitudes. The fact that the belief that mental disorder is caused by early childhood experiences was related to less favourable attitudes, and the belief that mental disorder is caused by current experiences was related to more favourable attitudes is more difficult to explain. One would almost expect the converse to be true, since events that happened in early childhood are in the past, while arguably we can play a personal role in our current experiences.

It is interesting to note that personal experience with mental illness was related to less favourable attitudes toward both the global concept of mental disorder, as well as to depression and schizophrenia. One would expect that personal experience with mental

illness would result in that person having more positive attitudes toward mental illness in general, especially if one has experienced the effects of mental illness stigma in one's own personal life. It is unclear as to why having personally experienced mental illness was related to more negative attitudes; further research is needed to better understand this unexpected and intriguing finding.

Limitations. There are a number of limitations to be noted in relation to the current study. Firstly, the sample was comprised solely of undergraduate university students, therefore it is not possible to generalize from the results of this study to people outside of a university setting. However, despite the issue of generalizability, there is still value in studying this particular population. It is important to address the perceptions and attitudes young adults have about mental illness because perceptions we have when we are young will often affect our attitudes and values when we get older. It is also important to study young people's perceptions of mental health because it is not just adults who suffer from mental illness; most mental illnesses have their start in adolescence or young adulthood (Health Canada, 2002). Young people may be at higher risk in terms of negative self-perceptions in relation to causal attributions for mental illness, which can have a negative impact on their self-esteem and feelings of self-efficacy. As discussed previously, the stressful nature of university life may increase young people's likelihood of developing emotional problems. In addition, since the media often portray mental illness in a negative light (Link et al., 1999), young people may be more likely to form negative attitudes toward persons with mental illness because as a group they usually receive a high amount of media exposure.

The second limitation of the current study also pertains to the issue of generalizability. It is to be noted that the majority of the participants were psychology majors; thus the current sample were likely more educated about mental illness than the general public, or even other university students. While this might make it more difficult to generalize these results to students in other disciplines, the results of the current study can be deemed all the more interesting in some senses; despite being more educated about psychology and mental illness, this particular sample still showed similar viewpoints to those of the general public as indicated by previous studies.

A third limitation to be noted is that although encouraged not to, participants may still have responded in a more socially acceptable manner, thus giving more positive responses, and/or answering questions to coincide with what they believe would be a normal response. A fourth limitation of this study is that the sample was made up almost entirely of females, thus making it more difficult to generalize the results to the male population.

Conclusions. Just as there is increasing awareness about issues pertaining to mental health and the devastating reality of mental illness stigma for so many people in our society, efforts to combat stigma are also increasing on a number of fronts. Strategies intended to address mental health issues are being deployed in schools and the workplace, and specific populations are being targeted that are of particular risk, e.g., seniors, young people, immigrants, and First Nations People (Government of Canada, 2006). Efforts are also being made to address the need of Canadian people with mental illness to have access to proper services and support networks (Government of Ontario, 2004; Kirby,

2006). However, in order for such efforts to be optimally successful, it is crucial that we continue to gain a more accurate picture of the way people think and feel about mental illness.

The current study provides further support for the idea that people employ multidimensional models in their understanding of mental illness. The primary view of both researchers and those working to combat mental illness stigma that people choose between either the psychosocial model or the biomedical model is not an accurate one. Continuing to conduct research on the way people think about mental illness in a way that disallows for the use of multidimensional models of mental illness, not only misses out on part of the picture, it portrays an inaccurate view of how people conceptualize mental disorder. The assumption that people generalize their conceptions across different types of mental disorder is also inaccurate. Both the current study and that of Cermele (1998) show that people's beliefs and attributions concerning the global concept of mental illness may be very different than their beliefs and attributions about specific disorders. The current study also provides further support for Cermele's (1998) view that the psychosocial model is too complex to be understood as a global concept, and that it is more useful to break it down into models reflecting the different aspects of the perspective. In addition, the present study demonstrates that attribution theory is in fact useful with regard to understanding how people think about mental illness, and if there were at times no predictable relationship between attributions and endorsement of a particular causal model or a particular type of attitude, this only demonstrates the need for further research on attributions of controllability and stability and how they relate to

mental illness.

Directions for future research and intervention. The results of the current study, as well as those of Wyatt and Livson (1994) and Cermele (1998), have several implications for both future research and for efforts to combat mental illness stigma. Researchers investigating issues relating to mental illness should consider carefully the methods they are using, and whether or not they operate on the assumption that people are using multidimensional models of mental illness. Researchers should also refrain from generalizing across different disorders, based on information they gather in relation to either the global concept of mental illness, or specific types of disorders. It has not been uncommon practice for researchers to question participants about their views of a specific disorder (e.g., schizophrenia), and to then generalize these views across the other disorders, assuming that people do not believe differently about a specific disorder versus other disorders, or about mental illness in general. It is also important that researchers attempt to use different methods at getting at a concept; in the current study, responses concerning attitudes showed variation depending on the type of measure that was used.

In relation to efforts to combat mental illness stigma, the current study provides further support for the idea that in order for destigmatization efforts to be successful, it is necessary to directly target beliefs about specific disorders. As discussed previously, efforts to destigmatize mental illness have not seemed to generalize across specific disorders. This is understandable given that people tend to have different beliefs about mental illness depending on the type of disorder in question, or even whether talking about mental illness as a whole. Destigmatization efforts will need to counteract the

myths peculiar to the various types of disorders, and in order to do this, more research is needed to better understand people's understanding of both the global concept of mental illness, and specific types of disorders.

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APPENDIX A

Mental Health Beliefs Questionnaire - Mental Disorder

Please read each of the following opinion statements carefully. For each statement, mark how strongly you agree or disagree with each opinion, with "1" = strongly disagree, "2" = somewhat disagree, "3" = mildly disagree, "4" = neither agree nor disagree, "5" mildly agree, "6" = somewhat agree, and "7" strongly agree. There are no right or wrong answers to any of these opinion statements.

The notation at the end of each item indicates which factor or model the item reflects. EE = Early Experience, C = Character, CE = Current Experience, BC = Biological Cause.

1. Treatment for mental disorders should focus on resolving issues from childhood that are affecting adult life. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

2. Long-term psychotherapy that focuses on a person's past is necessary to treat mental disorders. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

3. Most mental disorders are the result of childhood trauma. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

4. Current stress is more important that childhood stress in causing emotional problems. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

5. Excessive life stress can result in serious mental and emotional disturbance for almost any person. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

6. Reducing current life stress should result in better mental health for almost every person. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

7. Mental disorders are caused by overwhelming stress or trauma in a person's current life. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

8. The best treatment for mental disorders is probably therapy that focuses on a person's present situation. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

9. Mental disorders are the result of personal weakness. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

10. Individuals who develop mental disorders have a biological vulnerability toward them. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

11. The primary cause of improvement in mental disorders is uncovering early childhood conflicts that were never resolved. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

12. Mental disorders are caused by genetic or biochemical imbalances. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

13. What happens in the first five years of life can affect a person's mental health in adulthood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

14. Most emotional problems can be linked to things that happened when a person was a child. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

15. The best treatment for mental disorders is psychotherapy that focuses on a person's childhood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

16. One day a biological or genetic origin will be found for most serious mental disorders. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

17. A family history of mental disorders suggests that there is something in a person's biology that would cause them to become mentally ill. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

18. People with mental disorders just have to help themselves. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

19. Emotional problems in adulthood are caused by something that went wrong in childhood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

20. Showing people how their current environment affects their mental health will improve their emotional functioning. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

21. A person's willingness to work through childhood issues is an important factor in the treatment of mental disorders. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

22. Past events are more important than current events in causing emotional problems. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

23. Mental disorders occur when there is something wrong with a person's biochemistry or genetic make-up. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

24. Giving people the resources to deal with the bad things that happen to them would reduce their psychological distress. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

25. Finding the link between events in childhood and a person's adult life will help that person resolve his or her emotional problems. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

26. By working through issues from childhood with a therapist, people will have healthier emotional lives. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

27. Strong people never develop mental disorders. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

28. Mental disorders are caused by a defect in a person's character. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

29. Teaching people to cope with stress in the present will reduce their symptoms of mental disorder. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

30. Bad experiences in childhood will lead to emotional problems in adulthood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

31. A person's childhood or upbringing are important factors in treatment of mental disorders. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

32. A person's current cultural and social environment is an important factor in treatment for mental disorders. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

33. The use of medication or drugs has successfully advanced the treatment of mental disorders. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

34. Improving a person's current environment would have a positive effect on that person's mental disorder. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

Mental Health Beliefs Questionnaire - Depression

Please read each of the following opinion statements carefully. For each statement, mark how strongly you agree or disagree with each opinion, with "1" = strongly disagree, "2" = somewhat disagree, "3" = mildly disagree, "4" = neither agree nor disagree, "5" mildly agree, "6" = somewhat agree, and "7" strongly agree. There are no right or wrong answers to any of these opinion statements.

The notation at the end of each item indicates which factor or model the item reflects. EE = Early Experience, C = Character, CE = Current Experience, BC = Biological Cause.

1. Treatment for depression should focus on resolving issues from childhood that are affecting adult life. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

2. Long-term psychotherapy that focuses on a person's past is necessary to treat depression. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

3. Most depression is the result of childhood trauma. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

4. Current stress is more important that childhood stress in causing depression. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

5. Excessive life stress can result in serious mental and depression for almost any person. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

6. Reducing current life stress should result in better mental health for almost every person. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

7. Depression is caused by overwhelming stress or trauma in a person's current life. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

8. The best treatment for depression is probably therapy that focuses on a person's present situation. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

9. Depression is the result of personal weakness. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

10. Individuals who develop depression have a biological vulnerability toward them. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

11. The primary cause of improvement in depression is uncovering early childhood conflicts that were never resolved. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

12. Depression is caused by genetic or biochemical imbalances. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

13. What happens in the first five years of life can affect a person's mental health in adulthood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

14. Most depression can be linked to things that happened when a person was a child. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

15. The best treatment for depression is psychotherapy that focuses on a person's childhood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

16. One day a biological or genetic origin will be found for serious depression. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

17. A family history of depression suggests that there is something in a person's biology that would cause them to become depressed. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

18. People with depression just have to help themselves. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

19. Depression in adulthood is caused by something that went wrong in childhood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

20. Showing people how their current environment affects their depression will improve their emotional functioning. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

21. A person's willingness to work through childhood issues is an important factor in the treatment of depression. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

22. Past events are more important than current events in causing depression. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

23. Depression occurs when there is something wrong with a person's biochemistry or genetic make-up. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

24. Giving people the resources to deal with the bad things that happen to them would reduce their depression. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

25. Finding the link between events in childhood and a person's adult life will help that person resolve his or her depression. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

26. By working through issues from childhood with a therapist, people will have healthier emotional lives. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

27. Strong people never develop depression (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

28. Depression is caused by a defect in a person's character. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

29. Teaching people to cope with stress in the present will reduce their symptoms of depression. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

30. Bad experiences in childhood will lead to depression in adulthood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

31. A person's childhood or upbringing are important factors in treatment of depression. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

32. A person's current cultural and social environment is an important factor in treatment for depression. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

33. The use of medication or drugs has successfully advanced the treatment of depression. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

34. Improving a person's current environment would have a positive effect on that person's depression. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

Mental Health Beliefs Questionnaire - Schizophrenia

Please read each of the following opinion statements carefully. For each statement, mark how strongly you agree or disagree with each opinion, with "1" = strongly disagree, "2" = somewhat disagree, "3" = mildly disagree, "4" = neither agree nor disagree, "5" mildly agree, "6" = somewhat agree, and "7" strongly agree. There are no right or wrong answers to any of these opinion statements.

The notation at the end of each item indicates which factor or model the item reflects. EE = Early Experience, C = Character, CE = Current Experience, BC = Biological Cause.

1. Treatment for schizophrenia should focus on resolving issues from childhood that are affecting adult life. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

2. Long-term psychotherapy that focuses on a person's past is necessary to treat schizophrenia. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

3. Schizophrenia is the result of childhood trauma. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

4. Current stress is more important that childhood stress in causing schizophrenia. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

5. Excessive life stress can result in schizophrenia for almost any person. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

6. Reducing current life stress should result in better mental health for almost every person. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

7. Schizophrenia is caused by overwhelming stress or trauma in a person's current life. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

8. The best treatment for schizophrenia is probably therapy that focuses on a person's present situation. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

9. Schizophrenia is the result of personal weakness. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

10. Individuals who develop schizophrenia have a biological vulnerability toward them. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

11. The primary cause of improvement in schizophrenia is uncovering early childhood conflicts that were never resolved. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

12. Schizophrenia is caused by genetic or biochemical imbalances. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

13. What happens in the first five years of life can affect a person's schizophrenia in adulthood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

14. Schizophrenia can be linked to things that happened when a person was a child. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

15. The best treatment for schizophrenia is psychotherapy that focuses on a person's childhood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

16. One day a biological or genetic origin will be found for schizophrenia. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

17. A family history of schizophrenia suggests that there is something in a person's biology that would cause them to become mentally ill. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

18. People with schizophrenia just have to help themselves. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

19. Developing schizophrenia in adulthood are caused by something that went wrong in childhood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

20. Showing people how their current environment affects schizophrenia will improve their emotional functioning. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

21. A person's willingness to work through childhood issues is an important factor in the treatment of schizophrenia. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

22. Past events are more important than current events in causing schizophrenia. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

23. Schizophrenia occurs when there is something wrong with a person's biochemistry or genetic make-up. (BC)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

24. Giving people the resources to deal with the bad things that happen to them would help their schizophrenia. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

25. Finding the link between events in childhood and a person's adult life will help that person resolve his or her schizophrenia. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

26. By working through issues from childhood with a therapist, people will have healthier emotional lives. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

27. Strong people never develop schizophrenia. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

28. Schizophrenia is caused by a defect in a person's character. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

29. Teaching people to cope with stress in the present will reduce their symptoms of schizophrenia. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

30. Bad experiences in childhood will lead to developing schizophrenia in adulthood. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

31. A person's childhood or upbringing are important factors in treatment of schizophrenia. (EE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

32. A person's current cultural and social environment is an important factor in treatment for schizophrenia. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

33. The use of medication or drugs has successfully advanced the treatment of schizophrenia. (C)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

34. Improving a person's current environment would have a positive effect on that person's schizophrenia. (CE)

1	2	3	4	5	6	7
Strongly Disagree	Somewhat Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Somewhat Agree	Strongly Agree

APPENDIX B

Attribution Questionnaire - Mental Disorder

Please circle the number of the best answer to each of the following:

1. I would feel aggravated by persons with a mental disorder.

1 2 3 4 5 6 7 8 9
not at all very much

2. I would feel unsafe around persons with a mental disorder.

1 2 3 4 5 6 7 8 9
no, not at all yes, very much

3. Persons with mental disorder terrify me.

1 2 3 4 5 6 7 8 9
not at all very much

4. How angry do persons with mental disorder make you feel?

1 2 3 4 5 6 7 8 9
not at all very much

5. I think persons with mental disorder pose a risk to other people unless they are hospitalized.

1 2 3 4 5 6 7 8 9
not at all very much

6. I feel pity for persons with a mental disorder.

1	2	3	4	5	6	7	8	9
none at all								very much

7. People with mental disorders will always have to deal with their symptoms.

1	2	3	4	5	6	7	8	9
definitely								definitely not

8. How controllable do you think mental disorders are?

1	2	3	4	5	6	7	8	9
not at all under personal control								completely under personal control

9. How irritated would you fell by a person with a mental disorder?

1	2	3	4	5	6	7	8	9
not at all								very much

10. How dangerous do you feel a person with a mental disorder is?

1	2	3	4	5	6	7	8	9
not at all								very much

11. I would feel threatened by a person with a mental disorder.

1	2	3	4	5	6	7	8	9
no, not at all								yes, absolutely

12. How scared of a person with a mental disorder would you feel?

1 2 3 4 5 6 7 8 9
none at all very much

13. It is possible to recover from mental disorders.

1 2 3 4 5 6 7 8 9
not at all very much

14. How likely is it that you would help a person with a mental disorder?

1 2 3 4 5 6 7 8 9
definitely would not help definitely would help

15. How certain do you feel that you would help a person with a mental disorder?

1 2 3 4 5 6 7 8 9
not at all certain absolutely certain

16. How much sympathy would you feel for a person with a mental disorder?

1 2 3 4 5 6 7 8 9
none at all very much

17. People with mental disorders are able to lead satisfying, productive lives.

1 2 3 4 5 6 7 8 9
not at all very much

18. How responsible do you think a person with a mental disorder is for their present condition?

1 2 3 4 5 6 7 8 9
not at all responsible — very much responsible

19. How frightened of a person with a mental disorder would you feel?

1 2 3 4 5 6 7 8 9
none at all — very much

20. How sorry do you feel for persons with mental disorder?

1 2 3 4 5 6 7 8 9
none at all — very much

21. I would try to avoid a person with a mental disorder.

1 2 3 4 5 6 7 8 9
definitely — definitely not

22. How much concern do you feel for persons with a mental disorder?

1 2 3 4 5 6 7 8 9
none at all — very much

23. If I were a landlord, I probably would rent an apartment to a person with a mental disorder.

1 2 3 4 5 6 7 8 9
definitely — Definitely not

Attribution Questionnaire - Depression

Please circle the number of the best answer to each of the following:

1. I would feel aggravated by persons with depression.

1 2 3 4 5 6 7 8 9
not at all very much

2. I would feel unsafe around persons with depression.

1 2 3 4 5 6 7 8 9
no, not at all yes, very much

3. Persons with depression terrify me.

1 2 3 4 5 6 7 8 9
not at all very much

4. How angry do persons with depression make you feel?

1 2 3 4 5 6 7 8 9
not at all very much

5. I think persons with depression pose a risk to other people unless they are hospitalized.

1 2 3 4 5 6 7 8 9
not at all very much

6. I feel pity for persons with depression.

1 2 3 4 5 6 7 8 9
none at all very much

7. People with depression will always have to deal with their symptoms.

1 2 3 4 5 6 7 8 9
definitely definitely not

8. How controllable do you think depression is?

1 2 3 4 5 6 7 8 9
not at all under personal control completely under personal control

9. How irritated would you fell by a person with depression?

1 2 3 4 5 6 7 8 9
not at all very much

10. How dangerous do you feel a person with depression is?

1 2 3 4 5 6 7 8 9
not at all very much

11. I would feel threatened by a person with depression.

1 2 3 4 5 6 7 8 9
no, not at all yes, absolutely

12. How scared of a person with depression would you feel?

1 2 3 4 5 6 7 8 9
none at all very much

13. It is possible to recover from depression.

1 2 3 4 5 6 7 8 9
not at all very much

14. How likely is it that you would help a person with depression?

1 2 3 4 5 6 7 8 9
definitely would not help definitely would help

15. How certain do you feel that you would help a person with depression?

1 2 3 4 5 6 7 8 9
not at all certain absolutely certain

16. How much sympathy would you feel for a person with depression?

1 2 3 4 5 6 7 8 9
none at all very much

17. People with depression are able to lead satisfying, productive lives.

1 2 3 4 5 6 7 8 9
not at all very much

18. How responsible do you think a person with depression is for their present condition?

1	2	3	4	5	6	7	8	9
not at all responsible								very much responsible

19. How frightened of a person with depression would you feel?

1	2	3	4	5	6	7	8	9
none at all								very much

20. How sorry do you feel for persons with depression?

1	2	3	4	5	6	7	8	9
none at all								very much

21. I would try to avoid a person with depression.

1	2	3	4	5	6	7	8	9
definitely								definitely not

22. How much concern do you feel for persons with depression?

1	2	3	4	5	6	7	8	9
none at all								very much

23. If I were a landlord, I probably would rent an apartment to a person with depression.

1	2	3	4	5	6	7	8	9
definitely								Definitely not

Attribution Questionnaire - Schizophrenia

Please circle the number of the best answer to each of the following:

1. I would feel aggravated by persons with schizophrenia.

1 2 3 4 5 6 7 8 9
not at all very much

2. I would feel unsafe around persons with schizophrenia.

1 2 3 4 5 6 7 8 9
no, not at all yes, very much

3. Persons with schizophrenia terrify me.

1 2 3 4 5 6 7 8 9
not at all very much

4. How angry do persons with schizophrenia make you feel?

1 2 3 4 5 6 7 8 9
not at all very much

5. I think persons with schizophrenia pose a risk to other people unless they are hospitalized.

1 2 3 4 5 6 7 8 9
not at all very much

6. I feel pity for persons with schizophrenia.

1	2	3	4	5	6	7	8	9
none at all								very much

7. People with schizophrenia will always have to deal with their symptoms.

1	2	3	4	5	6	7	8	9
definitely								definitely not

8. How controllable do you think schizophrenia is?

1	2	3	4	5	6	7	8	9
not at all under personal control								completely under personal control

9. How irritated would you fell by a person with schizophrenia?

1	2	3	4	5	6	7	8	9
not at all								very much

10. How dangerous do you feel a person with schizophrenia is?

1	2	3	4	5	6	7	8	9
not at all								very much

11. I would feel threatened by a person with schizophrenia.

1	2	3	4	5	6	7	8	9
no, not at all								yes, absolutely

12. How scared of a person with schizophrenia would you feel?

1 2 3 4 5 6 7 8 9
none at all very much

13. It is possible to recover from schizophrenia.

1 2 3 4 5 6 7 8 9
not at all very much

14. How likely is it that you would help a person with schizophrenia?

1 2 3 4 5 6 7 8 9
definitely would not help definitely would help

15. How certain do you feel that you would help a person with schizophrenia?

1 2 3 4 5 6 7 8 9
not at all certain absolutely certain

16. How much sympathy would you feel for a person with schizophrenia?

1 2 3 4 5 6 7 8 9
none at all very much

17. People with schizophrenia are able to lead satisfying, productive lives.

1 2 3 4 5 6 7 8 9
not at all very much

18. How responsible do you think a person with schizophrenia is for their present condition?

1 2 3 4 5 6 7 8 9
not at all responsible very much responsible

19. How frightened of a person with schizophrenia would you feel?

1 2 3 4 5 6 7 8 9
none at all very much

20. How sorry do you feel for persons with schizophrenia?

1 2 3 4 5 6 7 8 9
none at all very much

21. I would try to avoid a person with schizophrenia.

1 2 3 4 5 6 7 8 9
definitely definitely not

22. How much concern do you feel for persons with schizophrenia?

1 2 3 4 5 6 7 8 9
none at all very much

23. If I were a landlord, I probably would rent an apartment to a person with schizophrenia.

1 2 3 4 5 6 7 8 9
definitely Definitely not

APPENDIX C

Demographic Questionnaire

1. Age:_____

2. Gender: ___Male
___Female

3. Do you identify yourself as an Aboriginal (e.g., Metis, status/nonstatus Indian) person?
____YES ____NO

4. If your answer to question 3 was 'No', which ethnic or cultural group do you identify with?

___Central American (El Salvador, Honduras, etc.)
___Scandinavian (Denmark, Sweden, Norway)
___French Canadian
___English Canadian
___British (Scotland, Wales, England, N. Ireland)
___W. European (France, Germany, Holland, etc.)
___E. European (Russia, Poland, Baltic States, Hungary, etc.)
___S. European (Italy, Spain, Portugal, Greece, etc.)
___Far Eastern (Japan, China, India, Hong Kong, etc.)
___African (specify if North, Central, or South) _____
___Caribbean
___Middle Eastern (Israel, Lebanon, Iran, Iraq, etc.)
___Latin American
___Other (please specify) _____

6. Year: _____first year
_____second year
_____third year
_____fourth year

7. What is your major? _____

8. Have you ever **attended** any psychology or mental health workshops, training seminars, or informational meetings, (for example, residence hall information session, training for a paid or volunteer job, etc.), or **read any books** about psychology or mental health? ___YES ___NO

If YES, please list/describe what you have attended or read:

_____

_____

_____

9. Have you ever **worked** (for pay or volunteer) with people suffering from mental illnesses or emotional problems? (for example, volunteering at a hospital, working on a crisis hotline, etc.)

____YES ____NO

If YES, please list/describe what you have done:

_____

_____

_____

10. Have you ever experienced any mental illnesses or emotional or personal problems that led you to seek help?

____YES ____NO

If YES, what was the nature of the illness (check all that apply)

___Alcoholism

___Anorexia nervosa

___Antisocial personality disorder

___Attention-deficit hyperactivity disorder (ADHD)

___Bipolar disorder (manic-depression)

___Borderline personality disorder

___Bulimia

___Dissociative Identity Disorder (multiple personality disorder)

___Major depressive disorder

___Obsessive-compulsive disorder

___Panic disorder

___Phobia (please specify) _____

___Post-traumatic stress disorder

___Schizophrenia

___Seasonal affective disorder

___Substance abuse (other than alcohol)

___Other(s) (please specify)

_____

11. Has anyone in your family ever experienced any mental illnesses or emotional personal problems that led him/her/them to seek help?

____YES ____NO ____I DON'T KNOW

If NO, please go to question 12.

If YES, Who in your family **sought help or is seeking help**? (check all that apply)

___mother

___father

___step-parent

___brother or sister

___step-brother or -sister

___aunt or uncle

___grandparent

___other (please specify)

What was the nature of the illness (check all that apply)

___Alcoholism

___Anorexia nervosa

___Antisocial personality disorder

___Attention-deficit hyperactivity disorder (ADHD)

___Bipolar disorder (manic-depression)

___Borderline personality disorder

___Bulimia

___Dissociative Identity Disorder (multiple personality disorder)

___Major depressive disorder

___Obsessive-compulsive disorder

___Panic disorder

___Phobia (please specify) _____

___Post-traumatic stress disorder

___Schizophrenia

___Seasonal affective disorder

___Substance abuse (other than alcohol)

___Other(s) (please specify)

_____

12. Have any of your friends or a peer that you know ever experienced any mental illnesses or emotional personal problems that led him/her/them to seek help?

___YES ___NO ___I DON'T KNOW

What was the nature of the illness (check all that apply)

___Alcoholism

___Anorexia nervosa

___Antisocial personality disorder

___Attention-deficit hyperactivity disorder (ADHD)

___Bipolar disorder (manic-depression)

___Borderline personality disorder

___Bulimia

___Dissociative Identity Disorder (multiple personality disorder)

___Major depressive disorder

___Obsessive-compulsive disorder

___Panic disorder

___Phobia (please specify) _____

___Post-traumatic stress disorder

___Schizophrenia

___Seasonal affective disorder

___Substance abuse (other than alcohol)

___Other(s) (please specify)

_____

VITA AUCTORIS

Christa Gertrude Ryan was born in 1978 in St. John's, Newfoundland. She attended Our Lady of Mount Carmel Elementary and Central High School, before attending St. Catherine's Academy, where she completed her Level III in 1996. In 2000 she obtained her B.Sc. (Honours) in Psychology from the Memorial University of Newfoundland. Christa has an interest in community psychology, and plans to gain further experience conducting research in the area of mental illness stigma.