

CHILDREN'S AND ADOLESCENTS' BELIEFS ABOUT THE MENTALLY ILL

by

Deborah A. Gilman

A thesis  
presented to the University of Manitoba  
in fulfillment of the  
thesis requirement for the degree of  
Master of Arts  
in  
Psychology

Winnipeg, Manitoba

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ISBN 0-315-63221-6

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DEBORAH A. GILMAN

A thesis submitted to the Faculty of Graduate Studies of  
the University of Manitoba in partial fulfillment of the requirements  
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MASTER OF ARTS

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### **ACKNOWLEDGEMENTS**

I thank Dr. Bruce Tefft for his thorough and conscientious supervision of this thesis. I also thank my committee members, Dr. Marvin Brodsky and Professor Elizabeth Hill, for their valuable assistance in the completion of this project.

I thank the administrators, teachers, and parents of Winnipeg School Division No. 1 and St. Vital School Division No. 6 for their cooperation. Ms. Linda Chernenkoff, Life Skills Consultant, St. Vital School Division, was particularly helpful in facilitating data collection in her division. My special thanks to the children of both school divisions for their earnest participation in this survey.

To my family and friends, young and old, near and far, I am forever grateful.

This research project was made possible by a  
Studentship from the Manitoba Health Research Council.

### **ABSTRACT**

Children and adolescents were surveyed to investigate development of beliefs about the mentally ill. Three hundred and sixty-nine Winnipeg school children in Grades 6, 8, 10, and 12 participated. They responded to scales assessing beliefs about the mentally ill and beliefs about the causes of mental illness. The results indicate that younger girls hold more authoritarian beliefs about the mentally ill than do older girls. Younger compared to older children believe more strongly that factors present at birth and that disease cause mental illness. Older children believe more strongly in environmental causes of mental illness. Suggestions are made regarding the introduction of mental health education into the Grade 6 curriculum.



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## **CHILDREN'S AND ADOLESCENTS' BELIEFS ABOUT THE MENTALLY ILL**

The success of the community mental health movement depends greatly on a public with non-rejecting attitudes toward the mentally ill. They must be receptive to the establishment of community based programs and to the integration of the mentally ill in their neighborhoods. In the past, public attitudes toward the mentally ill have often been characterized as negative (Rabkin, 1974), although a wide range of beliefs and attitudes was found more recently in a survey of Winnipeg households (Tefft, Segall, & Trute, 1988). Most surveys of public attitudes assess the beliefs and attitudes of adults. There is, however, a small but growing body of literature which seeks to further our understanding of the formation of beliefs and attitudes toward the mentally ill by sampling the views of children and adolescents who are, of course, future adults.

Foremost as a rationale for investigating children's beliefs about the mentally ill is the assumption that beliefs formed in childhood represent the genesis of adult beliefs. While writers who assess children's beliefs (Maas, Marecek, & Travers, 1978) make this assumption, there has been little empirical work to support or refute it.

Longitudinal methods of inquiry have not been employed to trace the development of children to adulthood with regard to their beliefs about the mentally ill. For the present time, the relationship between children's and adults' beliefs can only be assumed.

Knowledge concerning the early development of beliefs and attitudes toward the mentally ill could be applied to primary prevention, early intervention, and community treatment of the mentally ill (Weiss, 1985). For example, children's roles in stigmatizing their emotionally disturbed peers, their awareness of mental health issues, and their beliefs about seeking professional help may mediate the development of child psychopathology leading to adult syndromes (Maas, Marecek, & Travers, 1978; Reetz & Shemburg, 1985; Weiss, 1986). Moreover, public reaction and treatment of the mentally ill may figure significantly in the prognosis of such disorders (Crocetti, Spiro, & Siassi, 1974). Finally, public attitudes toward the mentally ill influence social policy relating to the development and support of community mental health services (Nunnally, 1961).

Empirical research to increase our understanding of the way children develop their beliefs about the mentally ill, their knowledge regarding mental health issues, and their beliefs about the ingredients necessary for healthy

emotional development could contribute to the design of effective mental health education programs (Kalter & Marsden, 1977; Reetz & Shemburg, 1985). Early childhood education could create a public that is better able to identify their mental health concerns, more willing to seek professional help as needed, more tolerant of others experiencing such difficulties, and more supportive of the presence of treatment facilities in the community.

The literature regarding children's beliefs about the mentally ill supports a number of competing theoretical perspectives. Specifically, theorists disagree as to the mechanisms which are most potent in shaping children's beliefs. The two more prominent theoretical frameworks are cognitive-developmental (Piaget, 1929) and sociological or social-psychological. The latter include Scheff's (1966, 1974, 1984) "labelling perspective," more general socialization theories (Olmsted & Smith, 1980), and a model of the relationship between beliefs, attitudes, and behavior (Ajzen & Fishbein, 1980). There also exists a framework which integrates components of all of the models cited above (de Rosa, 1987).

## Conceptual-Developmental Perspective

### Piaget's Theory

The cognitive-developmental perspective stems from the work of Jean Piaget (1929). Through observations of his own children's cognitive development, Piaget detailed the stages and processes through which children come to understand their physical world. Children pass through invariant stages in which their capabilities to comprehend the world around them develop from the most primitive to the most sophisticated, adult thought processes. Initially a framework for conceptualizing the child's understanding of the physical world, Piaget described the abilities to assimilate and accommodate incoming stimuli as the mechanisms that propel the child through the various developmental stages. Assimilation is the absorption of new information and principles into existing cognitive structures, while accommodation is the adaptation and restructuring of cognitive structures to allow for comprehension of novel forms of information.

Piaget charted four distinct stages of cognitive development. The sensorimotor stage is the infant's first stage. It is characterized by an awareness of the environment only through that which comes directly in contact with the sense organs. An object exists only when the child can manipulate it or sense it. At approximately



age two, when language is acquired, children enter the preoperational stage. They rely on their own perception and intuition rather than logic. Preoperational children are egocentric (i.e., cannot take the perspective of another person). At approximately age seven, the child acquires the ability to think by using logical operations. These operations are limited in their applications to concrete, rather than abstract, events and objects. Thus, this third stage is appropriately termed concrete operational. The ability to think hypothetically and with adult logic begins to appear around the age of 11 or 12. Development proceeds until children reach approximately 15 years of age, when fully adult thinking is the predominant mode (Lefrancois, 1983).

### Children's Beliefs About Health/Illness

Mental health beliefs can be viewed as a subset of the broader category of beliefs about health/illness. Therefore, models used to study children's beliefs about illness can be used to guide the study of children's developing beliefs about the mentally ill.

The study of the development of children's beliefs about health and illness has been influenced by the cognitive-developmental perspective. For example, Bibace and Walsh (1979, 1980) assessed children's beliefs about

illness to test whether children's perceptions and understandings parallel the development of causal reasoning. Bibace and Walsh defined developmental categories which coincide with all but the earliest of Piaget's stages of cognitive development. Using their instrument, the Health and Illness Questionnaire, Bibace and Walsh found that the explanations children gave for the causes of illness follow a predictable sequence, from incomprehension to sophisticated psychophysiological understandings that parallel Piagetian cognitive development. In other words, the nature of children's explanations reflected the cognitive capabilities representative of the developmental stages Piaget defined.

#### Applications to the Area of Mental Illness

The same progression of understanding used to characterize children's developing beliefs about health has been used to characterize developing beliefs about the mentally ill. However, researchers in this area have typically designated their participants by their grade levels in school even though Piaget's theory is one of ages, not grades in school. Ages will be provided in the following presentation in those instances where they have been specified by the researchers. Piagetian stages will be extrapolated from age, grade, or both.

In an early study, Whiteman (1967) looked directly for evidence of recognition of psychological causality using a Piagetian framework. He interviewed 57 five- and six-year-old children and 55 eight- and nine-year-old children to test for differences between preoperational and concrete operational children, respectively. He presented them with seven stories, each depicting a different defense mechanism. One story, for example, focused on the act of "denial." The child in the story was described as wanting very much to go to a birthday party, but was sick the day of the party and unable to go. The child was quoted as saying, "I didn't want to go to that party anyway!" The participant was then asked why the child made the statement. In addition, Whiteman probed the extent of participants' knowledge by posing alternatives, recapitulating components of the story, and even suggesting causal possibilities.

Whiteman's results showed a tendency for the younger group to partially comprehend some but not all the elements of what Whiteman termed the "motivation" behind the various defensive behaviors. However, a more significant finding was the difference between age groups with respect to their abilities to comprehend the motivations of the child in each story. In terms of Piagetian tasks, the younger children focused only on the explicit or central aspects of the story. The older children revealed the ability to shift

from a focus on the overt characteristics of the situation (in this case, behavior) to more covert properties (i.e., intention). This is consistent with the difference in capabilities of preoperational children, who cannot use logic, and concrete operational children, who can employ logical operations. However, even concrete children are limited in their applications of these principles to the concrete domain.

A criticism of Whiteman's work is that, through his interview strategy, he may have cued his participants to perceive the story character's behavior as abnormal (Coie & Pennington, 1976). Perhaps a more open-ended approach, in which the child was asked simply to talk about the story child's behavior, would have elicited fewer explanations of motivation factors. The probing procedures that Whiteman used may have suggested options that the participants would not have generated on their own. However, it is also possible that focusing the participants attention specifically on the behavior to be interpreted led them to demonstrate conceptual capabilities that may not otherwise have been apparent. The significant difference between the responses of the two groups is no less significant in light of possible effects of interview techniques.

Although they made no explicit references to Piagetian stages, a team of researchers (Kalter & Marsden, 1977;

Marsden & Kalter, 1976; Marsden, Kalter, Plunkett, & Barr-Grossman, 1977) tested 31 fourth- and sixth-grade children to assess various aspects of their understandings of emotionally disturbed peers. Fourth graders were probably in the concrete operational stage of cognitive development. Sixth graders were probably entering the formal operations stage. All participants were interviewed individually. They were presented with five vignettes. Adult clinicians had previously rated these vignettes and had concurred that one vignette depicted the behavior of a normal boy, while the other four vignettes depicted the behaviors of boys with different types and severities of emotional disturbance. The vignettes were read aloud to each child, followed by a request to talk about each boy in the story. Questions were intended to reveal the language the children used to talk about the boy, "their reactions to him, and their understanding of his present status, the etiology of his difficulty, and the prospects for his future" (Marsden & Kalter, 1976, p. 231).

Children's responses were taped and transcribed. The responses were rated for clarity-of-explanation on a three-point scale (Kalter & Marsden, 1977). A rating of one represented no etiological explanation, two indicated a possible etiological statement but no clear explanation of the events that shaped the boy's behavior, and three

designated responses that contained clear conceptualization of etiological factors. Etiological statements were also coded according to the theory that was implicit or explicit in them. The categories of etiological theories included explanations based on "inappropriate parenting," "modeling," "peer scapegoating/rejection," "problems internal to the central figure," and "other" (p. 49).

Analysis of the clarity-of-explanation scores revealed significant differences between the two groups. The older children gave "clearer, more cohesive accounts" (p. 52) than the younger children of how the boy came to be the way he was depicted. Kalter and Marsden suggested that their results indicate that older children are more developed in their capacity to view deviant behavior as "the outgrowth of prior circumstances" (p. 52). The older children also demonstrated a trend toward greater consistency in the etiology theories they espoused to explain different vignettes and in identification of persons primarily involved in the development of the disturbed behavior.

Maas, Marecek, and Travers (1978) interviewed twenty children in each of Grades 2, 4, and 6. Children were read three vignettes depicting three different behavior disorders. Social withdrawal included "isolation from others, suspiciousness, and preoccupation with fantasies" (p. 148). Anti-social behavior included "threatened or

actual assaults, irresponsibility, robbery, lying, and uncontrolled anger" (p. 148). "Depression, guilt, anxiety, suicidal impulses, hypochondriasis, and low self-esteem" (p. 148) were represented in the vignette depicting self-punitive behavior.

After hearing each vignette, participants were asked both forced-choice and open-ended questions to explain the causes of the story character's behavior, the character's desires and intentions, and the character's potential for change. Participants were also presented with bipolar adjective checklists and asked to rate each of the three characters. For example, one bipolar adjective pair was "friendly/unfriendly" (p. 148). They were asked how friendly or unfriendly was the particular character. Once the participants stated their choice, they were asked whether they thought the character was "very" or "a little" (p. 148) friendly or unfriendly. Scores for the adjective pair ranged from three, the most positive alternative, to a score of zero, the most negative choice.

Maas et al. found a developmental trend toward "external-causal thinking about disturbed behavior" (p. 152). Older children were more likely to cite causes of the disturbed behavior that were external to the vignette character, such as school failure or sibling rivalry. Conversely, there was a significant decrease with increasing

age in the proportion of children who cited internal causes of disorder. Examples of internal causation would be "stating that the character was 'born that way' or just was that way and responses that the behavior resulted from a disease process or a physical injury" (p. 149).

With respect to the potential for changing disordered behavior, there was a trend with increasing age toward the belief that disordered behavior could be best altered by changes in the social environment and, as a corollary, that "the social environment is a powerful barrier to personal change" (p. 152). Younger children characterized the persistence of disorder as resulting from lack of effort. Older children explained the persistence of disorder as due to the "intrinsic difficulty of effecting change" (p. 150). Maas et al. (1978) concluded that older children placed the causes and cures of behavior disorders in the social environment.

The results of the Maas et al. study support a cognitive-developmental view by demonstrating a shift in perspective from one that emphasizes internal states to one that focuses on aspects of the environment. The participants, whose mean ages were 7.3, 9.6, and 11.5, were likely to have been, respectively, in transition from the preoperational to the concrete operational stage, in the concrete operational stage, and in transition from the



concrete to the formal operational stage of development. The three groups theoretically represent movement from an egocentric perspective to one which focuses on logical and concrete relationships, and, finally, to one which focuses on abstract and hypothetical relationships in the environment.

In conclusion, the cognitive-developmental perspective has its greatest power as a descriptor and predictor of developmental change from one stage to the next. The model explains the child's constraints and capabilities to comprehend and formulate beliefs about mental illness as a function of developmental stage. However, there is little in the model to explain the development of adolescents' beliefs once they have mastered formal operations. In other words, the model does not address the influences that may cause adolescents to hold convergent beliefs once they have more sophisticated cognitive capacities. Other theories must be employed to elaborate on this end of the developmental spectrum.

### Social-Psychological and Sociological Perspectives Labelling Perspective

Scheff (1966, 1974, 1984) argued that deviance and mental illness are defined with respect to societal norms. Scheff stated that society holds stereotypes which

characterize certain constellations of behavior. Disorder is a form of deviance that does not fit within more clearly defined categories of deviance, such as criminality or immorality. Therefore, Scheff conceptualized disorder as a residual category. In other words, deviance that does not look criminal or immoral is recognized, by exclusion, as disorder. Mental illness can be viewed as one form of disorder.

Scheff (1966) first presented nine propositions relating labelling theory to mental illness. His fourth proposition pertained specifically to children. Scheff stated that children learn imagery concerning deviant behavior early from peers rather than adults. He reasoned that adults are typically vague and evasive in their responses to children's questions pertaining to mental illness. Further, he argued that children probably grasp the meaning of the word "crazy" early in elementary school.

#### Children's Ability to Recognize Abnormal Behavior.

Recognition of deviance relies, by definition, on the characterization of normality and the ability to make comparisons. Marsden and Kalter (1976) examined children's abilities to recognize both normal and emotionally disturbed behavior. They tested fourth- and sixth-graders' ability to rate vignettes on a scale of perceived emotional disturbance in comparison to clinicians' ratings. Their

results indicated that these children were capable of recognizing emotional disturbance, distinguishing normal behavior, and making assessments of severity that corresponded with assessments made by clinicians. The major criterion for correspondence was whether the children perceived the vignettes as "normal versus not normal" (p. 235). All clinicians and 68% of the children rated the normal vignette as normal. Ninety-one per cent of the children rated the vignette as normal or "only possibly disturbed" (p. 235). The correlation between the two groups' rankings of vignettes according to severity of disturbance was also high,  $r = .90$ ,  $p < .05$ .

Novak (1974) tested 326 children in Grades 4, 5, and 6. He presented participants with five vignettes portraying same-sexed peers with behavior disorders of varying degrees of severity. These included depressed, phobic, immature, aggressive, and schizoid disorders. Novak also included a description of a normal child. Participants each rated one of the vignettes on measures of "attractiveness, consisting of 10 bipolar adjectives (e.g., friendly-unfriendly); a 5-point scale of social distance; and perceived similarity to self" (p. 462). Novak found that participants could clearly distinguish normal from disturbed behavior.

In contrast to Marsden and Kalter (1976), Novak (1974) found that participants did not respond to the severity of

the symptoms. He based this conclusion on the finding that children rated the aggressive character as less attractive, more different, and less desirable for social interactions than the schizoid character. He suggested that children judge more negatively behavior that causes pain for others than behavior that involves personal pain.

Marsden, Kalter, Plunkett, and Barr-Grossman (1977) rated how much the fourth- and sixth- graders liked and disliked the characters in the vignettes described earlier. Their findings were congruent with Novak's (1974). They found no relationship between liking or disliking and clinical severity. Marsden et al. also found that vignette characters exhibiting aggression as one of their major symptoms were among the most disliked and least liked of the characters.

In her review of the literature on attitudes toward the mentally ill, Rabkin (1974) reported that adults also react in a more socially rejecting manner to disturbed behavior that is aggressive or socially visible than they do to other behaviors that represent severe symptomatology. She stated that a "paranoid schizophrenic is more often identified as mentally ill than a simple schizophrenic, an acting-out child more often than a withdrawn one" (p. 20).

Hoffman, Marsden, and Kalter (1977) replicated the findings of Marsden and Kalter (1976) with respect to children's ability to distinguish behavior on the basis of severity of disturbance. They used the same methodology, which included the original vignettes, perceived emotional disturbance ratings, and a new group of fourth- and sixth-grade participants.

With respect to Novak's (1974) conclusion about the cues children use to judge disturbance, Hoffman et al. also found that participants reacted to specific behaviors in the vignettes. For example, the boy in the vignette portraying borderline psychosis was viewed by participants as having "highly atypical preoccupations and anxieties" (Hoffman et al., 1977, p. 952). The boy with the school phobia was viewed as "overtimid and fearful of the school situation" (p. 952). Hoffman et al. concluded that children tend "to react to specific behaviors, rather than global conceptions of normality and deviance" (p. 952). Such a statement suggests that children may assign a label of deviance when they perceive behavior as abnormal. They may not possess a specific stereotype of deviant behavior.

Coie and Pennington (1976) interviewed 20 children (ten girls and ten boys) representing four age groups (7, 10, 13, and 17 years). Their goal was to "discover the point at which children become sensitive to that which adults refer

to as 'irrationality'" (p. 407). They asked participants first to describe children "you know who are different from most other kids" (p. 408). The interviews were taped and transcribed. Seven categories were defined to rate the responses to the open-ended question asking participants to describe a child that is different from most other children. seven categories were defined. The category of "aggression" included physical and verbal aggression, destruction of property, and temper outbursts. "Social norm violations" included behavior that was described as silly, inappropriate, disruptive, or snobbish. "Illegal behavior," such as theft or drug abuse and violations of school rules, were among the behaviors categorized as adult rule violations. Shy or socially isolated behavior was labelled "social withdrawal." "Interest and appearance" was defined as the story child having an appearance or interests that were different from most children. "Self-referent attributions" was for those responses which singled out a peer who had interests that differed only from the subject. Finally, a "nonscorable" category was for responses which appeared to be irrelevant or nonsequiturs.

Over half the mentions of deviant behavior fell into the categories of aggression and social norm violation. There was a significant effect for age group regarding social norm violation, due to the fact that first-graders

rarely used this category. First grade children produced two-thirds of the responses in the self-referent category and hardly ever used the categories pertaining to peer norms and codes. Coie and Pennington suggested that these results indicate first-graders inability to judge their peers behavior in reference to group norms.

Turning to the second part of the study, the children were read two stories; one depicting a child with paranoid delusions and the other portraying a child who loses control of himself and fights with other children. Children were asked to rate how different was the child described to them from most children. Children used a six-point scale involving boxes that increased in size by equal increments. The smallest box signified that the child in the story was "not at all different" (p. 408). The largest box represented a rating of "very much different" (p. 408).

Children were also asked to tell the interviewer what the story child does that makes him different from most children and why the story child acts the way he does. Coie and Pennington rated the children's responses as corresponding to one of three categories on a continuum from recognition to normalization. The recognition category indicated recognition of the disorder and accurate reporting of the story. An example of a recognition response was one in which the participant said that the paranoid child

"thinks other kids are after him, but it's not so" (p. 409). At the other extreme was a category for responses that reconstructed the story to normalize it by adding or neglecting key components of the story. For example, the response might characterize the aggressive behavior "as either a natural reaction to peer provocation or a reflection of the actor's essentially aggressive character (he's a bully)" (p. 410). A transition category was established for responses including both recognition of the disorder and an attempt to normalize it. A child who responded in this manner recognized the disorder component but then reconstructed the story to explain the behavior as an appropriate response for the situation.

There were significant age trends for the three categories. All first graders' responses were reconstructive. They typically normalized the behavior of the child in the story by transforming the events and characters to ones they could understand. For this reason, their deviance ratings for the stories were not compared to the other groups' responses. The authors concluded that their judgements would not be based on the same normative comparisons that the other age groups were capable of making.

The fact that first graders were unable to both conceptualize how most children of their age behave (i.e.,



peer norms) and rate peers with respect to such norms casts doubt on the usefulness of Scheff's theory that children learn early the images of deviance from their peers. According to Scheff's view of early learning, these young participants should have been capable of distinguishing normal from deviant behavior, thereby demonstrating that they had learned both stereotypes. The older children were able to make such normative comparisons, but the younger children misclassified normal and disordered behavior in both directions. However, the fact that older children can make these distinctions may suggest that there is an interaction between learning from peers and cognitive sophistication. In other words, both the Piagetian and Scheffian frameworks may partially explain the development of adolescents' beliefs.

Coie and Pennington noted that it was only eleventh grade students that spontaneously generated language related to psychological disorder. They commented that the perspective taken by the oldest respondents represents a new form of social judgement. It goes beyond merely appreciating that other persons have different physical perspectives to understanding that others may have different psychological perspectives and, further, that the perspective of the other may represent one of psychological disorder.

To look for changes between age groups, Weiss (1985) administered an adaptation of the Opinions About Mental Illness Scale (Cohen & Struening, 1959) to 512 elementary school children in Grades 2, 4, 6, and 8. The adaptation involved the design of the response scale. Happy and sad faces, and different sizes of boxes and printing, were used to represent the "agree-disagree" response (p. 255). He made no mention of adapting the wording of the items to the reading level of the participants.

Weiss' results suggested that children's opinions changed between Grades 2 and 4, but not between 4 and 6 or between 6 and 8. Weiss interpreted his results as evidence that the shared views of children within each group are a result of the influence of peers. He cited Scheff's (1966) theory to support his conclusions. However, it is also possible that the changes Weiss found were a function of a development in the ability to read rather than a development in beliefs about the mentally ill.

Scheff's theory is a specific application of more general principles of socialization to the domain of deviance. However, it seems to lack the conceptual framework necessary to explain how children learn stereotypic beliefs. The theory describes the possible organization of beliefs, but neglects issues relating to their acquisition.

In conclusion, the strength of Scheff's theory may lie in its utility to characterize the experience of those who become labelled as mentally ill. Such individuals experience the consequences of being stereotyped, which may include certain expectations, self-fulfilling prophecies, and stigmatizations (Szasz, 1960). Current research reveals that there is a powerful stigmatizing effect when labels evoke an individual's negative beliefs (Link, Cullen, Frank, & Wozniak, 1987). These researchers accepted Scheff's position that labels activate preexisting beliefs but argue that the nature of these beliefs is an empirical question. In other words, they suggest that beliefs about the mentally ill are important in understanding labelling effects. However, Link et al. also suggest that beliefs vary and may not be uniformly negative. The empirical question for the proposed study is how beliefs vary as a function of age.

### Socialization into the Adult Belief System

In an attempt to study the socialization process, Olmsted and Smith (1980) surveyed the responses of high school students and their teachers. They defined socialization as "the uneventful acquisition of increasingly adult-like beliefs" (p. 182). This view is at odds with the belief that children teach other children stereotypic imagery.

Olmsted and Smith argue that Scheff (1966) wrongly assumed that popular conceptions of mental illness are represented as negative stereotypes. In other words, they disagree that there is a simple, negative stereotype of the behavior that represents mental illness held uniformly throughout popular culture. They believe that a cultural belief system provides society members with a "socially learned orientation to common-sense psychological reality" (Olmsted & Smith, 1980, p. 191). Such an orientation, in their view, does not include stereotypes of mental illness and is "not necessarily integrated into a consistent 'ideology'" (p. 191).

In keeping with their commitment to the principles of socialization, Olmsted and Smith hypothesized that, as high school students age, there should be increasing consensus in beliefs due to the "cumulative exposure to uniform understandings" (p. 184). They also hypothesized that students in successive grades would have views more closely resembling those of teachers.

To survey opinions, Olmsted and Smith presented students and teachers with 35 of Nunnally's (1961) Mental Health Opinion Statements. These statements sample traditional stereotypes, medical and sociological models, and general knowledge about mental illness. An example of a statement pertaining to stereotypes is "the insane laugh

more than normal people." One medical statement is that "mental disorder is usually brought on by physical causes." A sociological statement is that "helping the mentally ill person with his financial and social problems often improves his condition." Statements such as "mental disorder is not a hopeless condition" sample general knowledge.

The results of Olmsted and Smith's (1980) survey revealed that high school students in their senior year had opinions more closely resembling those of teachers than did students in their freshman year. The freshman-teacher responses were the most dissimilar. It is interesting to note that senior-teacher responses were "about as similar" (p. 186) as the senior-freshman responses. This suggests a gradual process in which adolescents' beliefs change from those held by children toward those held by adults. Olmsted and Smith cited this evidence as support for socialization.

However, this view is not necessarily inconsistent with a cognitive-developmental perspective. It may be that when children achieve the cognitive capabilities characteristic of the formal operations stage, there may be a delay while they assimilate and accommodate the beliefs of adults. This same view is also consistent with recent work in the area of labelling theory. Children may learn labels early, but, until their beliefs are formed, these labels do not evoke stigmatizing responses toward the mentally ill.

Olmsted and Smith were surprised to find that their hypothesis of increasing consensus was contradicted. Consensus decreased, not increased, with age. Olmsted and Smith offered a post-hoc explanation, suggesting that the older students "with longer exposure to adult beliefs, have also been exposed to a greater variety of opinions, providing broader scope for individual variation in readiness to adopt them" (p. 189). This explanation is consonant with recent findings (Tefft, Segall, & Trute, 1988) that a representative sample of adults yields a wide range of beliefs. Also, a decreasing consensus as age increases is in keeping with the cognitive-developmental perspective that shared cognitive limitations constrain the breadth of beliefs held by young children, such that they evidence similar views. Once young people are capable of comprehending more complex concepts, they are more capable of learning from various societal agents such as adults, media portrayals, novels, or any source of influence to which the young person is exposed.

In conclusion, the strength of the Olmsted and Smith conceptualization is that it allows for varying concepts of mental illness within a cultural belief system. They have contributed to knowledge about the acquisition process with respect to adolescents' beliefs. However, they did not explain how these beliefs may influence children's attitudes

or behaviors toward the mentally ill. Other frameworks are necessary to build on both the theories proposed by Scheff (1966) and by Olmsted and Smith (1980).

### A Theory of Reasoned Action

Ajzen and Fishbein (1980) proposed a theory of reasoned action based on the assumption that human beings are rational and make systematic use of the information available to them. According to this model, there are connections between external variables or characteristics of individuals and their beliefs. These beliefs form the basis for individuals' attitudes. Attitudes lead to the intentions individuals have regarding how they will behave. Finally, behavioral intentions lead to the outcome of this process, behaviors.

Their model begins with external variables. These can include socioeconomic status, education level, and in the proposed study, the age of the individual. External variables have been shown empirically to predict beliefs (Dear & Taylor, 1982; Tefft et al., 1988).

Beliefs are formed about objects or behaviors. They are based on characteristics associated with objects or on outcomes associated with particular behaviors. Dangerousness is an example of a characteristic that some

people associate with the mentally ill. This association represents a negative belief. A belief that being friends with someone with a mental illness leads to the possibility of being assaulted represents a negative belief about a behavior.

Beliefs may be acquired directly through observation or experience (e.g., knowing someone who is mentally ill), indirectly through information from other sources (e.g., parents talking about mental illness), or inferentially through a process of generating one's own beliefs. The positive or negative beliefs that people hold give rise to their attitudes. Evaluations of objects as positive lead to positive attitudes. If people believe that a behavior leads to a positive outcome, they will hold a positive attitude toward the behavior.

In the theory of reasoned action, attitudes lead to behavioral intentions. These reflect peoples' assessments of their future behaviors. Behavioral intentions are a function of a personal factor and a social influence factor. The personal factor represents an individual's attitude toward the behavior (or the object of the behavior), which is a positive or negative evaluation. The social influence factor is a subjective norm, which represents the individual's perception of the social pressures put on him or her to perform or not perform the behavior in question.



Ajzen and Fishbein theorize that individuals will likely intend to perform a behavior when they believe that important others think that they should perform the behavior and when they evaluate the performance of the behavior positively.

According to Ajzen and Fishbein (1980), a person's intention to perform (or not perform) a behavior is the immediate determinant of the action. The actual behavior produces an outcome, the final component of the theory. If the anticipated outcome occurs, then the sequence of events leading up to the outcome is affirmed. However, an unexpected outcome would cause the person to reconsider all or part of the sequence of events. In summary, a theory of reasoned actions predicts consistency between external variables, beliefs, attitudes, behavioral intentions, and ultimately behaviors.

Reetz and Shemburg (1985) worked with the theory of reasoned action in surveying components of attitudes in children. They focused on cognitions (opinions, beliefs, information), affect (feelings, evaluations), and behavioral intentions. Their sample consisted of fifth- and sixth-grade students. This age group was selected because the authors believed that these children are "cognitively equipped to understand many mental health concepts and are at a critical developmental stage (preadolescent, pre-junior

high school), when preventive intervention may be of great benefit" (p. 394).

To test the belief component of the model, Reetz and Shemburg presented their participants with 46 true-false items such as "mental or emotional problems are a punishment for sins" (p. 396). A general belief score was determined for each child. For the group, they found that "82% of the positive items were endorsed by greater than 50% of the children. Only 20% of the negative items were endorsed as true by 50% of the children" (p. 396). Reetz and Shemburg interpreted these results as indicative of positive beliefs of the children as a group. However, Rabkin (1974) has cautioned that reports of percentages can be used subjectively or "selectively to support either positive or negative conclusions" (p. 11). For example, the finding that more than 50% of the children endorsed 82% of the positive items could support the pessimistic conclusion that almost 50% of the children chose not to endorse the positive items.

For the attitude component, children were presented with a list of 16 word pairs, composed of a negative and a positive adjective. Examples were "normal/weird," "calm/nervous," and "healthy/sick." The children were asked to choose "the word from each pair that best expressed their feelings toward someone with a mental or emotional problem"

(p. 397). Reetz and Shemburg found that, for all but two word pairs, more than 50% of the children chose the positive one. Except for three word pairs, 60% of the children chose the positive word. Some of the positive words were chosen by as many as 98%. Based on these percentages, Reetz and Shemburg characterized the group as having positive attitudes. Once again, the finding that more than 50% of the children chose positive as opposed to negative words can support a pessimistic conclusion that almost 50% of the children chose the negative word in the pair.

The fact that the group held positive beliefs and positive attitudes only suggests support for the Ajzen and Fishbein (1980) theory. The theory is concerned with individual attitudes, not group attitudes. To actually support it, there would have to be a significant correlation, based on individual scores. There should also be a correlation between an individual's attitudes and his or her behavioral intentions.

For an assessment of behavioral intentions, Reetz and Shemburg (1985) asked their participants to respond to eight items in terms of how most kids in the class would act "around someone with mental or emotional problems" (p. 398). Behavioral choices included one positive, one neutral, and one negative response (e.g., be best friends, be friends but not good friends, and not want to be friends at all).

Sixteen percent of the children showed generally negative intentions, 48% showed neutral intentions, and 21% showed positive intentions. Reetz and Shemburg felt that children hesitate to become socially involved with troubled peers, to trust them, or to relate to them outside of the structured school environment.

Reetz and Shemburg concluded that children's behavioral intentions were less positive than their beliefs and attitudes. However, this apparent inconsistency may result from their methodology. In an attempt to minimize socially-desirable responding, they asked children to respond in terms of how they thought their peers might. This is not a true test of the theory of reasoned action. Reetz and Shemburg should have asked each child to respond as he or she would have to the situation. As a test of social or normative influence, they could have asked children how each of them thought that others expected them to behave. Also, framing the results of the belief and attitude components of the study in a negative context would eliminate the apparent inconsistency between beliefs, attitudes, and behavioral intentions. Such procedures would have been more consistent with the Ajzen and Fishbein model and may well have produced greater consistency across all three components.

From the perspective of Ajzen and Fishbein (1980), beliefs about the etiology of mental illness are likely to influence attitudes about mental illness. If one believes that mental illness is caused by somatic factors, then attitudes about the mentally ill as ill people will follow. If one believes that stressful environments cause mental illness, then attitudes about the mentally ill as people who have encountered environmental stress will follow. This may lead to behavior toward the mentally ill that is less authoritarian and socially restrictive. For this reason, it is important to study both the development of beliefs about the mentally ill and the development of beliefs about the etiology of mental illness.

In conclusion, the utility of the Ajzen and Fishbein approach is that it places the study of beliefs within a broad framework. It points to empirical work on the first links in the theoretical chain leading to behaviors toward the mentally ill. From this perspective, the study of beliefs should ultimately lead to a better understanding of how children and adults develop their behavior toward the mentally ill.

### An Integrated Approach

Further study of the development of children's beliefs about the mentally ill is necessary to address many of the issues raised in the literature. Each of the perspectives described above contributes components that can be synthesized to form a multi-dimensional framework. This framework includes the dimensions of cognitive development, socializing agents, and relationships between beliefs and behaviors. It argues for studying children at ages when these dimensions are likely to interact most powerfully. It also suggests a detailed examination of children who are cognitively equipped to begin to assimilate adult-like beliefs about the mentally ill.

De Rosa (1987) described a multi-dimensional framework to study the social representations of mental illness in children and adults. Moreover, she advocates the use of a developmental-psycho-social approach. Her goal is to find the interconnections between "historical, psycho-social, psycho-genetic, socio-cognitive" (p. 97) viewpoints with respect to the social representation of madness.

De Rosa focused her research on iconic representations or images of mental illness through the use of drawings. She hypothesized that "social representations of the madman and madness and models of relation toward the madman should

vary significantly with different ages, and in relation to the development of cognitive processing and the broadening of social cognitions" (p. 101). For example, she analyzed children's drawings and found that 5- and 6-year-olds view madness as deviance equivalent to wickedness from a moralistic paradigm, whereas 8- and 9-year-olds equate madness with organic illness. Madness is viewed as psychological and social illness by 12- and 13-year-olds. She stated that, from this age onward, there is a capacity to focus on the internal components of psychological disorder, such as depression or hallucinations, rather than on the external behaviors that impress 5- and 6-year-olds and 8- and 9-year-olds. As described earlier, Coie and Pennington (1976) made a similar comment when discussing their findings. They felt that their 17-year-old respondents were able to appreciate that others may have different psychological perspectives and that the perspective may be one of psychological disorder.

To build on her previous work, de Rosa (1987) surveyed a total of 1640 Italians, including children 5-16 years of age and their parents. She used scales of social distance (but unfortunately did not provide them to the reader) and adjective pairs as stimuli to compare the responses of children and adults. Using chi-square tests, de Rosa found almost no significant relationships between the two groups'

responses when compared item by item. She attributed this lack of significance to the lack of homogeneity in the children's responses as a group. However, by examining response distributions she found that adolescents' and parents' distributions were somewhat similar, evidencing lower social distance and less negative attitudes toward the "mad person" as compared to younger children. She speculated that there was a tendency for social representations to stabilize between adolescence and adulthood.

In conclusion, children focus on overt behaviors and biological causality when conceptualizing mental illness. As they grow older, they begin to focus on external influences, such as poor parenting, when conceptualizing mental illness. Once they reach their middle to late teenage years, they may become more sophisticated in their understanding of psychological difficulties and the accompanying behaviors, such as depression or hallucinations. However, this awareness of disordered psychological states does not necessarily predict a specific notion of causality. For example, it is still possible to view depression as the result of biological or environmental factors.



### The Present Study

The conceptual model for this research merged the cognitive-developmental perspective on beliefs in children with the socialization perspective on adolescents. An integrated approach could provide the most powerful model of the development of such beliefs from early childhood through early adulthood.

The goal of the present study was to further examine the transition between the beliefs of children and the beliefs of adults by studying children when they begin to comprehend mental health issues along lines similar to adults. To look for earlier evidence of children's development of adult-like beliefs about the mentally ill, this research surveyed children from those who were presumably beginning to master the formal operations of adult logic to those who have adult capabilities.

Olmsted and Smith (1980) compared the beliefs of adolescents with the beliefs of teachers. The present study extended this work by comparing the beliefs of children and adolescents with those of an existing representative sample of adults (Currie, 1986a).

This study overlapped the work of Weiss (1985), who studied children in Grades 2, 4, 6, and 8. Comparisons were made between the beliefs of children and adolescents in

Grades 6, 8, 10 and 12. However, unlike Weiss, belief scales were adapted to the appropriate reading level.

Kalter and Marsden (1977) studied childrens' understanding of the etiology of emotionally disturbed peers. The current investigation also focused on children's and adolescents' beliefs about the etiology of mental illness, but used a questionnaire rather than vignettes.

Reetz and Shemburg (1985) used the theory of reasoned action to guide their study of children's beliefs, attitudes, and behavioral intentions. The theory predicts that participants' age as an external variable should predict beliefs about the mentally ill. The present study tested this prediction.

### **HYPOTHESES**

1. Differences in children's beliefs about the mentally ill will be greater between age groups than within age groups.
2. The older the group of children, the more the group will subscribe to a sociological model of the etiology of mental illness.
3. The older the group of children, the more varied their beliefs will be about the mentally ill.
4. The older the group of children, the more closely their beliefs will resemble those of adults.

## METHOD

### Participants

The participants were five groups of children and adolescents: one each in Grades 6 (11-12 years old), 8 (13-14 years old), and 10 (15-16 years old); two groups in Grade 12 (17-18 years old). There were more than 50 participants in each group, with approximately equal numbers of females and males.

An attempt was made to include children from lower, middle, and upper socio-economic groups. The two school divisions were asked to provide three classes at each grade level. Each grade level was to be represented by classrooms of children from each of these socio-economic groups. One school division provided one or two schools for each grade level with no attempt to meet the request. The other division attempted to provide children from the three socio-economic levels by choosing two schools per grade. The administrator believed that the specified socio-economic levels were represented within the two classrooms chosen for each grade.

The participants were compared to 548 adults who had participated in the 1986 Winnipeg Area Study (Currie, 1986a). This group was a representative sample of adults whose dwelling units were listed in the 1985 assessment file for the City of Winnipeg. Participants were 18 years of age or older. The median age was 37. The group was composed of 54% women and 46% men.

### Procedure

Permission to conduct the survey was obtained from school authorities and the parents of the participants (see Appendix A). The survey was administered to classes of children (excluding those who elected not to participate). Participants looked at printed instructions while they were read aloud:

I am interested in learning about what children believe about the mentally ill. For this survey, the term mental illness means emotional problems that cause someone to act or feel abnormally. What you see before you are belief statements. They are statements that some people believe about the mentally ill. I am interested in what you believe. There are no right or wrong answers. Please give me your immediate reaction to these items.

Then, each item was read aloud while participants read their questionnaires and indicated their responses. Participants were encouraged to respond quickly with their initial reactions.

The questionnaire was designed to be completed in less than 30 minutes. At the conclusion of the testing session, the researcher briefly discussed the reasons for asking the participants about their beliefs and answered questions. Participants were thanked for their efforts.

### Measures

The survey focused on beliefs about the mentally ill and beliefs about the etiology of mental illness. The instruments were adaptations of two measures used in the Winnipeg Area Study (Currie, 1986a).

#### Beliefs About the Mentally Ill Scale

This scale, adapted from Dear and Taylor (1982), was used to measure the participants' beliefs about the mentally ill (see Appendix B). Dear and Taylor constructed the scale for use in a community-based study of beliefs held by the general public. It assesses authoritarianism, benevolence, social restrictiveness, and community mental health ideology.

Authoritarianism, in this context, refers to beliefs that one must exert power and control over mentally ill people. The authoritarianism subscale consists of four items. An example is "as soon as a person shows signs of mental disturbance, he should be hospitalized."

Benevolence refers to the belief that one must be kind and charitable to the mentally ill. The subscale has five items. An example of an item on this subscale is "we have a responsibility to provide the best possible care for the mentally ill."

Socially restrictive beliefs imply that the mentally ill should be restricted from active involvement in the community or in society. There are four items comprising the social restrictiveness subscale. Among them is "the mentally ill should be isolated from the rest of the community."

Community mental health ideology refers to the belief in treatment of the mentally ill within the community. The subscale includes eight items. One of these items is "mental health facilities should be kept out of residential neighborhoods."

Participants indicate whether they agree (1), disagree (2), don't know (3), or have no response (4). The latter two responses are considered missing data. Scores are

transformed so that they range from low, signifying disagreement, to high, signifying agreement, with the sentiments of each of the four subscales.

Dear and Taylor (1982) reported the reliability of the four subscales. The alpha coefficients for community mental health ideology, social restrictiveness, benevolence, and authoritarianism are .88, .80, .76, and .68, respectively. All 21 items have loadings greater than .50 for their respective factors. The subscales have also been shown to have external, construct, and predictive validity.

#### Mental Health Locus of Origin Scale

To assess participants' beliefs about the etiology of mental illness, the survey included the Mental Health Locus of Origin Scale (MHLO) Scale (Hill & Bale, 1980) (see Appendix C).

The scale consists of 20 items that were selected from an original pool of 68 items with face validity for the mental health locus of origin construct. In this context, Hill and Bale (1980) defined locus of origin as "a bipolar construct pertaining to beliefs about etiology of maladaptive behavior" (p. 150). They reported that this scale measures beliefs along a continuum from the medical model of etiology to a sociological or interactional model



involving the social environment. Medical model items emphasize genetic and physiological factors, while the sociological items emphasize environmental factors. The MHLO Scale includes 13 medical model and 7 sociological items, according to Hill and Bale.

When Tefft, Segall, and Trute (1988) performed a factor analysis on their data from the MHLO, they found three orthogonal factors. Two factors represented different types of medical model beliefs. Nine items represented beliefs that mental illness is caused by factors present at birth. An example is "some people are born more likely to commit suicide." Four items represented beliefs that disease causes mental illness. An example is "mental illness is usually caused by some disease of the nervous system."

The third factor found by Tefft et. al was composed of the seven sociological items reported by Hill and Bale. An example of a sociological item is "many normal people would become mentally ill if they had to live in a very stressful situation."

Participants respond to each item by indicating whether they strongly agree (1), agree (2), neither agree nor disagree (3), disagree (4), strongly disagree (5), don't know (6), or have no response (7). The latter two responses are scored as missing data. Responses are transformed so

that high scores indicate stronger belief in the particular locus of origin of mental illness.

### Scale Adaptation

The two scales were adapted using PC-Style (Button, 1986) to a Grade 6 readability level (see Appendix D). Button (1986) incorporated the work of Flesch (1974) into the PC-Style program. While there are other formulas for computing readability based on word length and sentence length, Flesch (1948) introduced a measure of human interest based on the number of personal words and personal sentences. Although this element is subject to debate, Fry (1988) argued for the use of personal pronouns and personal sentences because "sources as diverse as Rudolf Flesch and the APA Manual encourage you to do so" (p. 85).

The readability formula of Gunning (1964) was also incorporated into the PC-Style readability program (ButtonWare, Inc., personal communication, November 6, 1989). No reliability or validity data is available for the readability formula derived by ButtonWare.

The program analyzes the wording of documents in terms of (a) the number of words per sentence and syllables per word, and (b) the percentages of "long words," "personal words," and "action words" (p. 10). A word with more than

two syllables is considered a long word. Examples of "personal" words from the PC-Style lexicon are "their" or "you." Examples of words on the "action" list are "get" and "look." Based on the totals for these criteria for the entire document, the program provides a readability level in terms of grade level.

Children in Grades 6, 8, 10, and 12 responded to the adapted scales. As a test of the validity of the adapted scale, a second group of Grade 12 students responded to the original forms of the instruments. Comparisons were made between the two groups of Grade 12 students to infer that the two forms measured the same beliefs. If the two forms yielded similar belief profiles for the two groups, it would be reasonable to conclude that they were equivalent. If not, comparisons would be limited to the four groups who responded to the adapted scales.

### Face Sheet

To develop a profile of the sample, participants were given a face sheet to complete before responding to the instruments (see Appendix E). On it, they were asked to indicate their age, grade in school, and sex.

To determine socioeconomic status (SES), participants were asked to provide the researcher with a description of

the jobs performed by their mothers (or the adult female with whom they resided) and fathers (or the adult male with whom they resided). Using the index established by Blishen, Carroll, and Moore (1987), participants received SES scores based on their mother's (MSES) or their father's (FSES) occupation, whichever was higher. If only one score was obtained, it determined the participant's SES.

The Blishen et al. (1987) index was derived from an equation with equally weighted components for income and education level particular to each occupation. The scores are specific to the occupation the individual holds rather than to the individual himself or herself. Thus, the assignment of a score for each participant necessitated a response which represented participation in the labor force. Responses such as "retired," "student," or "housewife" are unclassifiable using this system.

Despite the fact that some responses cannot be classified, there are advantages to using the Blishen et al. (1987) index to determine SES. Children can often describe what their parents do at work even if they do not know the title of the occupation. Their responses can then be easily coded into one of the many categories provided with the index. Other advantages are that the index scores are based on Canadian Census Data and that the scores were derived using female as well as male participation in the work force.

Scores on the Blishen et al. (1987) index range from 17.81 to 101.74. The mean and standard deviation are 42.78 and 13.28, respectively. Carpenters receive a score of 34.86, while psychologists receive a score of 65.36.

Participants were also asked to describe their "ethnic background." They were classified according to the system used in the Winnipeg Area Study (Currie, 1986b). A certain number of categories have been established to indicate respondents' membership in specific ethnic groups. These categories include major ethnic groups as well as a number of categories designed for respondents with more than one background. For example, there is a category for "dual European" background. There were eight numbered categories established which have not been assigned to ethnic groups. These were created to be used in future years by the Winnipeg Area Study, if ethnic groups without previously defined categories were represented in the sample (R. F. Currie, personal communication, July, 1989). The investigator was advised to create categories for the present study to accommodate ethnic groups found among the participants that were not present in the Winnipeg Area Study (Currie, 1986b). For example, categories were created for Portuguese, Icelandic, and "dual Asian" ethnic backgrounds. Groups such as these could not be appropriately classified within the existing categories.

## RESULTS

### Overview of Statistical Analyses

Between-group differences were analyzed using multiple analysis of variance (MANOVA), discriminant function analysis, and  $t$  tests.

Missing data was replaced on both scales through a mean substitution procedure. The substituted value was the mean of the items belonging to the same subscale as the missing item. This procedure replicated the procedure used by Tefft, Segall, and Trute (1988).

Mahalanobis distances (BMDP, 1983) were used to find multivariate outliers with respect to each grade. To identify outliers, the procedure involves the calculation of a multivariate group centroid. When there is multivariate normality, Mahalanobis distances are distributed as a chi-square variable. Each participant's pattern of responses is compared to the centroid through a chi-square test. If the pattern of scores has a high probability of not belonging to the group, the set of scores is identified as an outlying set. Tabachnick and Fidell (1983) recommend that the BMDP program be run until there are no outliers indicated.

For the Beliefs About the Mentally Ill Scale, 16 outliers in the Grade 6 group were identified by conducting this analysis until the program could no longer apply the chi-square formula due the lack of normality of the data. Two outliers on the same scale were identified in the Grade 12 group.

Analyses were run with and without the 18 outlying sets of responses. Some significant differences between the two analyses were found. The overall multivariate main effect for differences between the genders was significant for both analyses. However, with the outliers removed, the univariate differences between genders on the authoritarian and socially restrictive beliefs were no longer significant. The directions of these differences were unchanged.

Tests of differences between the genders were run as a check for the need to control for gender. Both analyses indicated the need to analyze the two groups separately on the Beliefs About the Mentally Ill Scale. No specific hypotheses were made regarding differences between genders on the beliefs measured by the four subscales.

Differences between the grade levels were hypothesized. The difference between Grade 6 and Grade 8 with respect to authoritarian beliefs about the mentally ill was significant before but not after removing outliers. However, the

univariate test of authoritarian beliefs was significant in both analyses. Also, the significant difference between the authoritarian beliefs of girls in Grades 6 and 12 was present with or without the outliers.

Removing these participants from the sample would limit the generalizability of the findings. Due to this limitation and the greater risk of departure from normality, a decision was made to include all 18 outliers in the final data set (Tabachnick and Fidell, 1983).

Concerning the MHLO Scale, one outlier was identified from Grade 12. The respondent had missed an entire page of the questionnaire. The missing value substitution procedure resulted in an unusual pattern of responses. A decision was made to remove this outlier.

### Characteristics of the Final Sample

The initial pool of participants were 369 school children from two Winnipeg school divisions. Nine were deleted because they were in grades that were not part of the design of the study, were of an atypical age for a high school student (e.g., 34), they were unable to complete the questionnaires, or because their scores created multivariate outliers. Thus, the final sample consisted of 360 participants.



The sample included 92 students in Grade 6, 85 in Grade 8, 58 in Grade 10, and 125 in Grade 12. Sixty-two Grade 12 participants (50%) completed the adapted version of the questionnaire, while the other sixty-three Grade 12 participants (50%) completed the adult version. There were 54% females and 46% males in the final sample.

One school division would not permit the researcher to ascertain the socioeconomic status (SES) or ethnic background of its participants. Consequently, SES and ethnicity data were available for only 225 participants (61%).

SES was slightly skewed ( $S=.46$ ) in the direction of the less skilled occupations. Blishen scores ranged from 22 to 78, with a mean of 43.34 and standard deviation of 12.20.

The ethnic backgrounds reported by the participants were too heterogeneous to characterize the sample using any major groupings. The largest groups were Canadian (11.1%), two European backgrounds (11.1%), Filipino (8.8%), Portuguese (7.4%), and Native or another ethnicity plus a Native background (7.3%).

### Hypothesis 1

The first hypothesis stated that the difference in children's beliefs about the mentally ill will be greater between age groups than within age groups.

To test for between-group differences, multivariate analysis of variance (MANOVA) was performed on the data from the Beliefs About The Mentally Ill Scale, followed by univariate tests (ANOVA). Although one would expect correlations among the subscales of the Beliefs About the Mentally Ill Scale, the subscales represent distinct constructs. The overall multivariate test of differences between grades in patterns of beliefs about the mentally ill was planned. If an overall significant multivariate effect was found, then tests of differences between the grades on the different beliefs were to follow.

The data from the Mental Health Locus of Origin Scale was analyzed using discriminant function analysis. For this instrument, there is a hypothetical relationship between one set of beliefs and the other. Specifically, one would expect a higher belief in the medical model of the etiology of mental illness to be directly related to a lower belief in the sociological model. Therefore, the existence of a pattern of these beliefs which would differentiate between the grades was sought.

### Beliefs About the Mentally Ill

Four composite scores were calculated to match the four subscales designed by Dear and Taylor (1982). These composite variables were community mental health ideology (CCMHI), social restrictiveness (CREST), benevolence (CBEN), and authoritarianism (CAUTHOR). Composite scores were calculated for each participant by summing their responses on the variables comprising each subscale. Tests of these composite scores across the entire sample indicated that the variables were extremely skewed. Data transformations could not correct for this lack of normality. However, the samples from each grade were large and relatively equal. Moreover, there were greater than 20 degrees of freedom for error. Under these conditions, multivariate analysis of variance (MANOVA) is fairly robust to violations of the normality assumption (Tabachnick & Fidell, 1983).

Bartlett's test of homogeneity of variance-covariance matrices indicated that the data from this scale was not homogeneous. Also, the samples sizes were unequal. Tabachnick and Fidell (1983) state that if the larger samples produce the larger variances on the dependent variables, as was typically the case for this data, then the tests of mean differences are conservative. They recommend the use of Wilk's Lambda for evaluating significance to "improve the robustness of the test" (p. 233).

A check for linearity between the dependent variables did not indicate the presence of nonlinear relationships. A decision was made to use MANOVA, with the knowledge that the test of differences between these groups would be conservative.

A check for gender differences using MANOVA yielded significant differences,  $F(4, 286) = 4.84, p < .001$ . (see Table 1). Females had significantly higher beliefs in community mental health ideology than males,  $F(1, 289) = 12.65, p < .001$ . Females were also more benevolent than males,  $F(1, 289) = 12.92, p < .001$ . Males were more socially restrictive,  $F(1, 289) = 6.59, p < .01$ , and more authoritarian  $F(1, 284) = 4.66, p < .05$  in their beliefs about the mentally ill than were females. Separate analyses for each gender were indicated by these differences.

No multivariate main effect for grade was found for boys. Therefore, differences between boys' beliefs were greater within grade levels than between. However, a significant multivariate main effect for grade was found for girls,  $F(12, 389) = 2.66, p < .01$ . This indicated that differences in girls' beliefs about the mentally ill are greater between than within grades. While differences in community mental health ideology, benevolence, and social restrictiveness contributed to the overall effect, tests between girls in different grades with respect to each of

Table 1

Beliefs About the Mentally Ill ScaleBy Grade and Gender

Grade	Males			Females		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
CCMHI						
6	46	14.8	1.9	46	15.3	1.4
8	41	14.9	1.7	44	15.5	1.2
10	24	14.1	2.4	34	15.1	1.9
12	29	14.4	2.6	32	15.3	1.4
Total	140	14.6	2.1	156	15.3	1.5
CREST						
6	46	4.4	.9	46	4.3	.8
8	41	4.4	.7	44	4.2	.5
10	24	4.4	.8	34	4.2	.5
12	29	4.4	1.1	33	4.2	.6
Total	140	4.4	.9	157	4.2	.6

Table 1 (continued)

Grade	Males			Females		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
CAUTHOR						
6	45	5.7	1.3	45	5.6	1.3
8	41	5.2	1.2	43	5.0	1.2
10	24	5.4	1.3	34	5.0	1.1
12	29	5.0	1.2	33	4.4	.8
Total	139	5.3	1.3	155	5.1	1.2
CBEN						
6	46	9.3	1.2	46	9.5	.9
8	41	9.4	1.2	44	9.7	.8
10	24	9.3	1.1	34	9.6	.6
12	29	9.1	1.4	33	9.8	.4
Total	140	9.3	1.2	157	9.7	.8

these beliefs were not significant. The only dependent variable which showed an effect for grade was authoritarianism,  $F(3,149) = 7.84$ ,  $p < .001$ . Paired comparisons using Tukey's Studentized Range (HSD) yielded a significant difference between participants in Grade 6 and Grade 8 and between Grade 6 and Grade 12 (see Table 2). The younger females were more likely than the older females to have authoritarian beliefs about the mentally ill.

The data from the Beliefs About the Mentally Ill Scale partially supported Hypothesis 1. There was a greater difference between than within grades for girls' beliefs about the mentally ill. This was most evident with respect to girls' authoritarian beliefs. On the contrary, the beliefs held by boys did not differ between grades.

Table 2

Tukey's Studentized Range (HSD) Test forAuthoritarian Beliefs about the Mentally Ill

Grades	Mean Difference	95% Confidence Interval
6-8	0.7	0.0 to 1.3 *
6-10	0.7	-0.2 to 1.3
6-12	1.3	0.6 to 2.0 *
8-10	-0.0	-0.7 to 0.7
8-12	0.6	-0.1 to 1.3
10-12	0.6	-0.1 to 1.3

\*  $p < .05$



### Mental Health Locus of Origin Scale

A principal components factor analysis using a varimax rotation yielded almost the identical factor structure with children that was previously obtained with adults (Tefft et al., 1988). Only one item loaded on a different factor with children than with adults. The original item was "The kind of nervous system you are born with has little to do with whether you become psychotic." With adults, this item had the highest loading on the factor that represents beliefs about congenital causes of mental illness. Children responded to an adaptation of the item. It read "Your brain has a lot to do with your becoming mentally ill." With children, this item had the highest loading on the factor that represents beliefs about disease as a cause of mental illness. This adapted item appears to be more vague than the original item.

The proportion of variance accounted for regarding children (8%) was substantially lower than that regarding adults (35%). However, the analysis indicated that the adapted version of the MHLO has the same factor structure when administered to children as the original MHLO when administered to adults.

Based on the factor analysis, three composite variables were calculated representing beliefs that mental illness is

caused by factors present at birth (CBORN), by disease (CDIS), and by environmental factors (CENV). The medical model of beliefs about the origin of mental illness are represented by CBORN and CDIS. Sociological beliefs about the locus of origin of mental illness are represented by CENV (see Table 3).

The composite variables were normally distributed with respect to grade. A test of homogeneity of covariance matrices was nonsignificant indicating that the data met the assumption for homogeneity of variance. The dependent variables had linear relationships to one another. Therefore, the data for this scale met the assumptions for multivariate analysis.

A MANOVA for gender differences on the three composite variables yielded no significant differences. Therefore, separate analyses to control for gender effects were not required.

A discriminant function analysis procedure produced one significant discriminant function with a squared canonical correlation coefficient of .12, with Wilk's criterion of  $F(9, 708) = 5.18, p < .001$ . This indicated that a linear equation was found that significantly discriminated between grades and accounted for 12% of the variance in the responses. Therefore, there were significant differences

Table 3

Mental Health Locus of Origin ScaleBy Grade.

Grade	<u>n</u>	<u>M</u>	<u>SD</u>
CBORN			
6	92	29.4	5.3
8	85	27.6	4.9
10	58	28.2	4.7
12	62	26.4	6.0
CDIS			
6	92	13.8	2.5
8	85	14.1	2.7
10	58	13.5	2.3
12	62	12.6	2.3
CENV			
6	83	18.4	3.5
8	81	17.4	3.4
10	56	18.6	2.7
12	61	19.9	3.5

between grades with respect to patterns of beliefs about the etiology of mental illness.

Using the  $F$  statistics associated with the Mahalanobis distances ( $D^2$ ), significant distances between group centroids were found (see Table 4). Grade 6, 8, and 10 were significantly distant from Grade 12. Therefore, all grades had significantly different patterns of beliefs than Grade 12. Grade 6 and 8 were significantly distant from each other. This indicated that the pattern of the beliefs about etiology were different between participants in these two grades. However, neither the Grade 6 nor Grade 8 participants' patterns of beliefs differed from the beliefs of participants in Grade 10. This result indicated that the beliefs of Grade 10 students were more similar to the beliefs of the younger rather than older participants.

Stepwise discriminant function analysis was performed to find the best set of variables to discriminate between the groups. Using a forward entry procedure, CENV was entered first. It had a partial  $r^2$  of .07, with  $F(3,276) = 6.92$ ,  $p < .001$ . Next, CBORN entered the set with a partial  $r^2$  of .04, with  $F(6,550) = 3.68$ ,  $p < .05$ . CDIS was not selected due to the low partial  $r^2$ , (.02), and lack of significance. Therefore, there is little distinction between the grades with respect to their beliefs about disease as a cause of mental illness. These beliefs do not contribute to the

Table 4

Associated F Statistics for Mahalanobis Distance for  
Mental Health Locus of Origin Scale.

Grade	6	8	10	12
6	-	-	-	-
8	3.3 <sup>*</sup>	-	-	-
10	2.2	1.1	-	-
12	13.6 <sup>***</sup>	7.6 <sup>***</sup>	3.9 <sup>**</sup>	-

Note: Numerator Degrees of Freedom = 3;  
 Denominator Degrees of Freedom = 291.

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$

pattern that differentiates between grades. On the other hand, the best way to discriminate between grades is by using a combination of their beliefs in birth and environmental factors as causes of mental illness.

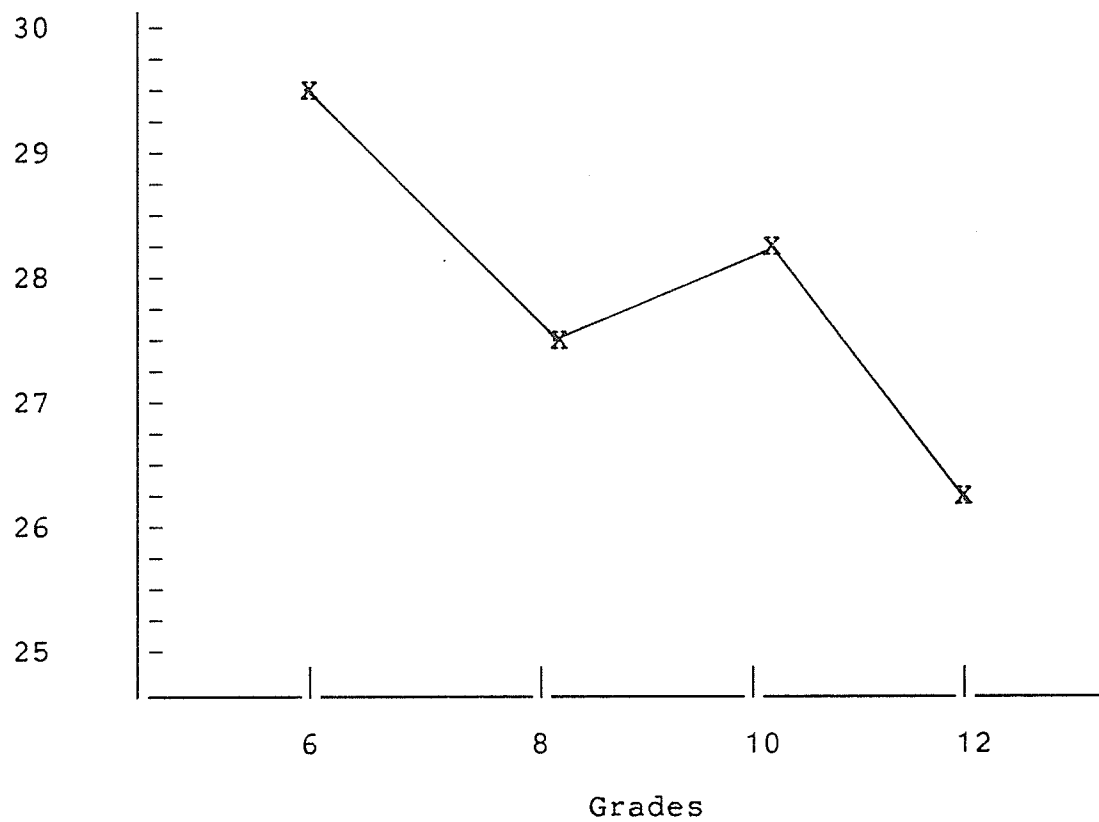
Hypothesis 1 was supported by the findings from the Mental Health Locus of Origin Scale. It was possible to significantly discriminate between grades. Boys and girls did not differ with respect to their beliefs about the etiology of mental illness. The beliefs of both groups are included in the finding of significant discrimination between grades.

### Hypothesis 2

The second hypothesis stated that the older the group of children, the more the group will subscribe to a sociological model of the etiology of mental illness.

A MANOVA was performed to test for a multivariate difference between the grades on the MHLO composite variables. A significant main effect for grade was found,  $F(9,667) = 3.95, p < .0001$  (see Table 4). This analysis was followed by univariate tests for each variable and post hoc multiple comparisons of the means. A significant main effect for belief in factors present at birth was found,  $F(3,276) = 2.85, p < .05$  (Figure 1). Tukey's test indicated a

Figure 1: Plot of Means of Belief in Birth Factors as Cause of Mental Illness



significantly higher belief in these factors for Grade 6 than for Grade 12 (see Table 5). For belief in disease factors, there was also a significant main effect for grade,  $F(3,276) = 4.13$ ,  $p < .05$  (Figure 2). Grade 6 and Grade 8 both had stronger beliefs in disease factors than Grade 12 (see Table 6).

There was a significant main effect for grade regarding belief in the environmental causes of mental illness,  $F(3,276) = 6.91$ ,  $p < .001$  (Figure 3). Post hoc comparisons yielded differences between Grade 6 and Grade 12, and between Grade 8 and Grade 12 (see Table 7). As hypothesized, the older group had stronger beliefs in environmental causes than the younger groups.

The second hypothesis was confirmed. Older participants had stronger beliefs in environmental as opposed to medical causes of mental illness.



Table 5

Tukey's Studentized Range (HSD) Test for Belief in  
Factors Present at Birth as Cause of Mental Illness

Grades	Mean Difference	95% Confidence Interval
6-8	1.4	-0.7 to 3.4
6-10	1.1	-1.2 to 3.3
6-12	2.6	0.3 to 4.8 *
8-10	-0.3	-2.6 to 2.0
8-12	1.2	-1.0 to 3.5
10-12	1.5	-0.9 to 4.0

\*  $p < .05$

Figure 2: Plot of Means of Belief in Disease Factors as Cause of Mental Illness

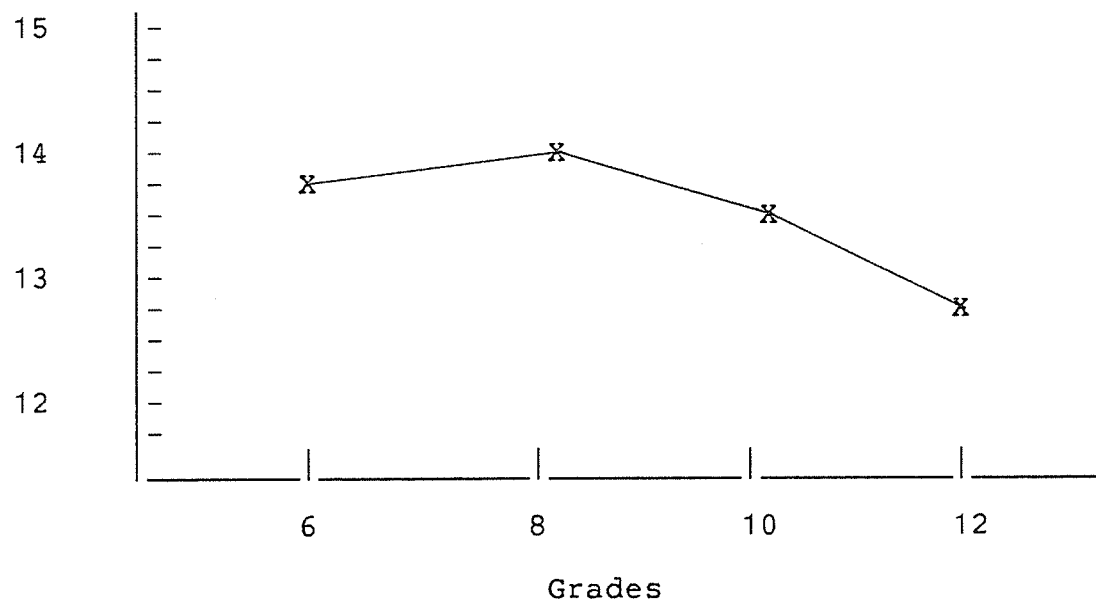


Table 6

Tukey's Studentized Range (HSD) Test for Belief in  
Disease as Cause of Mental Illness

Grades	Mean Difference	95% Confidence Interval
6-8	-0.3	-1.3 to 0.7
6-10	0.3	-0.8 to 1.5
6-12	1.2	0.0 to 2.3 *
8-10	0.6	-0.5 to 1.8
8-12	1.5	0.3 to 2.6 *
10-12	0.8	-0.4 to 2.1

\*  $p < .05$

Figure 3: Plot of Means of Belief in Environmental Factors  
as Cause of Mental Illness

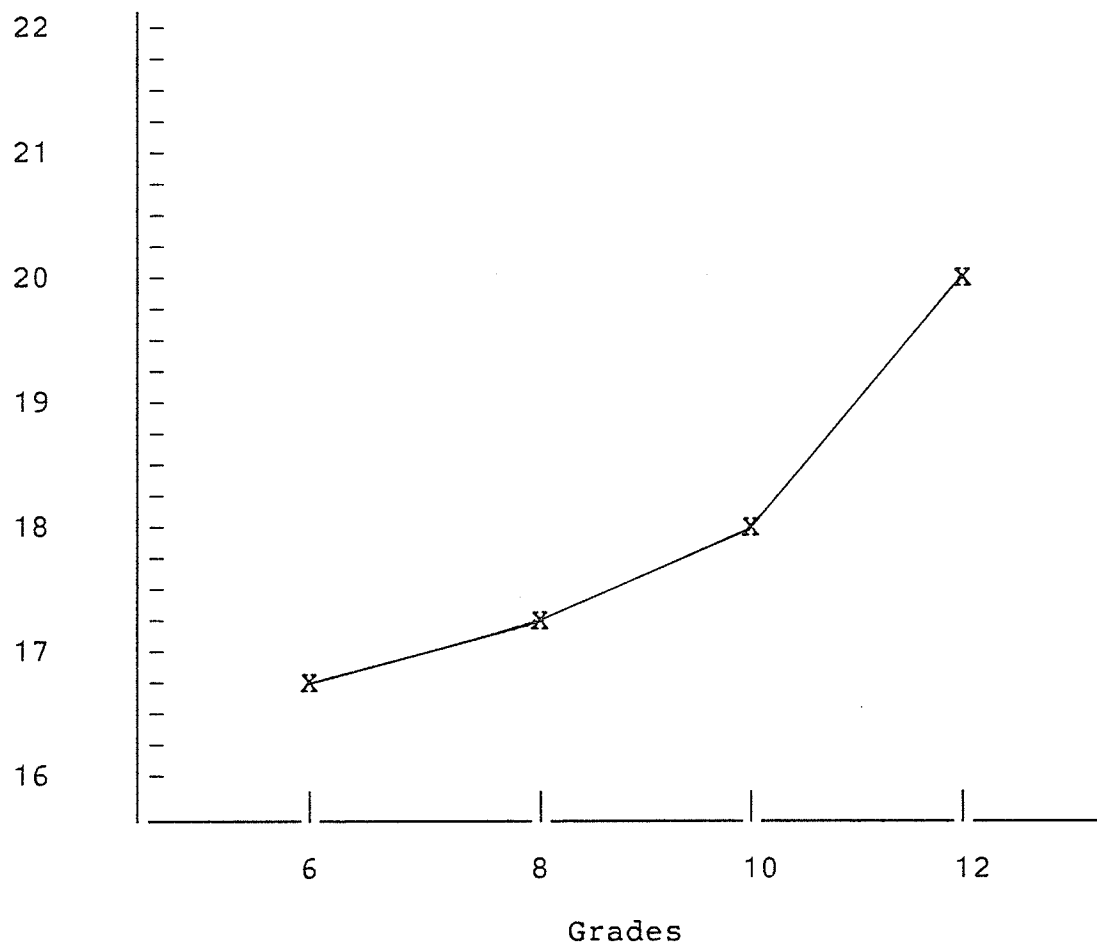


Table 7

Tukey's Studentized Range (HSD) Test for Belief in  
Environmental Causes of Mental Illness

Grades	Mean Difference	95% Confidence Interval
6-8	1.0	-0.3 to 2.3
6-10	-0.2	-1.7 to 1.2
6-12	-1.6	-3.0 to -0.1 *
8-10	-1.2	-2.7 to 0.3
8-12	-2.5	-4.0 to -1.1 *
10-12	-1.3	-2.9 to 0.3

\*  $p < .05$

### Hypothesis 3

Hypothesis 3 stated that the older the group of children, the more varied their beliefs will be about the mentally ill.

Bartlett's test of homogeneity of variance is a test for the significance of differences among estimates of population variance (Klugh, 1970). A test of homogeneity of variance-covariance matrices for the Beliefs About the Mentally Ill Scale rejected the homogeneity assumption,  $\chi^2(30, N = 291) = 77.53, p < .001$ . Therefore, the variances differed between the grades with respect to their beliefs about the mentally ill. However, the predicted pattern did not appear. Older grades did not have larger variances than younger grades. Also, the ratio of largest to smallest variances for each composite variable were small and nonsignificant. Tabachnick and Fidell (1983) consider a ratio of 20:1 to represent a substantial difference.

For the Mental Health Locus of Origin Scale, the test of homogeneity of covariance matrices indicated that the variances were homogeneous. In conclusion, Hypothesis 3 was not supported by the data from either instrument.

#### Hypothesis 4

Hypothesis 4 stated that the older the group of children, the more closely their beliefs would resemble those of adults.

In order to determine whether or not it was valid to compare children's responses on the adapted versions of the Beliefs About the Mentally Ill Scale and the MHLO Scale to the adults' responses to the original scales, a MANOVA was performed between the two groups of Grade 12 students who received the different versions (see Table 8). The classes of Grade 12 students who completed each version were selected randomly. Therefore, there would be no reason to attribute differences in their beliefs to differences between the groups of Grade 12 participants. If differences were found, the most logical explanation would be that the difference in wording of the items elicited different responses from the two groups.

The test of overall difference between these groups for the Beliefs About the Mentally Ill Scale failed to reach significance  $F(4, 120) = 2.03, p < .10$ . However, this marginal result was not sufficient to justify a decision to consider the two versions equivalent. A factor analysis performed on the children's adapted version yielded a different structure than that found with adults (Tefft,

Table 8

Comparison of Grade 12 Students Who Responded  
to the Adapted and Adult Versions of the Scales

	Adapted			Adult		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
CCHMI	61	14.9	2.1	63	14.0	2.6
CREST	62	4.3	0.9	63	4.5	1.0
CAUTHOR	62	4.7	1.1	63	5.0	1.1
CBEN	62	9.5	1.1	63	9.5	1.0
CBORN	62	26.4	6.0	63	27.1	5.3
CDIS	62	12.6	2.3	63	13.2	2.7
CENV	61	20.0	3.5	62	22.6	3.4



Segall, & Trute, 1988). With children, eleven items loaded on the factor representing belief in community mental health ideology. Eight items loaded on this factor with adults. The factor representing belief in benevolence toward the mentally ill had five items with adults and four with children. Only two items, rather than four, loaded on the factor representing socially restrictive beliefs about the mentally ill from the children's responses. The factor representing authoritarian beliefs had the same items with children and adults. Based on these findings, one cannot assume that the two versions of the instrument measure the same beliefs. No comparisons between the children and the adults were made for the Beliefs About the Mentally Ill Scale.

For the Mental Health Locus of Origin Scale, there was also an overall difference between the Grade 12 students who responded to different versions of the instrument,  $F(3, 120) = 6.75, p < .001$ . Grade 12 students who responded to the adult version of the instrument had stronger beliefs in environmental causes of mental illness than Grade 12 students who responded to the children's version  $F(1, 121) = 16.92, p > .001$ . Based on these findings, tests of differences between the Grade 12 students and adults on the MHLO Scale were considered to be invalid.

The only comparisons between children and adults involved Grade 12 students who responded to the adult version of the two mental health scales. T-tests were used to test the difference between the means of these two populations using the estimated standard error of the difference calculated by summing rather than pooling the separate sample variances. Hays (1981) states that with unequal samples "when both samples are large, then both the assumptions of normality and of homogeneous variance become relatively unimportant" (p.287). He recommends the use of the sum of the sample variances with a *t* statistic that is compared to the normal distribution.

On the Beliefs About the Mentally Ill Scale, Grade 12 students indicated greater belief in community mental health ideology than adults (See Table 9). Grade 12 students were also more benevolent toward the mentally ill than adults. Conversely, adults held more authoritarian beliefs about the mentally ill than Grade 12 students. On the Mental Health Locus of Origin, Grade 12 students believed more strongly in environmental etiology of mental illness than adults (see Table 10).

Table 9

Comparison of Grade 12 Students and Adults on  
Beliefs about the Mentally Ill

	Adults			Grade 12			95% Confidence Interval
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	
CCHMI	542	13.3	2.1	63	14.0	2.6	-1.4 to -0.1 *
CREST	546	4.6	1.0	63	4.5	1.0	-0.2 to 0.4
CAUTHOR	544	5.3	1.3	63	5.0	1.1	0.0 to 0.6 *
CBEN	545	8.7	0.8	63	9.5	1.0	-1.0 to -0.5 *

\*  $p < .05$

Table 10

Comparison of Grade 12 Students and Adults on  
Beliefs about Mental Health Locus of Origin

	Adults			Grade 12			95% Confidence Interval
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	
CBORN	517	28.4	4.3	63	27.0	5.3	-0.1 to 2.6
CDIS	546	12.8	2.1	63	13.2	2.7	-1.1 to 0.3
CENV	544	20.0	3.4	63	22.6	3.4	-3.5 to -1.7 *

\*  $p < .05$

## DISCUSSION

This study examined children's and adolescents' beliefs about the mentally ill and compared these beliefs with those of adults. The goal was to gain a better understanding of children's development of adult-like beliefs about the mentally ill.

### Beliefs About the Mentally Ill

Findings with respect to beliefs about the mentally ill showed very few differences between children and adolescents. These results are consistent with Weiss (1985) who also studied children's beliefs about the mentally ill using a forerunner of the scale employed in the present study. Weiss found some significant differences between grades, with an increase in benevolence and a decrease in authoritarianism, mental hygiene ideology, social restrictiveness, and interpersonal ideology.

Weiss looked specifically at planned comparisons of successive grades (i.e., two versus four, four versus six, six versus eight). He found that children's beliefs changed between Grades 2 and 4 on a similar constellation of beliefs to those investigated in the present study. If post hoc

comparisons between all groups had been performed, then Weiss' investigation would parallel the present study. Given that the only significant developmental differences obtained in Weiss' study were between Grade 2 and Grade 4 as reported, then it is possible that few significant differences were found in the present study because few occur beyond grade 4. However, Weiss' results must be interpreted cautiously. Although, he described his adaptation of the response scale of the instrument he used, he did not mention changes to the wording of the scale itself. It is possible that the differences he found represent development in reading ability rather than development in beliefs about the mentally ill.

In this study, no predictions of gender differences were made. However, there were significant differences between females and males with respect to beliefs about the mentally ill. Females had stronger beliefs in community mental health ideology and were more benevolent in their beliefs about the mentally ill than were males. Males were more socially restrictive and authoritarian than were females toward the mentally ill. These differences are consistent with differences found in the adult samples of Dear and Taylor (1982) and Tefft, Segall, and Trute (1988).

Other researchers reported finding no sex differences in their investigations (Kalter & Marsden, 1976; Novak,

1974). However, Maas, Marecek, and Travers (1978) found that girls gave significantly higher ratings of social desirability, assertiveness, well-being, and social assets to characters in vignettes portraying disturbed behavior patterns. This finding suggests that girls are more tolerant and less devaluing of children displaying emotionally disturbed behavior. Despite their findings, Maas et al. made no attempt to account for the gender differences. At this point, one can argue that girls are raised to be more understanding and empathic toward others experiencing difficulties. In addition, girls are more likely to respond in a more nurturing and less socially rejecting manner to people they perceive as different or disadvantaged.

With respect to within-gender comparisons between the age groups, there were no developmental effects for males' beliefs about the mentally ill. There were overall significant differences in beliefs about the mentally ill between females in different grades. There was evidence of a developmental trend for females with respect to authoritarianism. Younger females were more authoritarian than older females. Specifically, Grade 6 females were more authoritarian in their beliefs about the mentally ill than were Grade 8 and Grade 12 females.

The findings that girls held beliefs about the mentally ill that were more benevolent, more supportive of community mental health ideology, less socially restrictive, and less authoritarian than boys supports the notion that girls are socialized to be more tolerant as they develop. This is further supported by the finding that older girls held less authoritarian beliefs about the mentally ill than younger girls.

Girls may have more experience with authoritarian attitudes toward themselves as they grow older. This may lead girls to feel less positively toward authority and to believe that there are better ways to respond to people than through authoritarian means.

### **Beliefs About the Etiology of Mental Illness**

Rabkin (1974) advocates the use of multivariate research designs to facilitate greater understanding of attitudes and behavioral influence, which she views as multi-dimensional. On the Mental Health Locus of Origin Scale, the multivariate pattern of the beliefs of the younger children distinguished them from oldest children. The Grade 6, 8, and 10 groups were significantly different from the Grade 12 group with respect to beliefs about the locus of origin of mental illness. Grades 6 and 8 were the most different from Grade 12. Interestingly, the two



younger grades were significantly different from each other, but not from the Grade 10 group. Therefore, the Grade 10 group held beliefs more similar to the younger groups than to the Grade 12 group.

Beliefs seem to change gradually, with the most dramatic change coming between the younger children and the oldest children. From a socialization perspective, the Grade 6 and Grade 8 students have had less time than older students to learn the beliefs of adult society. Grade 10 students have had more time to process the adult notions around them and begin to develop beliefs that are more adult-like. However, their beliefs still differ from those of Grade 12 students. The beliefs of Grade 12 students have been shown to be the most like adults (Olmsted & Smith, 1980).

In the literature, many examples are cited of a trend toward a more sociological view of the etiology of mental illness with increasing age (Coie & Pennington, 1976; Kalter & Marsden, 1977; Maas et al., 1978). This is accompanied by a decrease with increasing age in adherence to the medical model. The results of the present study show the same trend. From a cognitive perspective, a child develops the capacity to move from a simple person-focused understanding of the world to one in which more complex, less visible factors come into play. The child can then more readily

understand mental illness from an environmental perspective. Similarly, an understanding of environmental factors leads one to deemphasize innate factors as the root of mental illness. Congenital defects and disease both represent medical model beliefs. It is logical that a reliance on these factors as explanations for the cause of mental illness decreases as appreciation of sociological factors increases.

In the present study, the effect sizes or amount of variance accounted for by the MHLO Scale are not large. Rabkin (1974) comments that such sizes are only interpretable relative to findings of other comparable studies in the field of beliefs, attitudes, and opinions about the mentally ill. She believes that trends are worthy of note and become more significant when similar trends appear "over time," causing "sample variations to be less important" (p. 18). Therefore, the repeated finding that children become more sociological and less medical in their conceptualization of mental illness can be viewed as fairly robust.

There was no support for the hypothesis that the within-grade variability of beliefs about etiology and about the mentally ill would increase with age. Beliefs of participants in all groups were similarly distributed.

This hypothesis rested on the assumption that having adult-like cognitive capacities would enable a young person to be susceptible to a multitude of societal influences. The younger participants were expected to be more constrained in their beliefs and thus less varied. The failure to replicate Olmsted and Smith (1980) may be due either to a difference in instruments or analyses between the two studies.

#### Comparisons Between Grade 12 Students and Adults

The adapted and original versions of the MHLO Scale have been shown to have almost the identical factor structure. There is a difference for only one item. This indicates children and adults share a set of beliefs about the etiology of mental illness. This set includes beliefs that congenital defects, disease, and environmental factors cause mental illness. Although the strength of beliefs in these three factors may differ, it is clear that these types of beliefs underly the models that children and adults hold about the etiology of mental illness. This finding also indicates the strength of the original and the adapted versions of the MHLO Scale to measure beliefs about etiology.

Grade 12 students who responded to the two versions of the MHLO Scale differed only in their belief in

environmental causes of mental illness. This points to further development of the environmental items on the the children's version. With improved items, an adapted version of the MHLO Scale may be designed that can be used to make valid comparisons between the beliefs of children and adults.

Tefft, Segall, and Trute (1988) found that younger adults held beliefs about the mentally ill that were more benevolent, less socially restrictive, and less authoritarian than older adults. Younger adults also held stronger beliefs in community mental health ideology. It is encouraging to find that Grade 12 students held beliefs that were consistent with the beliefs of these younger adults.

Grade 12 students were more benevolent and less authoritarian in their beliefs about the mentally ill than the adults from the Winnipeg Area Study (Currie, 1986a). They had stronger beliefs in community mental health ideology. Grade 12 students also showed a trend toward less socially restrictive beliefs than adults. With respect to beliefs about the locus of origin of mental illness, grade 12 students were less invested in the medical model of the etiology of mental illness and more invested in the sociological model than adults.

### Practical Relevance of the Findings

Fisher and Farina (1979) found that it is more positive to hold sociological as opposed to medical model beliefs about the causes of mental illness. They found that college students who were exposed to social-learning etiology of mental illness showed many more positive beliefs and behaviors with respect to emotional problems than did peers who were exposed to an etiological model based on genetic and somatic factors. College students who were exposed to social-learning etiology were more likely to admit that they would seek help, to believe that it is valuable to attempt to identify causes and solutions of their emotional problems, and less likely to have used drugs and/or alcohol to relieve their emotional distress.

Based on Fisher and Farina (1979), it can be argued that instruction in sociological as opposed to medical theories of etiology leads to more positive coping strategies and more positive beliefs regarding mental illness. The finding in the present study that Grade 12 students had more sociological views than younger children suggests that the more desirable beliefs develop over time. If these beliefs are a function of cognitive development, they might not be amenable to classroom education at earlier ages. To the contrary, Bandura (1986) argues "that abstract rules of reasoning through modeling or direct tuition

enhance the cognitive skills of children who allegedly have not reached the stage of readiness to profit from such social experiences" (p. 487). Bandura states that skills such as social judgements taught through modeling are no different than such judgements acquired, as Piagetian theory explains, through life experiences. From a social-learning perspective, teachers can influence the social judgements of children by modeling appropriate behaviors or with educational materials. Teachers can model problem-solving for children and can encourage appropriate help-seeking behaviors. They can also introduce the notion of social stigmatization and its impact in their classrooms.

It is interesting to consider that the greatest differences in beliefs about the mentally ill and the etiology of mental illness are between Grades 6-8, and Grade 12. This suggests that the greatest impact may be made by introducing mental health concepts as early as Grade 6. Moreover, the concepts may not be too difficult for them to comprehend. There were few differences in children of various ages concerning beliefs about the mentally ill.

If further research supports the relationship between belief in the sociological etiology of mental illness and positive coping behaviors, there will be great incentive to expose children to this model in early grades. Perhaps Grade 6 children who are exposed to social-learning etiology

of mental illness will hold more strongly positive beliefs when they are in Grade 12 than the Grade 12 students surveyed here. The development of a readiness to seek help when needed and a belief that one can attempt to understand and generate solutions to emotional problems may mediate the development of child psychopathology leading to adult syndromes (Maas, Marecek, & Travers, 1978; Reetz & Shemburg, 1985; Weiss, 1986). Exposing children early to social-learning etiology might also create future citizens who are more tolerant of fellow community members experiencing emotional difficulties. From such early education, these same future citizens might also develop political beliefs which would later facilitate development of community treatment for the mentally ill.

### **Directions for Future Research**

The current study leaves many questions to be answered through future research. More studies are necessary to gain a clearer understanding of the development of children's beliefs about the mentally ill and beliefs about the etiology of mental illness. If there are changes with age in beliefs about the etiology of mental illness, then it may be that there are also changes with age in beliefs about mental illness that have not been detected so far.

As discussed earlier, changes to the instruments used in this study may be indicated. Many children expressed frustration that they were not given the opportunity to be more specific in their responses. They felt limited by the options to agree or disagree. They could be given a more elaborate scale on which to respond to the adapted version of the Beliefs About the Mentally Ill Scale used in this study. Research in the area of scaling and measurement indicates that the use of multiple anchors on a response scale yields more meaningful data (Andrews, 1984). A five or seven point scale with a central anchor indicating a neutral response might yield more variation between age groups. This may be particularly important when the items contain ideas which are complex or which cause some equivocation on the part of the respondent.

Reliability tests of the adapted versions of the Beliefs About the Mentally Ill Scale and the MHLO Scale would be informative. These analyses would indicate the contributions of items to their respective subscales and to the total scale. This would permit modification or deletion of weaker items. In addition, a closer look at items which discriminate most powerfully between children of different ages might indicate the style of items which are most valid for specific age ranges.



The present study suggests that a few of the items on the adapted instruments may be vague and subject to misinterpretation. An example of such an item on the adapted Beliefs About the Mentally Ill Scale is "Spend more money to care for mentally ill people." Eighty-six percent of the children disagreed with this item. Anecdotal evidence revealed that some of the children interpreted the item to mean that we should spend more money on the mentally ill than on people who had other illnesses such as cancer. Others felt they could not respond to the item because they did not know how much money was currently being spent on the mentally ill. In contrast, only 14% of children agreed with another item that appeared to convey a similar idea. The item read "It is a waste to spend more money to care for mentally ill people." One is left to wonder about the meaning that participants attributed to these items.

With further scale development, it may be possible to design adaptations of the Beliefs About the Mentally Ill Scale and the MHLO Scale that will enable valid comparisons to be made between younger children and adults. In particular, it would be interesting to compare parents' and their children's beliefs about mental illness. Parents are another powerful socializing agent for children. Studies of the relationships between the beliefs of children and their parents might illuminate the contributions of parents to the

development of children's beliefs about the mentally ill. Specifically, it would be important to find out at what age children's beliefs begin to resemble their parents' beliefs. If parents' beliefs about the mentally ill are negative, it is likely that their children will develop the same negative beliefs. There may be a critical period when children have yet to pick up their parents' beliefs but are ready to learn about mental illness. There may be a period in adolescence when young people are ready to question their parents value system and may also be open to information disseminated through the schools.

As previously mentioned, the younger adult participants in an adult sample held more positive attitudes than older participants (Tefft, Segall, & Trute, 1988). One is left to question whether this is a cohort effect or an inter-generational change (Olmsted & Smith, 1980). A cohort effect would mean that younger people, having been exposed to different information and attitudes about mental illness, may have different beliefs than older people. They may carry these different beliefs with them so that their beliefs as they age will still differ from the older respondents of the Winnipeg Area Study (Currie, 1986a). However, one may also question whether or not change toward more negative views with respect to the mentally ill is an inevitable part of the aging process or part of life's

experiences. Longitudinal studies which monitor beliefs of individuals as they age might provide answers to these questions. However, Olmsted and Smith (1980) noted the comments made by one of the reviewers of their article. The reviewer raised the issue of "the likelihood that repeated use of the instruments materially affects response" (p. 191). To control for the confounding of "aging and period effects" (p. 191), the reviewer recommended both cross-sectional and longitudinal studies to address these questions.

More extensive tests of the Ajzen and Fishbein (1980) model with children would be important. Reetz and Shemburg (1985) did not use the appropriate design or analyses to test the relationships between children's beliefs, attitudes, and behavioral intentions. An improved study could investigate the relationship between beliefs about the etiology of mental illness, attitudes toward the mentally ill, and behavioral intentions regarding the mentally ill.

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## APPENDICES

### Appendix A

#### Letter of Permission

Dear Parents or Guardians:

I am a doctoral student in the Department of Psychology at the University of Manitoba. I am writing to inform you of the research that I plan to conduct in the school your child attends. I would like to request your permission to allow your son or daughter to participate in this research in the near future.

In order to learn more about how children develop their beliefs, it is necessary to conduct investigations. In order to understand the development of beliefs, children of various ages must be surveyed. Such information provides an understanding of how children develop their beliefs as they grow older, when children's beliefs come to resemble those of adults, and when is the most effective time to introduce teaching materials to children.

This study will examine children's beliefs about the mentally ill. The research will be conducted as a survey in

the classroom. Children will be asked to complete a questionnaire. The study will take approximately twenty minutes of classroom time. Children will be asked to indicate on questionnaires whether they agree or disagree with statements like these:

We need to be nicer toward the mentally ill.

The cause of mental illness is found in the brain.

Children's confidentiality will be protected. Their names will not be provided to the researcher on the questionnaires. The information gathered will not be used to examine the beliefs of individual children, but will be used to describe the beliefs of children in particular age groups. For example, the researcher will compare the beliefs of the group of grade six children to the beliefs of the group of grade eight children.

This study has been approved by the Superintendent's Department and the Research Ethics Committee, Winnipeg School Division No. 1. The Human Ethical Review Committee of the Department of Psychology at the University of Manitoba has also approved this investigation.

If you have any further questions about the study, please call either Deborah Gilman at 474-9338 or Dr. Bruce Tefft at 474-8708.

Please indicate whether or not you wish your son or daughter to participate by completing the permission slip below and returning it to the school by \_\_\_\_\_.

Yours sincerely,

Deborah A. Gilman  
Principal Researcher

Bruce Tefft, Ph.D.  
Faculty Sponsor  
Department of Psychology  
University of Manitoba

---

\_\_\_\_\_ Yes, I give my permission for my child  
to participate in the survey of beliefs about  
the mentally ill.

\_\_\_\_\_ No, I will not permit my child to participate  
in the survey of beliefs about the mentally  
ill.

---

Child's Name

---

Signature of Parent or  
Guardian

---

Date

Appendix BBeliefs About the Mentally Ill

Please indicate whether you agree or disagree with each of the following statements regarding the mentally ill. In cases where you don't completely agree or completely disagree, please give the answer that most reflects your feelings.

- |  | 1     | 2        | 3          | 4           |
|--|-------|----------|------------|-------------|
|  | Agree | Disagree | Don't Know | No Response |
| 1. As soon as a person shows signs of mental disturbance, he should be hospitalized. Do you agree or disagree? |       |          |            | _____       |
| 2. More tax money should be spent on the care and treatment of the mentally ill.                               |       |          |            | _____       |
| 3. The mentally ill should be isolated from the rest of the community.   |       |          |            | _____       |
| 4. Locating mental health facilities in a residential area downgrades the neighborhood.                        |       |          |            | _____       |
| 5. There is something about the mentally ill that makes it easy to tell them                                   |       |          |            |             |

- from normal people. \_\_\_\_\_
6. A woman would be foolish to marry a man who has suffered from mental illness, even though he seems fully recovered. \_\_\_\_\_
7. Increased spending on mental health services is a waste of tax dollars. \_\_\_\_\_
8. Having mental patients living within residential neighborhoods might be good therapy, but the risks to residents are too great. \_\_\_\_\_
9. Mental patients need the same kind of control and discipline as a young child. \_\_\_\_\_
10. We need to adopt a far more tolerant attitude toward the mentally ill in our society. \_\_\_\_\_
11. I would not want to live next door to someone who has been mentally ill \_\_\_\_\_
12. Residents should accept the location of mental health facilities in their neighborhood to serve the needs of the local community. \_\_\_\_\_

13. Local residents have good reason to resist the location of mental health services in their neighborhood. \_\_\_\_\_
14. Locating mental health services in residential neighborhoods does not endanger local residents. \_\_\_\_\_
15. Mental health facilities should be kept out of residential neighborhoods. \_\_\_\_\_
16. One of the main causes of mental illness is a lack of self-discipline and will power. \_\_\_\_\_
17. We have a responsibility to provide the best possible care for the mentally ill. \_\_\_\_\_
18. The mentally ill should not be given any responsibility. \_\_\_\_\_
19. Residents have nothing to fear from people coming into their neighborhood to obtain mental health services. \_\_\_\_\_
20. It is best to avoid anyone who has mental problems. \_\_\_\_\_



21. It is frightening to think of people  
with mental problems living in  
residential neighborhoods.

---

### Appendix C

#### Mental Health Locus of Origin

We would like to know your opinions concerning why some people develop psychiatric problems and others don't. In other words, what causes mental illness. Please respond to each of the statements I will read to you.

1	2	3	4	5	6	7
Strongly Agree	Neither	Disagree	Strongly	DK	NR	
Agree	Agree	Disagree				
	Nor					
	Disagree					

1. Eventually medical science will discover a cure for psychosis. \_\_\_\_\_
2. The cause of most psychological problems is to be found in the brain. \_\_\_\_\_
3. If the children of schizophrenics were raised by normal parents they would probably grow up to be mentally healthy. \_\_\_\_\_
4. Mental illness is usually caused by some disease of the nervous system. \_\_\_\_\_
5. Some people are born mentally unstable and are almost certain to spend some part of their lives in a mental

- hospital. \_\_\_\_\_
6. Most people suffering from mental illness were born with some kind of psychological deficit. \_\_\_\_\_
7. Some people are born depressed and stay that way. \_\_\_\_\_
8. Everybody's system has a breaking point and those of mental patients are probably weaker. \_\_\_\_\_
9. The mental illness of some people is caused by the separation or divorce of their parents during childhood. \_\_\_\_\_
10. Being hot-blooded is the cause of mental illness in some people. \_\_\_\_\_
11. More money should be spent on discovering healthy methods of child rearing than on determining the biological basis of mental illness. \_\_\_\_\_
12. Some people are born with the kind of nervous system that makes it easy for them to become emotionally disturbed. \_\_\_\_\_
13. Your choice of friends can have a lot to do with your becoming mentally ill. \_\_\_\_\_

14. Although they usually aren't aware of it, many people become mentally ill to avoid the difficult problems of everyday life. \_\_\_\_\_
15. Some people are born with a slightly greater capacity than others to commit suicide later in life. \_\_\_\_\_
16. Many normal people would become mentally ill if they had to live in a very stressful situation. \_\_\_\_\_
17. Mental health professionals probably underestimate the extent to which brain damage is responsible for mental illness. \_\_\_\_\_
18. When a group of people is forced to live under extremely stressful conditions, the ones who crack under the strain are likely to be the ones who inherited a psychologically weak disposition. \_\_\_\_\_
19. The kind of nervous system you are born with has little to do with whether you become psychotic. \_\_\_\_\_
20. The cause of many psychological problems is bad nerves. \_\_\_\_\_

Appendix DBeliefs About the Mentally Ill

These statements are about the mentally ill. Please show me if you agree or disagree. Give the answer that is closest to how you feel.

1	2	3	4
Agree	Disagree	Don't Know	No Response

1. A person looks like he may be mentally ill. We should put him in a hospital right away. Do you agree or disagree? \_\_\_\_\_
2. Spend more money to care for mentally ill people. \_\_\_\_\_
3. Keep mentally ill people away from normal people. \_\_\_\_\_
4. Mental hospitals are put in areas where people live. This ruins the area. \_\_\_\_\_
5. It is easy to tell the mentally ill from normal people. They look different. \_\_\_\_\_
6. A man was mentally ill. Now he seems fine. A woman should not

- marry him. \_\_\_\_\_
7. It is a waste to spend more  
money to care for mentally ill  
people. \_\_\_\_\_
8. It may be good for mental  
patients to live with normal  
people. However, this is too  
dangerous for the normal people. \_\_\_\_\_
9. Mentally ill people need to be  
controlled like young children. \_\_\_\_\_
10. We need to be nicer toward the  
mentally ill. \_\_\_\_\_
11. It would be alright to live next  
to someone who has been mentally  
ill. \_\_\_\_\_
12. People should allow mental  
hospitals in their neighborhoods.  
These centres would help all  
people. \_\_\_\_\_
13. People should fight against  
having mental hospitals in their  
neighborhood. \_\_\_\_\_
14. It is safe to put mental

- hospitals where people live. \_\_\_\_\_
15. Mental hospitals should be far  
from where people live. \_\_\_\_\_
16. Having no self-control is a main  
cause of mental illness. \_\_\_\_\_
17. We have a responsibility to  
provide the best possible care  
for the mentally ill. \_\_\_\_\_
18. It is wrong to give the mentally  
ill any responsibility. \_\_\_\_\_
19. People come into an area to get  
treatment for mental illness.  
Those who live there should be  
afraid. \_\_\_\_\_
20. Avoid anyone who has mental  
problems. \_\_\_\_\_
21. People with mental problems live  
where normal people live. This  
is scary. \_\_\_\_\_

Mental Health Locus of Origin

Why do some people have emotional problems? What causes mental illness? Please show me if you agree or disagree with these statements. Give the answer that is closest to how you feel.

1	2	3	4	5	6	7
Strongly Agree	Agree	Neither	Disagree	Strongly	DN	NR
	Agree			Disagree		
		Nor				
		Disagree				

1. Some day doctors will discover a cure for mental illness. \_\_\_\_\_
  
2. The cause of mental illness is found in the brain. \_\_\_\_\_
  
3. Mentally ill parents have children. Then these children are raised by normal parents. The children will likely be normal. \_\_\_\_\_
  
4. Mental illness is caused by a brain disease. \_\_\_\_\_
  
5. Some people are born with mental problems. They will likely spend time in a mental



- hospital. \_\_\_\_\_
6. Mentally ill people are born with  
some kind of emotional weakness. \_\_\_\_\_
7. Some people are born depressed.  
They will stay that way. \_\_\_\_\_
8. Normal people can only take so  
much stress. Mental patients can  
take less. \_\_\_\_\_
9. Some parents separate or divorce.  
This causes some of their children  
to become mentally ill. \_\_\_\_\_
10. Some people are easily upset. This  
causes them to become mentally ill. \_\_\_\_\_
11. Spend more money to find good ways  
to raise children. Spend less to  
find the physical cause of mental  
illness. \_\_\_\_\_
12. People's brains are not the same.  
Some brains make it easy to be  
mentally ill. \_\_\_\_\_
13. You pick your friends. Some  
friends cause you to be upset.  
This can cause you to become

- mentally ill. \_\_\_\_\_
14. Although they do not know it,  
many people become mentally ill to  
avoid their problems. \_\_\_\_\_
15. Some people are born more likely to  
commit suicide. \_\_\_\_\_
16. Some people live with much stress.  
This causes them to become mentally  
ill. \_\_\_\_\_
17. Brain damage causes much mental  
illness. However, mental health  
workers probably do not realize  
this. \_\_\_\_\_
18. A group of people is forced to live  
under much stress. The ones who  
can not take it are those born  
emotionally weak. \_\_\_\_\_
19. Your brain has a lot to do with  
your becoming mentally ill. \_\_\_\_\_
20. Bad nerves cause many emotional  
problems. \_\_\_\_\_

## Appendix E

First, here are a few questions about you. I would like to learn a little about the group of young people who will be helping me with my work. For example, I would like to know how many 13 year olds have filled out this survey. Some questions may be hard to answer. Please answer as best you can. Leave out any questions that you do not want to answer.

Please circle:

Your age?

```

 9 10 11 12 13 14
15 16 17 18 19

```

Your grade in school?

6      8      10      12

Male or female?

	M	F
1. Age		
2. Sex		
3. Education		
4. Income		
5. Marital status		
6. Religion		
7. Ethnicity		
8. Health status		
9. Employment status		
10. Social network		
11. Life satisfaction		
12. Mental health		
13. Physical health		
14. Quality of life		
15. Overall well-being		

Where do you live?

house      apartment      \_\_\_\_\_

What job does your mother (stepmother, foster mother, ...) do?

What job does your father (stepfather, foster father, ...?)  
do?

What is your ethnic background? (Native, Ukrainian, French Canadian ...?)