

SOCIAL COGNITION AND STIGMATIZATION OF MENTALLY DISABLED  
PERSONS: COMPETING MODELS OF SCHEMA CHANGE

by

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A thesis submitted to  
the Faculty of Graduate Studies  
in partial fulfillment of  
the requirements for the degree of  
Doctor of Philosophy

Department of Psychology  
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A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

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## ABSTRACT

The general public has long held stigmatizing stereotypes of mentally disabled persons. Several investigators (e.g., Crocker, Fiske, & Taylor, 1984; Weber & Crocker, 1983) contend that, in order for stereotypes to change, the social schemas in which stereotyped social knowledge is represented must change. Three models of schema change (Conversion, Bookkeeping, Subtyping) have been suggested (Crocker et al., 1984). Each model makes different predictions for schema change based on the pattern, amount, and salience of stereotype-inconsistent information.

A pretest and two experiments comprised the current study. Pretest information was used to construct the stimulus materials for Experiments 1 and 2. The first experiment determined (a) which schema-change model most accurately reflects change in stereotypes about mentally disabled persons, and (b) the degree to which stereotype-inconsistent information influences social rejection of mentally disabled persons. The second experiment determined (a) the differential effects of extremely and moderately salient stereotype-inconsistent information on stereotypes about mentally disabled persons, and (b) the degree to which the salience of the stereotype-inconsistent information influences social rejection of mentally disabled persons.

Participants were 266 members of service and

fraternal organizations. They received stereotype-inconsistent information about mentally disabled persons which varied in amount, pattern, and salience. They then completed questionnaires to rate mentally disabled persons for stereotypical features.

The bookkeeping and conversion models of schema change were supported. Participants who received either the largest amount or the most salient stereotype-inconsistent information demonstrated the most stereotype change. Social rejection did not decrease with stereotype change. Thus, negative stereotypes may change when the public is exposed to many mentally disabled individuals who dramatically disconfirm those stereotypes, but social rejection will not necessarily decrease.

The need for research to identify the incentives and penalties that would encourage stereotype change and social acceptance is discussed.

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## INTRODUCTION

Stigma is a greek word for marks or symbols that in ancient times were placed on individuals to denote that the wearers had committed heinous crimes, were slaves, or were otherwise socially unacceptable (Goffman, 1963). The presence of stigmata signaled to observers that the stigmatized were somehow different by virtue of possessing undesirable characteristics. In modern times, the concept of stigma has been used to refer to disgracing conditions, actions, and characteristics (Goffman, 1963). For example, physically handicapped persons, mentally disabled persons, developmentally disabled persons, and members of visible minorities have been considered inferior, abnormal, and undesirable by others without such attributes. As Katz (1979) has commented, stigmatization is a process "whereby those who do not possess a certain attribute denigrate individuals who do, exercise various forms of discrimination against them, and construct a stigma theory to explain their inferiority and account for the danger they represent" (p. 449).

During the past three decades the general public has been found to hold stigmatizing attitudes toward mentally disabled persons (Rabkin, 1972, 1974, 1980; Segal, 1978). Early research, such as that by Cumming and Cumming (1957) and Nunnally (1961), suggested that the general public feared, avoided, rejected, and disliked mentally disabled



persons. Moreover, the public felt that they were dangerous and unpredictable. However, these early studies also concluded that the public could not accurately identify disturbed behavior and had inaccurate impressions regarding the course and treatment of mental disorders (Rabkin, 1980). It was further noted that certain social groups, such as those who were better educated and those who had experience with mentally disabled persons, had less stigmatizing attitudes than other social groups (Rabkin, 1974).

Efforts were made in the 1950's and the 1960's to educate the public about mental disability and mentally disabled persons, as increased knowledge was hypothesized to lead to greater acceptance (Farina & Fisher, 1984; Rabkin, 1974, 1980; Sarbin & Mancuso, 1970). By the 1980's, many researchers conceded that public attitudes toward mentally disabled persons had become somewhat less stigmatizing, but had not improved to the extent that many had hoped (Brockman, D'Arcy, & Edmonds, 1979; Rabkin, 1980; Tefft, Segall, & Trute, 1987).

Stigmatization has been a concern of mental health professionals because of the harmful impact negative attitudes have on help-seeking, treatment outcome, and political decisions (e.g., appropriation of resources) regarding mentally disabled persons. Negative attitudes limit the full participation of mentally disabled persons in society and their access to rights and responsibilities

enjoyed by those who are not disabled. This can occur by making it difficult to obtain housing (Page, 1983) and employment (Farina, 1981), as well as by negatively influencing public funding decisions for mental health services and the development of treatment facilities (Dear & Taylor, 1982; Smith & Hanham, 1981; Tefft et al., 1987).

Stigma has remained a serious problem for mentally disabled persons despite public education programs. Negative, stigmatized public attitudes toward mentally disabled persons are not simply based on a lack of information. Therefore, an educational approach to the problem has not been successful. There have been concerns that reports of decreasing stigmatization were overstated and were only methodological artifacts (Brockman et al., 1979; McPherson & Cocks, 1983). For example, Brockman et al. (1979) examined data collection procedures and researcher affiliation in 22 attitude studies published since the early 1950's. They found that studies conducted by medical personnel reported positive and/or improved attitudes toward mentally disabled persons, whereas studies conducted by sociologists and psychologists reported negative attitudes. Moreover, the studies reporting positive or improved attitudes used closed-ended interview techniques to collect data. In contrast, studies reporting negative attitudes employed open-ended interview techniques or self-report questionnaires. Brockman et al. suggested

that participants may have responded with positive attitudes during personal interviews in order to appear socially acceptable to the interviewers. Participants who responded anonymously to self-report questionnaires, on the other hand, would not have felt the pressure of demand characteristics and, thus, reported negative attitudes without compunction.

One promising alternative to traditional attitude measurement in studying stigmatization is social cognition. This alternative has rarely been used to study stigmatization of mentally disabled persons. However, stigmatization of racial minorities and women has been studied extensively using concepts from social cognition and information processing theory (Fiske & Taylor, 1984). These approaches have provided useful information regarding the formation and maintenance of negative attitudes toward social groups, and have suggested ways to change such attitudes.

The present literature review has two purposes: (a) to explain the etiology of stigmatization of mentally disabled persons in terms of social cognitions, perceptions, and behavioral expectancies; and (b) to provide a rationale for an investigation of cognitive changes associated with reductions in stigmatization and stereotyping of mentally disabled persons.

## Stigma and Social Cognition

Social cognition is "the study of how people make sense of other people and themselves" (Fiske & Taylor, 1984, p. 1). Social cognition is a field of research in which attitudes, stereotypes, group behavior, and self-concept have been examined using research paradigms, hypotheses, and measures from cognitive psychology (Taylor, 1981a). Cognitive psychology is the general study of how people learn, form concepts, solve problems, remember, and reason. Social cognition is the particular study of how people do these things with regard to people. Social cognition is a relatively new area of interest in psychology, although several authors have commented that there has always been an emphasis on cognition in social psychology (Fiske & Taylor, 1984; Forgas, 1983; Markus & Zajonc, 1985; Ostrom, 1984; Taylor, 1981a).

The conceptual cornerstone of social cognition is the metaphor of the mind being similar to a computer. Complex, computer-based models of human thinking and cognition have been proposed (e.g., Wyer & Srull, 1986). Most models contain the three basic cognitive operations of attention, encoding, and retrieval (Stephan, 1985). Information is thought to (a) enter the cognitive system through attentional processes, (b) become stored in memory through encoding processes, and (c) be remembered through retrieval processes.

The computer analogy led to an emphasis on how social information gleaned from the environment was represented and how it was processed, stored, and retrieved, for the purpose of inference, attributions, judgement, evaluation, and other forms of cognitive operations (Markus & Zajonc, 1985, p. 141).

Social cognition research usually takes place in the laboratory, where researchers attempt to replicate social phenomena such as racial discrimination, sex role stereotyping, and other group interactions. Cognitive measures such as reaction time, eye movements, recall, and recognition are used to evaluate the internal thought processes that influence social interactions. For example, Langer, Fiske, Taylor, and Chanowitz (1976) used duration of staring to measure the impact of physical attractiveness on attention and subsequent rejection of physically disabled persons. Fiske & Taylor (1984) described the basic problem in this research as finding "observable traces of the nonobservable processes" (p. 306).

#### The Cognitive Miser

The predominant model of the human cognitive system is that of the "cognitive miser" (Fiske & Taylor, 1984; Markus & Zajonc, 1985). This model conceptualizes the human cognitive system as inaccurate, limited in capacity, and overwhelmed with input. During the course of making judgments and inferences, social perceivers are thought to gather pertinent information from the environment, sample

relevant data, and choose which data to use. They then integrate the selected information and eventually make judgments, evaluations, and predictions (Fiske & Taylor, 1984). There are potential hazards or biases throughout the process that may lead to incorrect inference.

Individuals are thought to make sense of the world and solve problems in the most speedy, efficient manner possible, whether or not they consider all available data, or all the judgments reached are accurate. Fiske and Taylor (1984) have described the human cognitive system as "marked by willingness to use strategies that move information through the system quickly rather than thoroughly" (p. 247). This cognitive system is adaptive in many respects. Processing a great deal of information quickly, if inaccurately, is more functional than slowly and accurately processing less information. In terms of survival, it would have been more adaptive for a social group to "shoot first and ask questions later," than to find out as much information as possible about another social group to determine whether or not they were hostile or dangerous. Quick thinkers would be more likely to survive than slow, deliberate thinkers.

#### Stereotyping and Normative Social Cognition

The cognitively-based research that has been carried out on prejudice, stereotyping, and person perception is very pertinent to stigmatization. As Jones, Farina,

Hastdorf, Markus, Miller, and Scott (1984) have stated, "stereotyping is at the heart of the stigmatization process" (p. 155). A stereotype is an overgeneralized and incorrect view or belief regarding a particular social group that is held by a wide array of members of society (Ashmore & Del Boca, 1981; Jones et al., 1984; Stephan, 1985).

Stereotyping is a cognitive process that enables the individual to deal efficiently with the enormous amount of social information in the environment. It is a normative by-product of human social cognition. Stereotyping results from (a) the inability of the human cognitive system to deal with the enormous amount of information in the environment and (b) the tendency of individuals to form representations, and to store and retrieve social information efficiently, with little concern for accuracy. Stereotyping is neither inherently bad nor good. Stigmatization occurs when the attributes, characteristics or specific content of the stereotype result in rejection and devaluation of the individual members of the social groups in question.

Fiske (1989) cautions, however, that it is scientifically incorrect and socially irresponsible to assume that the normative and adaptive nature of stereotyping means that social perceivers are unable to change their stereotypes. Fiske (1989) contends that social perceivers exercise intent when they continue to stereotype in the face of evidence that contradicts social stereotypes.

In order to change their prejudices, social perceivers must choose between thinking stereotypically about members of stereotyped groups and evaluating members of stereotyped groups with individually-based information. Fiske (1989) holds that thinking stereotypically is an easier alternative for the social perceiver, but it is not the only alternative.

The cognitive miser model leaves no room for the influence of emotion or affect in human cognitive processing. Researchers have eschewed these concepts in order to "parsimoniously explain all the variance [in human social behavior] in cognitive terms without invoking such concepts as motives, values, emotions, goals, incentives, fears, or rewards" (Markus & Zajonc, 1985, p. 214). The computer analogy raised hopes that cognitive processing and, by extension social behavior, could be understood as lawful and predictable. This possibility did not appear imminent in research which emphasized motivational dynamics and emotions (e.g., Festinger's (1957) cognitive dissonance theory) as determinants of cognitions, perceptions, and behavior.

Markus and Zajonc (1985) have criticized the "cold" information processing models of social cognition for disregarding "hot" factors like affect. They argue that almost all perceptual and cognitive events are evaluative in nature. It is particularly true when people and their



behavior are the targets of perception. This has direct relevance to stereotyping, according to Markus and Zajonc. They state "It is not possible to view a social object or a social act without at the same time making an assessment on dimensions closely corresponding to good/bad, pleasant/unpleasant" (p. 210).

This points out an important difference between social cognition (e.g., the perception of people and social acts) and nonsocial cognition (e.g., the perception of simple sensory stimuli). The occurrence of evaluation and affect in social cognition implies a relationship between the perceiver and the social object or act that is not as frequently present in nonsocial cognition. According to Markus and Zajonc (1985), in order to understand social cognition in general, and stereotyping in particular, it is necessary to consider the perceiver, the object being perceived, and the relationship between the two.

Markus and Zajonc (1985) have recommended a "warm" view of cognition as an alternative to solely motivation or solely information processing models of social cognition and behavior. This "warm" alternative is an amalgam of motivational and information processing theories. One example can be seen in Greenwald's (1980) argument regarding the ego as an organization of knowledge. Greenwald argues that the ego, totalitarian societies, and scientific theories are all knowledge structures. Moreover, Greenwald

contends that they can be accounted for, and are maintained by, cognitive biases found in both motivational and information processing models of social cognition. For example, Greenwald points out the similarities between historical revisionism and individual fabrication of memory demonstrated in social cognition research. Both, according to Greenwald, can be understood by examining cognitive biases such as confirmatory hypothesis testing and cognitive conservation, as well as needs for positive self-esteem.

Social cognition researchers believe that the formation and maintenance of stigmatizing stereotypes can be accounted for, in large part, by the cognitive operations of attention, encoding, and retrieval. Each of these operations will be discussed next in terms of their relevance to stereotypes of mentally disabled persons. They are distinctly "cold" information processing concepts. However, it can be argued that there is an evaluative component to stereotyping others as members of stigmatized social groups. The following discussion will attempt, as Markus and Zajonc (1985) have suggested, to explain stereotyping using an approach "that makes room for the interplay of purely informational processes with those deriving from social factors" (p. 214).

#### Stereotype Formation

It is difficult to pinpoint developmentally when

stereotypes about social groups begin to form. Even very small children have beliefs about phenomena like health and illness (Bibace & Walsh, 1980). However, most of the social cognition research relevant to stereotype formation has been conducted with adults. The present discussion will concentrate on the influence of attentional and encoding processes in stereotype formation in adults.

### Stereotype Formation and Attention

The environment provides the perceiver with countless stimuli. Only a small amount of this information can be processed by the human cognitive system (Fiske & Taylor, 1984). Attention is a cognitive operation in which information to be processed is selected. It is an important operation in terms of stereotype formation, because people need to notice a group in order to form a stereotype of it.

In the area of intergroup relations, attention processes are germane to the processing of information in intergroup interactions, particularly who is attended to, the inferences that will be made about the behavior of others, what prior knowledge is considered pertinent (especially whether expectations based on stereotypes are elicited), what types of processing are performed on the information that is attended to, what will be encoded and stored in memory, and what behavioral responses are likely to be made (Stephan, 1985, p. 601).

### Saliency, Vividness, and Attention

Attentional processes related to stereotype formation have been described as automatic or passive. This means that they are not consciously controlled by the social

perceiver (Stephan, 1985). The automatic or passive selection of information about others in the environment is thought to be dependent upon situational variables such as stimulus salience and vividness (Markus & Zajonc, 1985; McArthur, 1981). Salient and vivid stimuli are more likely to receive attention than non-salient stimuli (Markus & Zajonc, 1985). They are also more likely to be remembered (Rothbart, 1981). Bizarre, novel, or unexpected characteristics and behaviors are highly salient. The social perceiver is likely to attend to these characteristics in others (McArthur, 1981; Stephan, 1985). This was demonstrated in a study by Langer et al. (1976). They found that subjects who did not know they were being observed stared longer at people who were novel or unusual, such as physically disabled persons, than at people who were not novel.

Social-demographic and personal characteristics of mentally disabled persons influence the extent to which they are salient and, as a result, subsequently stigmatized. For example, mentally disabled women are less prone to be stigmatized than are mentally disabled men (Farina, 1981; Farina, Felner, & Boudreau, 1973; Linsky, 1970; Rabkin, 1974, 1980). This may be related to the tendency to view women as less prone than men to violent and unpredictable behavior. Mentally disabled members of ethnic minorities are also more likely to be stigmatized (Linsky, 1970; Meile

& Whitt, 1981; Rabkin, 1974), particularly if the individual belongs to a low status minority, or if the individual has few social ties to the community. Mentally disabled individuals who lack social ties (e.g., friends, or membership in community or social groups) are more salient because they are less familiar. Involvement with others provides information useful in predicting future behaviors. An unfamiliar mentally disabled person is more distinctive due to being unknown, and more likely to be viewed with fear and suspicion. People who are familiar are less likely to be stigmatized.

The behavior or symptomology of mentally disabled persons also has been noted as a factor in stigmatization (Nieradzik & Cochrane, 1985; Rabkin, 1974, 1980; Segal, 1978). Highly visible, deviant behaviors such as hearing voices, phobias, and violence are thought to be more stigmatizing than depression, withdrawal, or physically-oriented symptoms such as headaches.

Rabkin (1974) has summarized the influence that personal characteristics of mentally disabled persons have on subsequent expressed stigmatizing public attitudes by stating, "If investigators wished to maximize public aversion to a case description, the person would be described as male, lower class, probably black, violent, hearing voices, showing bizarre behavior, and lacking social ties within the community" (p. 20). Such an individual

would be highly salient and his image would be readily available in the public's cognitive system. He would not be representative of the majority of mentally disabled individuals, however, as the majority would be unlikely to draw the public's attention.

The availability heuristic. Violent and bizarre behavior in individuals labeled as mentally disabled, and use of the insanity defense by individuals prosecuted for crimes against people or property, are often highly publicized. Such accounts lead to erroneous beliefs that mentally disabled persons, as a group, are dangerous, unpredictable, and not accountable for their actions (Matas, el-Guebaly, Peterkin, Green, & Harper, 1985; Rabkin, 1974, 1980). This occurs because the frequent pairing of a social group with particular characteristics or behaviors makes it difficult to not think of the group without also thinking of the associated attributes. This is an example of the availability heuristic, which has been discussed at some length by Tversky and Kahneman, (1973).

The availability heuristic is a cognitive shortcut used to simplify probability estimation. "A person is said to employ the availability heuristic whenever he estimates frequency or probability by the ease with which instances and associations could be brought to mind" (Tversky & Kahneman, 1973, p. 208). Under most circumstances, the availability heuristic will result in accurate judgments, as

events that come easily to mind usually do occur frequently. For example, persons who look and behave like lawyers usually are lawyers (Sherman & Corty, 1984). The availability heuristic saves time because people do not need to examine all possible evidence to arrive at a probability estimate.

Errors in judgement occur when the ease with which instances and associations are available is due to factors unrelated to actual chance or frequency. Salience and vividness, which are unrelated to frequency, can lead to errors in availability-based judgements. This is because salient and vivid stimuli are easy to recall, independent of how often they occur. Mentally disabled persons are rarely portrayed in the media engaging in normative behaviors, occupations, and lifestyles. The media focus on bizarre, sensational behavior insures that the public's most readily available information about mentally disabled persons is likely to be negative.

#### Stereotype Formation and Encoding

After environmental stimuli draw attention, they are entered into the cognitive system for further processing. Encoding is a cognitive operation in which selected information from the environment is transformed into a meaningful and manageable form and then stored in memory (Rothbart, 1981). It is an extremely complex operation that

provides the social perceiver with the necessary materials for thinking, problem solving, and making inferences. It also provides the social perceiver with the raw materials for forming social stereotypes.

When social information is encoded, it is altered so that an abstract representation of the stimuli is stored in memory instead of the original stimuli.

Encoding transforms the external stimulus into an internal representation. Immediately, some details are lost, others altered and still others are fabricated. Such inferences are stored along with the raw data and become indistinguishable from them (Fiske & Taylor, 1984, p. 184).

It may seem to people that their perceptions are carbon copies of what exists in the environment. This is not so, according to the tenets of social cognition. The social perceiver is thought to actively construct reality, not passively record the world like a video camera. This active view of the social perceiver was borrowed from the work of Gestalt psychologists.

Encoding is instrumental in the development of stereotypes and stigma because of the way information about social groups is altered as it is stored in the cognitive system. Cognitive structures involved in encoding, such as categories and schemas, have been linked to stigmatization of social groups. These structures will be discussed in turn, with regard to their relevance to mentally disabled persons.

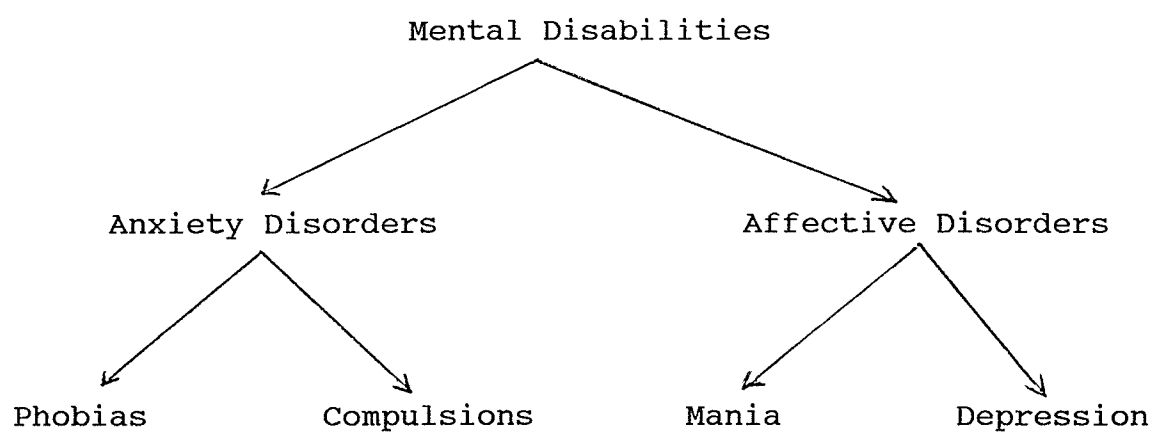


### Categories

One means of reducing the enormity and complexity of incoming information is to organize people and objects into groups or categories (Cantor & Mischel, 1979). Categorization is a process in which people or objects are grouped together based on perceived similarities of appearance or function. For example, chairs, tables, and beds, while distinct entities, can all be categorized as furniture, as they share the attributes of similar function and construction. People can be categorized on a number of attributes, such as ethnicity, age, appearance, socioeconomic status, personality characteristics, and behavior (Jones et al., 1984). Fiske and Taylor (1984) conceptualize categories as organized in hierarchies. The lower levels of categorical hierarchies contain the most specific information about the category. Figure 1 shows how a categorical hierarchy of mental disabilities could be organized.

Categorization of people into like-groups is a phenomenon that pervades social perception. It is highly functional, in that it helps the social perceiver make sense of the world and anticipate the behavior of others. For example, knowing that someone is a white, male, Baptist from the southern U.S. provides many clues regarding that person's likely political beliefs, social attitudes, and recreational habits. A prototype is the most typical

Figure 1. Categorical hierarchy of mental disabilities.



exemplar of a category member. There are commonly held prototypes for person categories such as genius, extrovert, and schizophrenic (Cantor & Mischel, 1979; Fiske & Taylor, 1984). For example, a prototypical white, male, southern Baptist is often portrayed as a bigoted, politically conservative person who would frown upon drinking alcohol and dancing. Figure 2 shows how a prototypical mentally disabled person could be categorized using attributes mentioned by Rabkin (1974).

Prototypes are used to judge how well a particular object or person fits into preconceived categorical notions. Very few objects or persons have all the attributes or characteristics of a category prototype. Category members may vary in the degree to which they match the prototype (Cantor & Mischel, 1979; Lingle, Altom, & Medin, 1984). For example, a prototypical athlete is often portrayed as a large male with limited intellectual interests. However, female gymnasts and welter-weight boxers are also athletes.

One consequence of categorizing individuals is that they are often accorded the attributes of a category prototype, whether or not they exhibit all attributes of the category. For example, former U.S. president Jimmy Carter is a white, male, Baptist from Georgia, yet he does not match the category prototype because he is politically liberal and presents himself as non-racist. Similarly, some mentally disabled individuals behave oddly, but do not

Figure 2. Prototypical category of a mentally disabled person.

Mentally Disabled Person

Dangerous

Bizarre

Violent

Aggressive

Hallucinates Isolated

murder or hear voices.

Stigmatization is a possible consequence of categorization (Jones et al., 1984). The salience of personal characteristics or situational variables influence how a particular individual will be perceived and categorized by others. Hamilton (1979) has contended that any stigma represents a highly salient cue that can be used to categorize. According to Jones et al. (1984), people are seldom perceived by others in terms of more than one category at any given time. Viewing individuals as members of a single category can be problematic when the category has culturally-determined negative connotations such as mental patient.

Research by Fiske and Neuberg (1989, 1990) indicates that motivational and affective factors can influence people to evaluate members of stereotyped groups using individually based, as opposed to category-based information. Subjects were led to believe that they would be rewarded for the outcome of a task they completed with a former psychiatric patient. Subjects who were told that their compensation was dependent upon their and the patient's joint effort rated the patient more positively than subjects whose compensation was dependent on their effort alone. Fiske and Neuberg (1989) concluded that dependency on a former psychiatric patient for compensation caused subjects to rate the patients more positively, as well as evaluate the former

patients more accurately using individually-based information.

The ingroup-outgroup bias. In addition to categorizing on the basis of personal and demographic characteristics, there is a well-documented tendency for people to categorize others as either being like them (the ingroup) or unlike them (the outgroup) (Stephan, 1985; Tajfel & Turner, 1986; Wilder, 1981). Moreover, people negatively evaluate those they categorize as being in the outgroup (Dovidio, Evans, & Tyler, 1986; Locksley, Ortiz, & Hepburn, 1980; Taylor, 1981b; Wilder, 1981). This is called the ingroup-outgroup bias and is an example of the interplay between evaluative, emotional factors, and cognitive processes.

The ingroup-outgroup bias has been demonstrated in the laboratory even when the distinctions between the groups were arbitrary and the groups were not in competition (Stephan, 1985). According to Tajfel and Turner (1986), arbitrary categorization of research participants into competing groups has repeatedly resulted in stigmatization of one group by the other. This suggests mentally disabled persons may be negatively evaluated by non-mentally disabled persons, simply by virtue of their categorization into an outgroup.

Assimilation and contrast. One result of categorization is to emphasize similarities between objects or persons within the category while heightening differences

between categories (Cantor & Mischel, 1979; Stephan, 1985; Taylor, 1981b). Assimilation and contrast are two biases associated with ingroup-outgroup phenomena. Assimilation refers to the tendency to perceive greater within-category similarity than actually exists. Contrast refers to perceiving greater between-category differences than actually exist. According to Stephan (1985):

Assimilation and contrast lead to distortions in the processing of information about social groups that facilitate the formation of stereotypes, promote negative attitudes between groups, facilitate the generation of inappropriate expectations, lead to the dehumanization of outgroup members, and hinder attempts to change stereotypes (p. 611).

Assimilation leads to the perception that members of a social group do not differ from one another. Each group member is perceived to possess the same defining group characteristics as other group members. Perceived within-group homogeneity may also lead to the assumption that individual characteristics can be generalized to the group. In terms of stereotype formation, this means that well-publicized accounts of bizarre and violent behavior of a mentally disabled individual may lead to the assumption that mentally disabled persons are, as a group, bizarre and violent.

Contrast, on the other hand, leads to the perception that social groups differ greatly from one another. Negative stereotypes of mentally disabled persons may be formed through an interaction between contrast and the

normative tendency to evaluate outgroup members negatively. Stephan (1985), citing evidence from a study by Hensley and Duval (1976), has suggested that as the perceived differences between groups increase, dislike for the outgroup increases. Hensley and Duval (1976) found that, as the opinions of two groups became increasingly divergent, the attitudes of one group toward the other became increasingly negative. In contrast, the attitudes of group members toward one another became more positive. Other research has demonstrated that stigmatization of mentally disabled persons increases as the deviancy of symptoms and behavior increases (Rabkin, 1980). This may be an example of how dislike for the outgroup is influenced by the degree of perceived differences between people and those they consider to be in outgroups.

Affect can also influence ingroup-outgroup relations. Stephan and Stephan (1985) have noted that, when ingroup members anticipate negative consequences of interaction with outgroup members, they are more likely to attend to information that confirms their negative expectations of outgroup members. Stephan and Stephan (1985) contend that the expectation of negative consequences such as embarrassment, danger, or exploitation leads to anxiety in outgroup members. The resulting anxiety causes outgroup members to simplify their information processing so that stereotype-inconsistent information will be ignored.



### Schema-Driven Encoding

While categorization serves to organize perceptual events into like-groups, schemas provide the structure on which most cognitive processing is based. A schema is a cognitive structure that is thought to organize knowledge. Categories are cognitive structures that can be thought of as the building blocks of schemas. For example, categorization processes would provide the information that a large, brown, four-legged animal in your campsite was a bear. Schematic processes would link the word "bear" to your perceptions, memory, ideas, and subsequent actions (Fiske & Taylor, 1984).

Schemas can be conceptualized as theories persons hold about knowledge and information. "According to schema theories, all [emphasis added] knowledge is packed into units. These units are schemata. Embedded in these pellets of knowledge is, in addition to the knowledge itself, information about how this knowledge is to be used" (Rummelhart, 1984, p. 163).

The social cognition literature is quite vague regarding the origins of schemas. They presumably develop as a person learns language and become increasingly detailed over the life span (Hamilton, 1981; Markus & Zajonc, 1985). By adulthood, people have schemas for a vast number of concepts, including persons, events, and groups (Fiske & Taylor, 1984).

A typical schema for a politician, for example, contains the general belief that they are untrustworthy, self-serving, and ingratiating, but also sociable and outgoing. The schema contains knowledge about what information would be congruent (his smile is not to be trusted). By implication, it defines what would be incongruent (he avoids crowds) and what would be irrelevant (whether or not he likes fried clams) (Fiske & Taylor, 1984, p. 141).

Similarly, a stereotypical schema for mentally disabled persons could contain the general belief that they are dangerous, unpredictable, and violent, but also creative. The schema could also contain knowledge about what information would be congruent (they behave oddly). By implication, it would define what would be incongruent (they hold responsible jobs) and what would be irrelevant (they prefer domestic cars).

Implicit personality theories. Schemas are used to evaluate people and infer their personality characteristics. In this capacity, they are known as implicit personality theories. Hamilton (1979) contends that both implicit personality theories and stereotypes can be viewed as schemas. Like schemas, both serve to structure how information about individuals or groups is processed. According to Markus and Zajonc (1985):

If information about a shy or withdrawn person is processed with the label of "mental patient" the feature of shyness is likely to be seen as diagnostic of mental illness, and it is unlikely that it will be encoded separately (p. 158).

Schematic influence on perceptions of others was demonstrated in a study by Langer and Abelson (1974).

Psychotherapists were asked to view a videotape of two men talking with one another. Half of the therapists were told the tape was of a psychiatric interview, while the others were told that the tape was of a job interview. The therapists were then asked to evaluate the interviewee's behavior and personality. Subjects who were given the psychiatric interview instruction saw the interviewee as more maladjusted than the subjects given the job interview instruction. They also provided distorted background information about the interviewee consistent with a psychopathological schema. It is as if schemas determined the content of the perception of the interviewees' behavior. These findings suggest that the therapists' perceptions were shaped to conform with their prevailing implicit personality theories regarding mentally disabled persons. They also suggest that an individual who encounters someone known to be mentally disabled may perceive the other's innocuous behavior as unusual or bizarre. This, in turn, could lead to stigmatization of mentally disabled persons because of perceived "unusual" behavior.

Fiske (1982) theorizes that affect related to a stigmatized social group may be stored with the schema for that group. The affect is somehow activated when the category label is presented, and influences further evaluation of category members.

### Illusory Correlation

Illusory correlation is an encoding bias that has been termed an error in assessing the co-variation between two variables (Taylor & Crocker, 1981). Forming correlations between persons, objects, and events is a means of predicting and understanding what happens in the environment. For example, since it frequently rains when it thunders, associating thunder with the possibility of rain is functional. It can prevent a person from getting wet. A stereotype can be defined as a perceived correlation between groups and certain characteristics, attributes, and behaviors that is based on an inaccurate perception of the frequency of co-occurrence (Pettigrew, 1981). The normative process of forming associative relationships can have a disastrous and long-term impact when mentally disabled persons are associated with negative, unpopular characteristics and behavior that have little base in reality.

Hamilton (1981) has stated that an illusory correlation begins with the encoding of social information. People cannot encode all information in the environment. They attend most to events that occur, as opposed to events that do not occur. Moreover, they are more likely to attend to events that are salient and distinctive. For example, people are more likely to notice the unusual behavior of a mentally disabled person, as opposed to the absence of

unusual behavior in a mentally disabled person. As a result, their fund of information regarding mentally disabled persons is not representative of the range of behaviors and characteristics that can be exhibited by mentally disabled persons.

Biased encoding and the normative tendency to better remember salient information make it difficult for the social perceiver to judge accurately the degree of association between an attribute and an individual (Hamilton, 1981). Over time, people develop expectancies regarding attributes, behaviors, and group memberships that further bias their attention, encoding, and recall.

Normally, the general public does not have many encounters with mentally disabled individuals. When encounters occur they are salient and distinctive. The exhibition of negative, undesirable, or socially inappropriate behaviors in mentally disabled persons is distinctive. A mentally disabled person who behaves inappropriately is providing the general public with ample evidence to form an illusory correlation (Hamilton, 1981). McArthur (1981) has stated that "individuals who attract attention are rated extremely, are better remembered, and are likely to be assigned a collar of responsibility for their behavior" (p. 207). Members of the general public would be likely to over-estimate the chance that a mentally disabled person would behave inappropriately in future

encounters. This supposition is supported by the studies of Hamilton and Gifford (1976), Hamilton and Rose (1980), and Hamilton, Dugan, and Trolier (1985), which consistently demonstrated the presence of illusory correlations in participants' evaluations of outgroup members.

### Stereotype Maintenance

The cognitive structures and processes associated with stereotype formation have also been linked to the maintenance of negative group stereotypes. Once information is encoded in the cognitive system, retrieval processes make the information accessible. One precursor of retrieval is attention, and both processes must be considered in stereotype maintenance.

### Stereotype Maintenance and Attention

Attentional processes related to stereotype maintenance have been described as active or controlled by the social perceiver (Stephan, 1985). The active selection of information about others in the environment is thought to be dependent upon schematic knowledge and expectancies that result from that knowledge. Once a stereotype is formed, schematic knowledge and expectancies direct the perceiver's attention to information that maintains the stereotype.

### Behavioral Expectancies and Confirmatory Hypothesis Testing

The development of schemas and categories for social groups leads to expectancies about how these groups will appear and behave. Expectancies, in turn, can bias the way subsequently presented information about the groups receives attention (Stephan, 1985). Once stereotypes are established, people are likely to attend to environmental information that confirms their expectancies. Taylor, Fiske, Etcoff, and Ruderman (1978) found this to be the case in sex-role stereotypes. Subjects were presented with tape recordings and accompanying photographic slides of the speakers. Each role presented on the tape was narrated by both a male and a female in different experimental conditions. Male speakers were judged to be more self-assured, logical, and persuasive than females, independent of the roles they portrayed on the tape recordings. These findings were likely the result of gender schemas, which caused the subjects to have different expectancies for male and female behavior, and to attend selectively to confirming evidence. Similar findings have been reported in studies of racial stereotypes (Duncan, 1976). Stigmatization of mentally disabled persons may be perpetuated by people selectively perceiving confirming evidence of unusual, bizarre behavior.

Expectancy-congruent behavior in others does not need to be present in order for an individual's expectancies to

be confirmed (Miller & Turnbull, 1986). This was demonstrated in a study by Darley and Gross (1983). They presented subjects with a videotape of a child performing an academic task. Half of the group was told that the child came from a low socioeconomic background. The other subjects were told that she came from a high socioeconomic background. The subjects who were told the child came from an upper class background rated her abilities as being above her current grade level. Subjects who were told the child was from a lower class background rated her abilities as being below her current grade level. Moreover, each group referred to evidence from the same videotape to support their ratings. This suggests that even ambiguous evidence about mentally disabled persons can be construed by the public as confirming their stereotypes.

The ultimate attribution error. What happens if a perceiver is faced with an individual whose behavior or personality characteristics violate the perceiver's expectancies? Expectancy-inconsistent behavior is likely to be labeled and evaluated in a fashion consistent with the perceiver's schemas (Miller & Turnbull, 1986). This is due to a phenomenon known as the ultimate attribution error. Pettigrew (1981) has stated that positive behaviors in outgroup members are likely to be discounted as a result of (a) being an exception to the rule or due to luck, (b) atypical individual motivation, or (c) situational variables



such as affirmative action policies.

The ultimate attribution error perpetuates stigmatization because schema-disconfirming evidence is discounted as not being representative of group members in general. For example, a successful individual who is also known to be mentally disabled would violate a social perceiver's expectancies. If the fundamental attribution error occurs, a mentally disabled person would be viewed as unrepresentative of mentally disabled persons as a group, and the social perceiver's stereotypical schemas would remain intact.

Self-fulfilling prophecies. As indicated above, people's expectations for others' characteristics and behaviors can lead to stereotype confirming-perceptions. Expectations can also influence the behavior of stigmatized individuals to conform with perceivers' stereotypes. This is called the self-fulfilling prophecy. It was demonstrated by Snyder, Tanke, and Berscheid (1977) in an investigation of stereotypical beliefs associated with physical attractiveness. Fifty-one male undergraduates engaged in telephone conversations with an equal number of female undergraduates. Male participants were given biographical data about their telephone partner, as well as a photograph taken of a female confederate prior to the study. These photographs were either of an attractive or unattractive female. Male participants were randomly assigned to either

the attractive or unattractive confederate condition. Males perceived partners thought to be physically unattractive as less likeable, less sociable, and less successful than females thought to be attractive. Independent, naive evaluations of the taped conversations indicated that the women arbitrarily placed in the unattractive condition were rated by these judges to possess attributes stereotypically associated with unattractiveness (cold, unsociable, withdrawn). Women who were thought by their telephone partner to be attractive were rated by naive raters to possess stereotypically attractive characteristics solely on the basis of the recorded telephone conversation. In other words, male participants' stereotypical expectations were so influential that they elicited stereotype-consistent verbal behavior from their female telephone partners.

Word, Zanna, and Cooper (1974) demonstrated how the self-fulfilling prophecy could be induced by non-verbal behavior. Job applicants who were treated in a cold, impersonal manner in a job interview were subsequently rated by naive observers as less capable and more anxious than those treated in a friendly manner.

The self-fulfilling prophecy could perpetuate stigmatization of mentally disabled persons by providing the social perceiver with schema-confirming evidence of stereotypical behavior. Consider, for example, an employer interviewing a mentally disabled person for a job. If the

employer held a stereotype of mentally disabled persons as unpredictable and unable to tolerate pressure, these expectations could be communicated to the interviewee both verbally and non-verbally. This could confirm in the mentally disabled person feelings of worthlessness, inadequacy, and anxiety. These self-perceptions could, in turn, be reflected in the interviewee's mannerisms and verbalizations, thus confirming the employer's stereotype.

#### Stereotype Maintenance and Retrieval

The memory of the cognitive miser is selective. The information that is best remembered is that which is consistent or congruent with prevailing schemas. This means that, in most cases, people are more likely to remember events and information that they had expected to encounter in the environment than the unexpected or the irrelevant (Crocker, Hanna, & Weber, 1983; Hamilton, 1979; Higgins & Bargh, 1987; Markus & Zajonc, 1985; Rothbart, 1981; Rothbart, Evans & Fulero, 1979; Snyder & Uranowitz, 1978). Schema incongruent information is sometimes recalled better (see Higgins & Bargh, 1987, for a recent review) but, overall, schema-congruent information about stereotyped groups is remembered more easily than schema-incongruent information. Evidence from the ingroup-outgroup literature suggests that people are also more likely to remember negative behaviors of out-group members than positive

behaviors.

How can people's generally better memory for schema-congruent information cause stereotyping and stigmatization of mentally disabled persons? The expectancies people hold for mentally disabled persons influence what information they attend to, encode, and store in memory. Information that is incongruent with people's expectations will be less likely to be attended to, encoded, and remembered. For example, people would be less likely to remember that a particular individual known to be mentally disabled was a good worker or a loving parent, and would be more likely to remember peculiarities of dress or behavior consistent with stereotypes.

The cognitive processes that have been discussed so far give clues regarding why negative attitudes persist once they are established. Social perceivers selectively attend to and remember information they expect to encounter, and they discount information that violates their expectancies. Their expectancies can also influence stigmatized persons to behave in schema-congruent ways. This does not mean, however, that negative stereotypes are inevitable, or that social perceivers are doomed to perpetually inaccurate cognitions of mentally disabled persons.

In order for stigmatizing stereotypes to change, the social schemas in which stereotyped social knowledge is represented must change. Schemas organize and interpret

social information, as well as direct the coding, retrieval, and storage of social knowledge (Crocker, Fiske, & Taylor, 1984). Given these functions, schematic change is essential for stereotypes and resulting negative attitudes to change.

### Stereotype Change

Despite the tenacity with which stereotypes are maintained, there is evidence that stereotyped schemas can change. This is particularly true when individuals are presented with information that contradicts or disconfirms information already present in prevailing schemas (Crocker et al., 1984; Fiske & Taylor, 1983; Hewstone, 1989). The importance of schema-disconfirming information in changing stereotypes has been emphasized by several authors (Hamilton, 1981; Markus & Zajonc, 1985; Rothbart, 1981; Snyder, 1981). It is thought that presentation of sufficient disconfirming information will override the mechanisms that maintain schema integrity. As a result, the social perceiver is forced to re-evaluate members of stereotyped groups using non-stereotyped information. Accommodation is the process by which a schema is revised after the presentation of new or schema-inconsistent information (Crocker et al., 1984). Accommodation can occur, despite the functional nature of schema rigidity.

### Elements of Schematic Change

In order to understand how accommodation occurs and

schemas change, it is helpful to examine the composition and structure of schemas.

Schematic variables. Crocker et al. (1984) have conceptualized schemas as containing variables consisting of all the knowledge that a social perceiver possesses that is relevant to a particular concept. Schematic complexity differs from one person to the next, depending on the amount of schema-relevant knowledge a person possesses.

Schematic changes can occur when variables are added to or taken away from a schema. For example, learning that many individuals executed for witchcraft in the past were, in reality, mentally disabled, could expand the inclusion criteria of a schema for mentally disabled persons. As a result, the behavior of such individuals could be viewed in terms of moral and social persecution instead of possession or wickedness. On the other hand, the decision of the American Psychiatric Association to exclude homosexuality as a psychiatric diagnosis removed a variable from a prevailing schema of mentally disabled persons.

Crocker et al. (1984) also stated that schematic variables have constraint values which can influence schema change. A constraint value can be thought of as a range of variation within which environmental stimuli can deviate and still be considered congruous with schematic variables. Information that falls outside a particular constraint value would not be considered schema-congruent. Repeated exposure

to incongruous information can result in schema change by changing constraint values. For example, repeated exposure to successful, but mentally disabled, individuals could expand constraint values for inclusion variables in schemas for mentally disabled persons.

Schematic structure. Schematic variables can be thought of as being organized in a structure with both vertical and horizontal aspects. The vertical structure refers to the various levels of abstraction a schema may contain. Crocker et al. (1984) equated the most abstract level of a schema with the most generic exemplar of the schema. For example, the most abstract level of a schema of a mentally disabled person could be that of a very general category (a human), with expected features (behaves oddly), and relevant attributes (frightening, dangerous, unpredictable). At less abstract levels, the categories, features, and related attributes become more specific. For example, at less abstract levels, a schema for a mentally disabled person could contain a category (mentally disabled children), expected features (behaviorally disordered), and relevant attributes (survivor of abuse).

Horizontal structure refers to the number of subcategories at any specific level of the vertical structure (Crocker et al., 1984). For example, subcategories of mentally disabled children could include schizophrenic children in addition to conduct disordered

children. According to Crocker et al., schemas can change through adding or subtracting levels of abstraction, sometimes but not necessarily with accompanying changes in horizontal structure. Incongruous information could provide more data to expand a schema vertically and horizontally.

#### Models of Schematic Change

Schematic variables, constraint values, and schematic structure can all change in the face of incongruous information. According to Crocker et al. (1984), there are three predominant models of schema change which incorporate these elements. While the models are not mutually exclusive, they are presented separately for conceptual clarity.

The bookkeeping model. This model was suggested by Rothbart (1981). In this model, schema change occurs incrementally in the face of disconfirming information. There is a constant adjusting and readjusting of expected values as new information is encountered. Default values, or the expected values of variables, are adjusted whenever incongruous information is encountered. For example, one expectation for a stereotype of mentally disabled persons could be that they are always violent. Observing a mentally disabled person comfort a frightened child would require adjustment of the expectation "always violent" to "not necessarily violent."



The conversion model. This model was also proposed by Rothbart (1981). In this view, schematic change is thought to occur dramatically when very incongruous information is encountered. Crocker et al. (1984) liken schematic change in this instance to that which occurs in religious conversions or a scientific revolution. The old schema is replaced only when a completely new, more compelling schema is available. Expected values may change, and variables may be added or subtracted. Rothbart (1981) theorized that this model was most accurate in describing schematic changes when stereotypes are altered.

The subtyping model. This model was proposed by Crocker et al. (1984). In this view, schematic change occurs through the development of subcategories as incongruous information is presented. However, incorrect or stereotyped schemas are never totally disconfirmed. Rather, they are expanded, and contain more specific and detailed information. In terms of stereotypes, Taylor (1981b) contends that expanding the information people have about a social group may do little to change the basic stereotype that exists of that group, particularly if the new information is extreme:

For example, though a man may believe that women are basically passive, quiet, and none-too-bright, encountering an aggressive, intelligent, outgoing, woman may lead him to develop a new stereotype such as "castrating female" or "career woman," a variant to his usual stereotyping. If this process occurs then the overarching stereotype will never be directly disconfirmed.

Disconfirmations simply provide a basis for splitting off a new stereotype, not revising an old one. Accordingly, all of the stereotypes can persist, and any new female encountered will fit at least one of them without disconfirming the others (p. 106).

### Predictions of Schematic Change Models

It is unclear which of the above models most accurately reflects schematic change involving stereotypes. To complicate matters, other variables, such as (a) the manner in which incongruous information is presented, (b) the amount, pattern, and salience of the information, (c) the degree of incongruousness, and (d) the state of the perceiver must also be considered. These variables, discussed below, can interact to make a model accurate in one instance and inaccurate in another instance (Crocker et al., 1984).

Amount and salience of schema-disconfirming information. Many different predictions about schematic change can be made depending upon the amount and salience of schema-disconfirming information that is presented. For example, the bookkeeping model would predict that the amount of stereotype change should be related to the amount of disconfirming evidence that is encountered. The more disconfirming evidence that is encountered, the greater the possible schematic change. The conversion model, on the other hand, predicts that the amount of disconfirming evidence will have little or no impact on the amount of

stereotype change. The conversion model predicts that only dramatically disconfirming, highly salient evidence will change stereotypes. Schematic change occurs as an all-or-none phenomenon, unlike the gradual process suggested by the bookkeeping model. It is the salience, not the amount of disconfirming evidence, that determines change in the conversion model.

The subtyping model also predicts that the amount and salience of disconfirming evidence is inconsequential to stereotype change. Instead, the pattern of evidence is important.

Pattern and salience of schema-disconfirming information. Weber and Crocker (1983) described the possible patterns of disconfirming evidence by stating "A fixed amount of disconfirming evidence may be concentrated within a few individuals, or it may be dispersed, so that many group members partially disconfirm the stereotype" (pp. 962-963). Weber and Crocker presented participants with personal information about a variety of hypothetical corporate lawyers and librarians. The same amount of schema-disconfirming evidence was provided to each participant. Concentrated information was that which pertained to only one of the hypothetical individuals. Dispersed information was that which pertained to all of the hypothetical individuals.

Each model of schematic change makes different

predictions based on the pattern and salience of disconfirming evidence. For example, the bookkeeping model holds that the pattern of disconfirming evidence is inconsequential to schema change. As bits of disconfirming evidence are given equal weight with regard to their influence on stereotype change, only the amount of evidence is important to change. The conversion model, on the other hand, predicts that disconfirming evidence that is concentrated (and is thus more dramatic and salient) will affect more schematic change than will evidence that is dispersed. The subtyping model predicts that dispersed, disconfirming evidence will affect more stereotype change. Group members who are presented as salient and dramatically contrary to the prevailing stereotype will only be subtyped. The basic stereotype will not change as it would with dispersed evidence (Weber & Crocker, 1983).

In an empirical test of models, Weber and Crocker (1983) found that participants' stereotypes of corporate lawyers and librarians changed primarily according to the subtyping and bookkeeping models. Stereotype change in their study was characterized by both development of new stereotypical subtypes (subtyping model) and general alteration of the basic stereotype (bookkeeping model). Dramatically different group members did little to change stereotypes.

Weber and Crocker's (1983) findings are contrary to the

theories of Rothbart (1981), who proposed that stereotypes change according to the conversion model. They are also contrary to previous research by Gurwitz and Dodge (1977), on which Weber and Crocker (1983) patterned their study. Gurwitz and Dodge (1977) asked participants to make inferences about a hypothetical female based upon the characteristics of three of her friends. The hypothetical female and her friends were all described as members of a college sorority. The descriptions of the female's friends contained characteristics of the stereotype "sorority sister." Participants were either given descriptions in which one of the three friends possessed all the stereotype-inconsistent characteristics (concentrated condition), or in which all the friends possessed one stereotype-inconsistent characteristic (dispersed condition). Gurwitz and Dodge found that concentrated, disconfirming information led to fewer stereotypical inferences about the hypothetical female than did dispersed, disconfirming information.

Weber and Crocker (1983) suggest that their findings resulted from the fact that the stereotypes investigated (corporate lawyers and librarians) were very homogenous in nature. As Weber and Crocker (1983) state:

Stereotype change may follow the conversion model when a group is expected to be heterogeneous. Slight deviations from the stereotype may not be perceived as 'disconfirming' because individual differences are expected. However, group members who dramatically disconfirm the stereotype will potentially change stereotypes more because they are clearly disconfirming (p. 976).

In addition, Weber and Crocker (1983) theorized that the conversion model may more accurately reflect schema change when subjects are not as certain about the stereotype in question. In this case, salient and dramatic disconfirming evidence would provide a great deal of information to the perceiver. The perceiver would be hesitant to discount the salient group member as unrepresentative, due to uncertainty about the stereotype. The model according to which stereotypic schemas change has important implications for attempts to reduce stereotyping, stigmatization, and prejudice. For example, it is important to know how information about devalued groups should be presented in order to maximize the effects of social interventions. However, the conflicting results of Weber and Crocker (1983) and Gurwitz and Dodge (1977) leave questions about which model is most accurate in describing schematic change. Each model has different implications for reducing stereotypes. These implications will be discussed next.

#### Implications of Schematic Change Models

According to Weber and Crocker (1983), contact between different social and ethnic groups has been suggested as an effective means of stereotype reduction. This has been called the group contact hypothesis. Group contact is thought to provide ingroup members with multiple instances of stereotype-disconfirming information. This is

particularly true if ingroup members encounter outgroup members who dramatically violate prevalent stereotypes. For example, encounters with mentally disabled individuals who are completely contrary to the stereotypical mentally disabled person described by Rabkin (1974) could provide powerful, stereotype-disconfirming evidence, thus speeding the alteration of negative stereotypes. This method is consistent with the conversion model of schema change. Encountering dramatically disconfirming outgroup members is thought to be the method of choice to affect stereotype change.

Interventions guided by the bookkeeping model would dictate that encounters with dramatically disconfirming individuals would be unnecessary. Instead, repeated exposure to many disconfirming individuals would be sufficient to change stereotypes. The salience of disconfirming evidence is unimportant. Only the sheer amount of disconfirming evidence would matter. Intergroup contact would provide opportunities for disconfirming evidence. It would not be necessary for the outgroup members to be dramatically disconfirming. However, it would also not matter if they were.

If the subtyping model was entirely correct, methods of stereotype change guided by the conversion model would not be effective. Weber and Crocker (1983) concluded that their findings argue against the use of intergroup contact with

dramatically disconfirming outgroup members as a means of changing stereotypes. The subtyping model implies that interventions should be aimed at providing ingroup members access to multiple outgroup members who possess only a few disconfirming characteristics. Repeated exposure to such individuals would eventually alter prevailing stereotypes of the outgroup. These individuals would not be subtyped as being exceptions to the rule. They would be more likely to change the basic stereotype and would be less likely to be subtyped as uncharacteristic outgroup members.

The models of schematic change lead to differential hypotheses about the effectiveness or ineffectiveness of group contact as one possible way of changing stereotypes of mentally disabled persons. It is pertinent to discuss differential attempts to alter negative stereotypes of mentally disabled persons, and how successful these attempts have been.

#### Attempts to Change Stereotypes about Mentally Disabled Persons

There is very little information in the published literature regarding attempts to reduce stigmatization of mentally disabled persons. Several authors (Farina & Fisher, 1984; Rabkin, 1974, 1980; Sarbin & Mancuso, 1970) alluded to, but never referenced, public education campaigns in the U.S. after the Second World War aimed at reducing stigmatization of mentally disabled persons. Advertising at



the national, state, and local levels exhorted the public to view mental illness like any physical illness which deserves treatment.

In contrast to the paucity of information concerning organized programs, an extensive body of literature exists regarding the level of stigmatization of mentally disabled persons in the U.S. since the Second World War [see Rabkin (1974, 1980) for reviews]. In general, it can be concluded that, while the public has become better informed about mental illness, educational programs have not been particularly successful in changing negative stereotypes toward mentally disabled persons (Cumming & Cumming, 1957; Godschalx, 1984; Segal, 1978).

As with other stigmatized groups, contact between mentally disabled persons and the general public has been suggested as a means of reducing stigmatization (Trute, Tefft, & Segall, 1989; Segal, 1978). People who have had experience with mentally disabled persons, such as relatives, friends, and mental health professionals, have been found to hold less stigmatizing attitudes than the general population (Rabkin, 1980; Ramon, 1978). A great deal of research has been conducted to evaluate the impact of classroom instruction and volunteer experience with mentally disabled persons upon college students, medical students, and nurses. These studies indicated simple, contrived contact was not enough to change stereotypes. The

experience most effective in facilitating positive attitudes toward mentally disabled persons was interaction in normal, everyday activities (Elizur & Rosenheim, 1982; Rabkin, 1980; Segal, 1978).

Recent studies have investigated experience with mentally disabled persons through proximity to mental health treatment centers and residential facilities (Rabkin, Mullen, & Cohen, 1984; Roman & Floyd, 1981; Smith & Hanham, 1981; Tefft et al., 1987; Trute & Loewen, 1978). In general, these studies have indicated that proximity to mentally disabled persons and treatment facilities for them can have a positive impact in decreasing stigmatizing attitudes. Moreover, the public is less rejecting of close proximity with mentally disabled persons than was previously thought.

Stephan (1985) reviewed the substantial literature on methods to improve intergroup relations. One of these methods, intergroup contact, has been studied extensively. Much of this research has been laboratory investigations of ingroup-outgroup bias. Ingroup-outgroup bias has been reduced, at least in the laboratory, when a number of conditions were present during group contact. Contact was most effective when (a) the contact was voluntary, (b) competition between groups was minimal and cooperation was enhanced, (c) the contact occurred in a number of contexts, (d) all participants were considered to be of equal status,

and (e) the contact involved meaningful, nonsuperficial interactions.

Trute et al. (1989) suggested that decreased social rejection of mentally disabled persons can be achieved through meaningful contact between mentally disabled persons and the general public. Non-competitive, non-superficial interactions in a variety of contexts could provide people with a multitude of schema-disconfirming incidents regarding mentally disabled persons. Group contact studies suggest that experience can elaborate schematic knowledge and categorical structure, so that ingroup-outgroup effects are diminished. In addition, individuals who have experience with mentally disabled persons have more opportunities to view the widely diverse behaviors and traits of that population. This could broaden their fund of information and reduce the likelihood of utilizing narrowly defined schemas and categories about mentally disabled persons.

One example of such intergroup contact was reported by Peterson (1986), who described a successful psychosocial program for mentally disabled persons that emphasized training in socially appropriate conduct, as well as positive social interactions between mentally disabled persons and the community. For example, mentally disabled individuals operated a concession stand at the local county fair and also started a business to provide housekeeping services in the local community. Community members who were

able to interact with the mentally disabled persons in their expanded capacities were provided with positive information to add to their existing schemas of mentally disabled persons.

As Smith and Hanham (1981) and Segal (1978) pointed out, however, promoting contact between mentally disabled persons and the general public could also provide schema-confirming information to the public. For example, some mentally disabled people behave in unusual and bizarre ways. Smith and Hanham (1981) cautioned that interactions between mentally disabled persons and the public should be carefully orchestrated so as to maximize the positive effects of intergroup contact.

To summarize, public information campaigns have not been successful at reducing stigmatization of mentally disabled persons. Intergroup contact has been suggested as a potentially effective way of decreasing stigmatization and the existing literature tends to supported this approach. However, none of these empirical studies has investigated schematic change models when examining stigmatization of mentally disabled persons. As a result, their relative effectiveness and precise mechanisms remain unclear.

#### Summary of Rationale

The information provided by Crocker et al. (1983) suggests that, in order for stereotypes of mentally disabled

persons to change, there must be accompanying schema change. Theoretical models of schema change exist, but it is unclear which model would best represent schema change regarding stereotypes. The pattern, amount, and salience of disconfirming evidence may influence schematic change and model accuracy. Given these unknowns, it not surprising that public education campaigns to de-stigmatize mentally disabled persons have produced inconsistent and inconclusive results.

Crocker et al. (1983) stated that there has been very little empirical research to examine the properties of schematic change. This is surprising, as the available literature provides the basis for predictions concerning when schematic change will occur, what evidence would be most effective, and what schematic variables may change. It is important that these hypotheses be examined in terms of mentally disabled persons so that public beliefs and behavior towards this group can be more effectively and efficiently changed.

The studies of Weber and Crocker (1983) and Gurwitz and Dodge (1977) provide fruitful approaches with which to investigate changes in stereotypes of mentally disabled persons. If, as Weber and Crocker (1983) suggested, stereotypes change according to the subtyping and bookkeeping models, the assumption of intergroup contact using dramatically disconfirming outgroup members as a means

of stereotype change must be seriously questioned.

The present study is an empirical test of schematic change models, similar to the studies of Weber and Crocker (1983) and Gurwitz and Dodge (1977) regarding stereotypes of mentally disabled persons. The study attempts to integrate cognitive and affective factors present in social cognition as suggested by Markus and Zajonc (1985).

The basic strategy guiding this research is to present members of the general public with schema-consistent, schema-inconsistent, and schema-neutral information about a group of mentally disabled individuals to determine how the amount, salience, and pattern of information affects subsequent ratings of mentally disabled persons. The study assesses "cold" cognitive factors such as subtyping and adjective ratings, as well as "hot" affective factors such as rejection of personal relationships with and socially responsible roles for mentally disabled persons.

The present study advances the understanding of stereotyping and stigmatization by providing one of the first empirical tests of schematic change models for stereotypes of mentally disabled persons. It is essential to know how information about mentally disabled persons and, by extension, other stigmatized persons, should be optimally presented to the general public in order to maximize attempts to change negative stereotypes.

## HYPOTHESES

### Experiment 1

1. Concentrated stereotype-inconsistent information will result in more subtyping of mentally disabled persons than will dispersed stereotype-inconsistent information, regardless of the amount of stereotype-inconsistent information presented.
2. Dispersed stereotype-inconsistent information will result in less stereotypical adjective ratings of mentally disabled persons than will concentrated stereotype-inconsistent information, regardless of the amount of stereotype-inconsistent information presented.
3. Dispersed stereotype-inconsistent information will result in less social rejection of mentally disabled persons than will concentrated stereotype-inconsistent information.

### Experiment 2

4. Moderately salient stereotype-inconsistent information will result in less subtyping of mentally disabled persons than will extremely salient stereotype-inconsistent information.

5. Moderately salient stereotype-inconsistent information will result in less social rejection of mentally disabled persons than will extremely salient stereotype-inconsistent information.



## METHOD

A pretest and two experiments were necessary to test the study hypotheses. Information from the pretest was used to construct the stimulus materials for Experiments 1 and 2. The purpose of the first experiment was to determine (a) which schema-change model most accurately reflects change in stereotypical beliefs about mentally disabled persons, and (b) the degree to which stereotype-inconsistent information influences social rejection of mentally disabled persons.

The purpose of the second experiment was to determine (a) the differential effects of extremely and moderately salient stereotype-inconsistent information on stereotypical beliefs about mentally disabled persons, and (b) the degree to which the salience of the stereotype-inconsistent information influences social rejection of mentally disabled persons.

### Pretest

The purpose of the Pretest was to determine three negative, stereotype-consistent adjectives commonly associated with mentally disabled persons by a sample of the general population. These three adjectives were used to construct the stimulus materials for Experiments 1 and 2.

## Participants

### Sampling

Participants were solicited from a Lutheran church congregation in a medium-size community located in the US upper midwest. This organization was selected for the pretest because it afforded access to a large number of potential participants who were heterogeneous in composition for age and gender, and who met at the same time and place. It also was located in the same community where the majority of participants for Experiments 1 and 2 would be drawn.

Approximately 150 members attended the church the Sunday data collection took place. Fifty-four members (36%) stayed after the services and completed valid questionnaires for the pretest. Participants ranged in age from 30 to 82 ( $M = 51.7$ ,  $SD = 14.9$ ). Sixty-one percent of the participants were female. Ninety-eight percent of the participants had completed high school. Approximately one-third (29.6%) of the sample had at least some college or university education.

## Measures

### Contextual Variables

Participants recorded their age and gender. A nine-interval scale, ranging from "grade six or less" (1) to "post-graduate university education" (9), assessed education. These measures are found in Appendix A.

Participants also completed the Knowledge About/ Experience With Mental Health Scale (Trute et al., 1989). This scale (Appendix A) consists of nine items measuring three types of knowledge/experience with mental health: (a) second-hand knowledge/experience (e.g., I have received some formal education regarding mental health), (b) first-hand knowledge/experience (e.g., I have lived or worked close to a mental health facility), and (c) knowledge/experience with a family member or self (e.g., A member of my family has or in the past has had mental health problems).

Participants responded either yes (2) or no (1) to each item. The scale yields a total score from 9 (little knowledge/experience) to 18 (extensive knowledge/experience).

#### Pretest Rating of Mentally Disabled Persons

Participants used an 11-point scale to rate a list of 40 adjectives for how typical they were of mentally disabled persons (0 = not at all typical; 10 = completely typical). This measure (Appendix A) was designed by the researcher for the present study. An 11-point scale was chosen because it would allow participants to differentiate between a large number of closely related adjectives. It was also similar to the rating scales used by Weber and Crocker (1983).

The researcher selected adjectives for the pretest by examining the Adjective Checklist (Gough, 1960) as well as research on negative attitudes toward mentally disabled

persons (Link, Cullen, Frank, & Wozniak, 1987; Rabkin, 1974). Gough's instrument was chosen because it offered a wide variety of adjectives. Twenty-five of the pretest adjectives were those considered consistent with stigmatized stereotypes of mentally disabled persons (e.g., dangerous). The 15 remaining adjectives were considered neutral to (e.g., humorous) or inconsistent with (e.g., self-controlled) those stereotypes. The neutral and inconsistent adjectives were included to prevent a response set from biasing the ratings.

#### Selection of Stimulus Adjectives

Three stereotype-consistent adjectives, three stereotype-inconsistent adjectives, and nine stereotype-neutral adjectives were needed to construct the stimulus materials for Experiments 1 and 2. The three stereotype-consistent adjectives with the highest mean ratings on the pretest were excitable ( $M = 5.93$ ,  $SD = 2.03$ ), fearful ( $M = 5.65$ ,  $SD = 2.46$ ), and impulsive ( $M = 5.56$ ,  $SD = 2.23$ ).

The procedure for Experiments 1 and 2 required that the stereotype-inconsistent stimulus adjectives be antonyms of the stereotype-consistent adjectives. The adjectives calm, brave, and self-controlled were selected by the researcher as meeting this criterion.

The procedure for Experiments 1 and 2 also required that the stereotype-neutral adjectives be semantically and logically unrelated to the stereotype-consistent and

stereotype-inconsistent adjectives determined by the pretest. The researcher selected patriotic, conservative, athletic, religious, literate, prejudiced, stubborn, fussy, and musical as stereotype-neutral adjectives. In order to provide added assurance that these adjectives were neutral with respect to stereotypes of mentally disabled persons, they were rated for stereotype neutrality by three raters with advanced training in a mental health field who were naive to the purpose of the study. The raters used an 11-point scale to rate the stereotype-neutral adjectives for how typical they are of mentally disabled persons as a group (0 = not at all typical; 5 = neither typical nor atypical; 10 = completely typical). An adjective was considered stereotype-neutral if its mean rating was between 4 and 6. Each of the nine neutral adjectives met this criterion.

The researcher selected three additional stereotype-consistent adjectives (dangerous, moody, and unstable) for use in the dependent measures in Experiments 1 and 2. These adjectives were not used to construct the stimulus materials. They were included in order to provide an additional check of the efficacy of the experimental manipulations. Like the other adjectives, they were used in the adjective rating scales for Experiments 1 and 2 and were also used as dependent variables. Moody and Unstable were selected because they received the fourth and fifth-highest mean ratings on the pretest. Dangerous was selected due to

previous research indicating that the general public has consistently viewed mentally disabled persons as dangerous (Link et al., 1987; Rabkin, 1974).

These additional adjectives will be referred to as 'non-presented stereotype-consistent' adjectives to distinguish them from the stereotype-consistent adjectives selected by the pretest. The term 'non-presented' was used to indicate that these adjectives were not presented to the participants in the stimulus sentences, and instead only appeared in the adjective rating scales.

#### Procedure

The researcher sent a letter (Appendix B) to the contact person of the congregation requesting permission to administer questionnaires to the membership. The letter identified the researcher, described the purpose of the research, described how long it would take to participate, detailed confidentiality procedures, and specified compensation for participation. The researcher telephoned the contact person to arrange a time when she could administer the questionnaires.

Before administering the questionnaires, the researcher informed the participants that the purpose of the study was to survey what the public thinks of people who are mentally ill. This term was used instead of "mentally disabled" in order to prevent participants from confusing the target

population with individuals who have developmental disabilities. Participants were also informed that they would be asked to provide certain demographic information such as age, gender, level of education, and knowledge about mental health problems and services. Responses were confidential, in that the researcher instructed participants not to write their name or any other individual identification on the questionnaires. The researcher was the only person to read and record participants' responses. The researcher included this information in the letter requesting the group's participation and presented it to participants at the time she administered the questionnaires.

Before the researcher administered the questionnaires, she informed the group that individual members could elect not to participate and could discontinue their participation at any time. Approximately one-half of those attending the Sunday morning service on the day pretest data was collected chose to participate. Those who chose not to participate were not distinguishable from those who participated. A representative from the group counter-signed a consent form (Appendix C) for each participant, which verified that he or she could elect not to participate in the study.

The researcher administered the questionnaires to all participants on one occasion after a regular organization meeting. After giving participants the preliminary

description of the research and confidentiality guidelines, all participants were given data packets which contained instructions, contextual measures, pretest questionnaire, and a pen.

In order to debrief participants, the researcher informed participants of the purpose of the study by means of an oral presentation immediately after they completed the questionnaires. All debriefing materials appear in Appendix D. The researcher also promised to send a summary of the study's findings and an explanation of the experimental manipulations to the organization when the project is finished.

### Experiment 1

This experiment employed a 2 X 2 factorial design with amount or stimulus size (6 vs. 18 stimulus cards/videotape interviews) and pattern of disconfirming information (concentrated vs. dispersed) as between-subject variables. A non-treatment control condition was also included.

### Participants

#### Sampling

Participants were solicited from nine fraternal and service organizations in three small to medium-size rural communities located in the US upper midwest. The researcher gave preference to organizations whose membership would



contribute to a final sample that was as representative of the general population as possible. In addition, the researcher attempted to arrive at a sample that was heterogeneous with regard to age and gender. Organizations whose memberships were not likely to be highly educated were also given preference, because education has been associated with more positive attitudes toward mentally disabled persons (Trute, et al., 1989). As the present study is concerned with changing negative stereotypes about mentally disabled persons, it was important to have a sample that did not hold atypically positive stereotypes about that population.

The final sample consisted of A) middle aged and elderly members of a Catholic fraternity and sorority, B) members of ranching women's association, C) members of a village merchants' association, D) members of a fundamentalist Christian women's club, E) members of a lower middle class young homemakers' club, F) members of two charitable organizations comprised of small-town merchants and middle managers, and E) members of an organization for business and professional persons.

One hundred fifty-two members out of approximately 170 completed valid questionnaires for Experiment 1. The participants ranged in age from 18 to 76 ( $M = 49.5$ ,  $SD = 15.2$ ). Sixty-three percent of the participants were females. Ninety-three percent of the sample had completed

high school. Approximately half (56.6%) of the sample had at least some college or university education.

#### Conditions

There were four experimental conditions (Conditions A,B,C, and D) and one control condition (Condition E) in Experiment 1. It was intended that conditions be similar in size while heterogeneous for age and gender. Accordingly, the researcher distributed data packets from at least two different conditions to each organization.

The researcher collected data from each participating organization separately and met with each organization only once. Each data packet was surreptitiously labeled, so that participants could not discern the experimental condition to which it belonged. When the researcher attended an organization's meeting, she handed out, as equitably as possible, a similar number of data packets for either Conditions A and B, or Conditions C, D, and E. The stimulus materials used in Conditions A and B differ significantly from those used in Conditions C, D, and E and cannot be presented simultaneously. As a result, participants in any one organization could only be assigned to either Conditions A and B, or Conditions C, D, and E.

Data collection occurred over a five month period. The researcher contacted a representative from an organization ahead of time in order to anticipate the number of participants. Throughout the data collection period, the

researcher noted the number of completed data packets for each condition. The researcher chose a set of packets based on the number of completed packets that had already been completed, the number that needed to be completed, and the number of potential participants anticipated at the organizations next meeting. The following factors were also considered.

Membership size, meeting length, meeting frequency, and scheduling convenience for each organization also influenced which set of data packets was administered on a given occasion. Some organizations were unable to participate at certain times due to organization activities incompatible with data collection. In addition, some organizations met during the lunch hour. The procedure for Conditions C, D, and E takes too long for an hour meeting, so it was necessary to administer data packets for Conditions A and B to participants from those organizations.

#### Demographic Composition of Conditions

Table 1 shows the demographic characteristics of participants in each condition in Experiment 1. The conditions had similar numbers of participants (Conditions A and B,  $n = 31$ ; Conditions C, D, and E,  $n = 30$ ). The conditions were also similar with regard to age and education, although Condition C had a smaller percentage of participants who had at least some college or university education.

Table 1

Demographic Characteristics of Participants in Experiment 1

Characteristic	Condition <sup>a</sup>				
	A	B	C	D	E
Age					
<u>M</u>	41.1	45.1	51.7	51.2	48.5
<u>SD</u>	11.5	11.5	15.8	16.9	16.7
Gender					
Female	77.4	61.3	93.3	70.0	36.7
Male	22.6	38.7	6.7	30.0	63.3
Education					
Some College or Above	67.8	61.3	60.0	33.4	60.0
High School or Above	96.8	96.8	90.0	90.0	96.7

Note. Gender and education are expressed in terms of percentages.

<sup>a</sup> $n$  = 31 for Conditions A and B.  $n$  = 30 for Conditions C, D, and E.

The distribution of male and female participants was uneven across conditions. Table 1 shows the percentages of males and females in each condition in Experiment 1. The uneven distribution of males and females resulted from a combination of factors. The first factor was the gender composition of the service and fraternal organizations. Table 2 shows the distribution of participants across conditions by organization. Four organizations (2, 6, 7, 9) were comprised exclusively of females. The remaining organizations (1, 3, 4, 5, 8) were comprised almost exclusively of males. Moreover, the female organizations tended to have many more members than the male organizations.

The second factor contributing to the uneven gender distribution across conditions was related to the procedure and materials used in Experiment 1. Since the entire membership of each organization was tested at the same time, one way to alleviate the impact of the organizations' gender composition would have been to assign equal numbers of each organizations's members to all five conditions. This was not possible, because, as was previously mentioned, the stimulus materials used in Conditions A and B differ significantly from those used in Conditions C, D, and E, and cannot be presented simultaneously.

Finally, the predominantly male organizations tended to have week-day meetings during the lunch hour, while all the

Table 2

Distribution of Participants Across Conditions by  
Organization in Experiment 1

Organization	Condition				
	A	B	C	D	E
1					X
2	X	X			
3	X	X			
4	X	X			
5	X	X			
6			X	X	
7			X	X	
8			X	X	
9				X	X

exclusively female organizations had longer evening or weekend meetings. The procedure for Conditions C, D, and E takes too long for a one-hour meeting. Thus, females were more likely to participate in Conditions C, D, and E.

### Stimulus Materials

Stereotype-inconsistent information was presented to participants through the stimulus materials. These materials were constructed so that the amount and pattern of stereotype-inconsistent information could be manipulated and controlled across the experimental and control conditions. Participants received information about either a small number (6) or large number (18) of mentally disabled men. In comparison, Weber and Crocker (1983) used stimulus sizes of 6 and 30. However, Weber and Crocker expressed concern that participants in the large stimulus condition were overwhelmed by the amount of information with which they were presented. Therefore, the largest stimulus size was reduced in the present study.

Stereotype-inconsistent information was presented to participants in either a dispersed or a concentrated pattern. Dispersed stereotype-inconsistent information was distributed evenly across all the mentally disabled stimulus men. Concentrated stereotyped-inconsistent information was clustered within two of the mentally disabled stimulus men in the small-stimulus conditions and within six of the

mentally disabled stimulus men in the large-stimulus conditions. Stereotype-consistent and stereotype-neutral information was interspersed with the stereotype-inconsistent information.

Experimental participants received stimulus materials with one-third of the total information being stereotype-inconsistent, one-sixth being stereotype-consistent, and one-half being stereotype-neutral. These proportions were chosen because they are similar to those used by Gurwitz and Dodge (1977) and Weber and Crocker (1983). They are also advantageous for, as Weber and Crocker commented, they allow inconsistent and consistent information to be counter-balanced.

#### Stimulus Cards

Stimulus information was provided to participants on stimulus cards. Participants in the experimental conditions received information about either 6 (small-stimulus condition) or 18 (large-stimulus condition) mentally disabled men. For each man, participants received a 3 X 5 inch card. Printed on each card was a man's name and three sentences about his preferences, habits, and personal characteristics.

The descriptive sentences on the stimulus cards were based on the adjectives selected by pretesting. Prior to Experiment 1, the researcher developed 9 sentences based on stereotype-consistent adjectives, 18 sentences based on



stereotype-inconsistent adjectives, and 27 sentences based on stereotype-neutral adjectives. They were judged representative of their respective adjectives by three raters with advanced training in a mental health field who were naive to the purpose of the study. The raters were given the following instructions.

Fifteen adjectives are listed on the pages in front of you, along with several sentences which are thought to provide behavioral examples of each adjective. Circle the number on the rating scale that corresponds to how typical the behavior described in each sentence is of its respective adjective. If a sentence is not at all typical of its adjective, circle 0. If a sentence is completely typical of its adjective, circle 10. If a sentence is somewhere between not at all typical and completely typical of its adjective, circle the number between 0 and 10 that best represents how typical it is. I want to know how well the behavior described in each sentence reflects its respective adjective.

A sentence was considered to accurately reflect its respective adjective if its mean rating was at least 8 on an 11 point scale (0 = not at all typical; 10 = very typical). This scale was devised for the present study by the researcher.

Each participant in the small-stimulus/dispersed pattern condition (Condition A) received information about six mentally disabled men (six stimulus cards). The stereotype-inconsistent sentences were dispersed across stimulus cards, so that one stereotype-inconsistent statement appeared on each card. The remaining neutral and stereotype-consistent statements were distributed across the stimulus cards. These sentences are provided in Appendix E.

Each participant in the small-stimulus/concentrated pattern condition (Condition B) also received information about six mentally disabled men (six stimulus cards). The same sentences were used in both Conditions A and B. The six stereotype-inconsistent sentences were clustered within two stimulus cards. The remaining neutral and stereotype-consistent sentences were assigned to the remaining stimulus cards. These sentences are provided in Appendix E.

Each participant in the large-stimulus/dispersed pattern condition (Condition C) received information about 18 mentally disabled men (18 stimulus cards). The 18 stereotype-inconsistent sentences were dispersed across stimulus cards so that one stereotype-inconsistent statement appeared on each stimulus card. The remaining neutral and stereotype-consistent sentences were distributed across the stimulus cards. These sentences are provided in Appendix E.

Each participant in the large-stimulus/concentrated pattern condition (Condition D) also received information about 18 mentally disabled individuals (18 stimulus cards). The same sentences were used in Conditions C and D. The 18 stereotype-inconsistent sentences were clustered within six stimulus cards. The remaining neutral and stereotype-consistent sentences were assigned to the remaining stimulus cards. These sentences are provided in Appendix E.

For all conditions, care was taken so that no card had more than one stereotype-consistent sentence. The

researcher also made sure that no card contained sentences that were both stereotype-consistent and stereotype inconsistent for the same adjective.

Each participant in the control group (Condition E) received 18 stimulus cards with only the name of a mentally disabled man typed on it. This is similar to the Weber and Crocker (1983) study, in which the control group received no information about the stimulus people.

#### Videotaped Interviews

In addition to the stimulus cards, all experimental and control participants observed videotaped, role-played interviews of allegedly mentally disabled men. Participants were informed that the men on the videotape were the same men who were described on the stimulus cards. The purpose of the videotape was to increase the likelihood that participants would believe they were learning about actual mentally disabled men. It was not intended to supply the participants with stereotype-inconsistent information.

Eighteen Caucasian, male employees at a U.S. Veteran's Administration Hospital volunteered to serve as confederates. They ranged in age from 30-55 and worked in various capacities at the hospital. Each man was fully informed about the purpose of the videotape and signed a consent form (Appendix C) before participating, in accordance with U.S. Veteran's Administration research ethics guidelines.

The men were interviewed individually by the researcher, who did not appear on screen but who could be heard asking questions. They were filmed wearing casual clothing while seated in a chair in an office setting. They were visible on the screen from the chest up. Each man was instructed to act naturally while being filmed and to answer the questions honestly. The questions were similar to those used in mental status examinations and demonstrated the respondents' temporal and personal orientation, as well as awareness of current events. Each man was asked the the same questions. The men were not briefed about the exact content of the questions prior to filming in order to insure spontaneity and a more natural demeanor. Each interview lasted approximately 90 seconds and was filmed in colour using a Zenith Camcorder mounted on a tripod. The transcripts of three interviews appear in Appendix E.

Participants in Conditions A and B viewed the same six randomly selected interviews. The interviews were shown in the same order each time they were presented. Participants in Conditions C and D saw all 18 interviews. These interviews were also shown in the same order each time.

### Measures

#### Dependent measures

All participants completed four dependent measures.

Rating mentally disabled persons as a group.

Participants used an 11-point scale to rate the 18 stimulus adjectives for how typical they are of mentally disabled persons as a group (0 = not at all typical; 10 = completely typical). This measure (Appendix F) was designed by the researcher for the present study. The mean rating for each of the four categories of adjectives was treated as a separate variable. Table 3 shows the adjectives in each category. The Cronbach alpha correlation coefficient of internal consistency was .62 for the stereotype-consistent items, .58 for the stereotype-inconsistent items, .61 for the non-presented stereotype-consistent items, and .69 for the stereotype-neutral items.

Rating an unknown mentally disabled individual.

Participants used an 11-point scale to rate the 18 stimulus adjectives for how typical they would be of an unknown mentally disabled individual (0 = not at all typical; 10 = completely typical). This measure (Appendix F) was also designed by the researcher for the present study. The mean rating for each of the four categories of adjectives was treated as a separate variable. Table 3 shows the adjectives in each category. The Cronbach alpha correlation coefficient of internal consistency was .73 for the stereotype-consistent items, .51 for the stereotype-inconsistent items, .72 for the non-presented stereotype-consistent items, and .79 for the stereotype-neutral items.

Table 3

Adjective Categories in Experiments 1 and 2

Categories			
Stereotype-Consistent	Non-presented Stereotype-Consistent	Stereotype-Inconsistent	Stereotype-Neutral
Fearful	Dangerous	Brave	Patriotic
Excitable	Moody	Calm	Conservative
Impulsive	Unstable	Self-controlled	Athletic
			Religious
			Literate
			Prejudiced
			Stubborn
			Fussy
			Musical

Subtyping Task. Participants sorted their stimulus cards into piles based upon perceived similarities and described the characteristics of the individuals that led them to be placed in a pile. A full description of this task is presented in the Procedure section.

The characteristic(s) that each participant wrote on the card piles were rated for stereotype-inconsistency by three raters with advanced degrees in a mental health field who were naive to the purpose of the study. The raters were given the following instructions.

Please read the following words and phrases.  
Circle those that are synonymous with the  
adjectives Calm, Brave, or Self-controlled.

A word or phrase was considered stereotype-inconsistent if it was circled by all three raters. The number of piles, and the number of piles described by at least one stereotype-inconsistent characteristic, were treated as separate variables.

Social Rejection Scale. Participants completed the Trute and Loewen (1978) Social Rejection Scale. This scale (Appendix F) assesses social rejection of mentally disabled persons. Previous research (Trute and Loewen, 1978; Trute et al., 1989) has identified two distinct aspects of social rejection of mentally disabled persons: (a) rejection of social relations and (b) rejection of social responsibility. Younger people, those with personal experience with mentally disabled persons, and those who perceive mentally disabled

persons as less dangerous tend to be more accepting of social relations with mentally disabled persons (Trute et al., 1989). Education is inversely related to rejection of mentally disabled persons in socially responsible roles.

The Social Rejection Scale consists of 11 items with a 5-point response scale (1 = strongly disagree; 5 = strongly agree). The scale is comprised of five social relations items (e.g., You would agree to provide board and room for a discharged psychiatric patient in your home if you had a room) and six social responsibility items (e.g., You would welcome someone who had spent time in a psychiatric hospital to take part in your community functions). Items are balanced to prevent response acquiescence. Item scores were reversed when necessary. The five social relations items yield a potential range of scores from 5 to 25. The six social responsibility items yield a potential range of scores from 6 to 30. Low scores indicate low social rejection. The mean score for each factor was treated as a separate variable.

#### Contextual Variables

Participants in Experiment 1 were administered the same contextual measures as were participants in the pretest. These measures were used to obtain demographic and personal information about study participants. The study hypotheses are concerned with the pattern and amount of disconfirming information. As a result, the contextual variables were



only utilized to insure that participant characteristics that might be related to the dependent measures would be controlled for in data analysis. These measures appear in Appendix F.

#### Procedure

The researcher sent a letter (Appendix A) to the contact persons of nine organizations that were likely to have large, heterogeneous memberships representative of the general population, requesting permission to administer stimulus materials and questionnaires to the membership. The letter identified the researcher, described the purpose of the research, described how long it would take to participate, detailed confidentiality procedures, and specified compensation for participation. The researcher telephoned the contact persons to arrange times when she could visit the organizations and administer stimulus materials and questionnaires.

Before administering the stimulus materials and questionnaires, the researcher informed the participants that the purpose of the study was to survey what the public thinks of people who are mentally ill. This term was used instead of "mentally disabled" in order to prevent participants from confusing the target population with individuals who have developmental disabilities. Participants were also informed that they would be asked to

provide certain demographic information such as age, gender, level of education, and knowledge about mental health problems and services. Responses were confidential, in that the researcher instructed participants not to write their name or any other individual identification on the stimulus cards or questionnaires. The researcher was the only person to read and record participants' responses. The researcher included this information in the letter requesting the organization's participation and presented it to participants at the time she administered the stimulus materials and questionnaires.

Before the researcher administered questionnaires, she informed the membership that individual members could elect not to participate and could discontinue their participation at any time. More than 90% of each organization's members chose to participate. Those who chose not to participate were not distinguishable from those who participated. A representative from each organization counter-signed consent forms (Appendix C) verifying that individual members could elect not to participate in the study.

The researcher administered the stimulus materials and questionnaires to all participants at their respective organization meetings. All participants were given a large envelope with instructions, dependent measures, contextual measures, stimulus cards, and a pen. After giving participants the preliminary description of the research and

confidentiality guidelines, the researcher read the following instructions aloud.

If you look in your envelope you will find a number of index cards. On each card is the name of a mentally ill man and three statements describing his habits, preferences, and other people's descriptions of him. The information on the index cards was obtained from the men's medical records. You will also see a short, videotaped interview that I conducted with each of these men. These men were psychiatric patients at a Veteran's Administration Hospital where I recently completed a pre-doctoral internship in clinical psychology. The men were videotaped just prior to discharge. Each man gave his written consent to be videotaped and was aware that his picture would be viewed by members of the general public. I will ask you to view each man's video interview prior to reading the man's information card.

Participants were then shown the videotaped interviews. After each interview, the videotape was stopped and participants were instructed to read the man's corresponding descriptive sentences. After the last interview and card were presented, participants were instructed to read the instructions for the first measure, 'Rating the Mentally Ill as a Group' and complete it. When all participants had completed this measure, they were asked to read the instructions for the second measure, 'Rating an Unknown Mentally Ill Person' and complete it. After all participants had completed this measure, the researcher read the following instructions aloud.

Now I want you to sort the cards into piles based on similarities the individuals named on the cards have in common. While you do this, keep in mind that the members of the piles should be similar to one another and different from members of other

piles. You may have as many or as few piles as you wish. After you sort the cards in piles, write on the top card of each pile the characteristic that led you to group the individuals of that particular pile together. When you have completed this, raise your hand and I will staple each of your piles together and place the piles in your envelope.

Once this was finished, participants were asked to read the instructions for the remaining measures ('Social Rejection Scale'; 'Knowledge About/Experience With Mental Health'; 'Background Information'), place their measures in their envelopes, and seal the envelopes. The researcher then read aloud the debriefing statement.

The researcher informed participants of the purpose of the study by means of an oral presentation. The researcher could not inform participants about the experimental manipulations in this presentation, as data collection took place in a small community where it would have been possible for subsequent organizations to have heard about the manipulations prior to participation. All debriefing materials appear in Appendix D. The researcher also promised to send a summary of the study's findings and an explanation of the experimental manipulations to each participating organization when the project is finished.

Participants in the control condition received identical instructions, measures, and debriefing as the experimental participants. In contrast to the experimental procedure, however, the researcher read the following instructions aloud prior to showing the videotaped

interviews.

If you look in your envelope you will find a number of index cards. On each card is the name of a mentally ill man. You will also see a short, videotaped interview that I conducted with each of these men. These men were psychiatric patients at a Veteran's Administration Hospital where I recently completed a pre-doctoral internship in clinical psychology. The men were videotaped just prior to discharge. Each man gave his written consent to be videotaped and was aware that his picture would be viewed by members of the general public.

### Experiment 2

This experiment employed a one-way, two-group design, with the extremity or salience of stereotype-inconsistent information (moderate, extreme) as a between-subject variable. Participants were divided into two groups, namely those who received moderate schema-inconsistent information and those who received extreme schema-inconsistent information.

### Participants

#### Sampling

Participants were solicited in the same manner and in the same geographic location as participants for Experiment 1. Sixty out of approximately 70 members of four fraternal and service organizations completed valid questionnaires. The final sample consisted of A) volunteer rural fire fighters B) private day care providers C) members of a fundamentalist Christian women's club, and D) middle aged

and elderly members of a Catholic fraternity.

Participants ranged in age from 20 to 71 ( $M = 40.7$ ,  $SD = 11.3$ ). Fifty percent of the participants were females. Ninety-one percent of the sample had completed high school. Approximately one-fourth (26.6%) of the sample had at least some college or university education.

#### Conditions

There are two conditions (Conditions E and M) in Experiment 2. As in Experiment 1, it was intended that the conditions be similar in number while heterogeneous for age and gender. Accordingly, the data collection strategy was identical to that employed in Experiment 1.

#### Demographic Composition of Conditions

Table 4 shows the demographic characteristics of participants in each condition. The conditions had equal numbers of participants ( $n = 30$  for both conditions) and also were similar with regard to age, gender, and education.

#### Stimulus Materials

The stimulus materials were the same as those used for Experiment 1, with a few minor alterations.

#### Stimulus Cards

All participants were given information about 18 mentally disabled men. The stimulus cards corresponded to either the moderate or extreme conditions. The descriptive sentences were identical to those used in Experiment 1. It

Table 4

Demographic Characteristics of Participants in Experiment 2

Characteristic	Condition <sup>a</sup>	
	E	M
Age		
<u>M</u>	41.9	39.5
<u>SD</u>	13.8	7.8
Gender		
Female	53.3	46.7
Male	46.7	53.3
Education		
Some College or Above	23.3	30.0
High School or Above	86.7	96.7

Note. Gender and education are expressed in terms of percentages.

<sup>a</sup>n = 30 for both conditions.

was necessary to use additional stereotype-neutral sentences in the moderately salient condition, however, in order to have three sentences on each card. The additional sentences were developed and judged appropriate in the same manner and by the same raters as were the other descriptive sentences.

Participants in the moderately salient stereotype-inconsistent condition received, as part of their 18 stimulus cards, information about 6 mentally disabled men, each of whom had one stereotype-inconsistent descriptive sentence on his stimulus card. The other two sentences were neutral or stereotype-consistent. The remaining stimulus cards had stereotype-consistent and stereotype-neutral sentences distributed across them. This condition was considered moderately salient because six of the cards had only one stereotype-inconsistent sentence. The stimulus sentences are provided in Appendix E.

Participants in the extremely salient stereotype-inconsistent condition received, as part of their 18 stimulus cards, information about 6 mentally disabled individuals, each of whom had three stereotype-inconsistent descriptive sentences on his stimulus card. The remaining stimulus cards had stereotype-consistent and stereotype-neutral sentences distributed across them. This condition was considered extremely salient because six of the cards had three stereotype-inconsistent sentences. The stimulus sentences are provided in Appendix E.



While the extreme condition bears some similarities to the large/concentrated condition in Experiment 1, it is not considered to be measuring the same thing. In Experiment 1, the pattern of disconfirming information was confounded with the number of disconfirming stimulus individuals. In Experiment 2 this confound is eliminated by holding the number of disconfirming stimulus individuals constant and varying the saliency of disconfirming information. If saliency is important, extremely inconsistent information should result in more change than moderately inconsistent information. On the other hand, moderately and extremely inconsistent information should result in the same amount of change if only the number of disconfirming group members is important (Weber & Crocker, 1983).

#### Videotaped Interviews

Participants in Experiment 2 viewed the same 18 videotaped interviews in the same order as participants in Conditions C and D in Experiment 1.

#### Measures

Participants in Experiment 2 were administered the same measures as participants in Experiment 1.

#### Procedure

The Procedure for Experiment 2 was identical to that of Experiment 1.

## RESULTS

### Preliminary Analyses

The data for Experiments 1 and 2 were examined prior to analysis to determine if they met the assumptions underlying the ANOVA procedure. As no substantial skewness was noted in the dependent measures and their standard deviations were in the expected range, these assumptions appeared to be met.

The data for both experiments were also examined to determine if participants' gender was related to their scores on the dependent measures. This was necessary due to the unequal distribution of men and women across conditions in Experiment 1, as well as to the previously demonstrated tendency of women to hold less negative attitudes toward mentally disabled persons (Trute et al., 1989). Analyses of covariance revealed that gender was not significantly related to scores on the dependent measures in either experiment.

The data from both experiments were examined to determine if there were any differences between conditions regarding participants' experience with and knowledge about mental health. This was necessary due to the previously demonstrated tendency of those with more experience and knowledge to hold less negative stereotypes of mentally disabled persons (Trute et al., 1989). Results of a  $t$ -test revealed that, in both experiments, the difference between the highest and lowest group mean on the Experience/

Knowledge Scale was not significant. Overall, participants in Experiment 1 had low to moderate experience with and knowledge about mental health issues and services ( $M = 12.69$ ,  $SD = 1.87$ ), as did participants in Experiment 2 ( $M = 12.55$ ,  $SD = 1.98$ ).

The data for both experiments was further examined to determine if participants' experience with and knowledge about mental health were related to the dependent measures. In Experiment 1, scores on the Knowledge/Experience Scale are moderately correlated with scores on the Social Responsibility factor of the Social Rejection Scale ( $r = -.24$ ,  $p < .02$ , two-tailed). In Experiment 2, scores on the Knowledge/Experience Scale are moderately correlated with scores on the Social Responsibility factor ( $r = -.37$ ,  $p < .01$ , two-tailed) and Social Relations factor ( $r = -.35$ ,  $p < .02$ , two-tailed) of the Social Rejection Scale. Scores on the Knowledge/Experience Scale are not significantly correlated with the other dependent measures.

The data for both experiments was also examined to determine if participants' educational level was related to scores on the dependent measures. Analyses of covariance revealed that education was not significantly related to scores on the dependent measures in either experiment.

## Experiment 1

Hypothesis 1

Hypothesis 1 states that concentrated stereotype-inconsistent information will result in more subtyping of mentally disabled persons than will dispersed stereotype-inconsistent information, regardless of the amount of stereotype-inconsistent information presented. A two-way analysis of variance tested this hypothesis.

Subtyping occurs when stereotype-disconfirming members of stigmatized groups are judged as exceptions to the stereotype instead of as representative of the stigmatized group. The subtyping model of schema change holds that some subtyping will inevitably occur whenever stereotype-inconsistent information about a stigmatized group is presented. Stereotyped schemas will be more likely to change when the amount of subtyping is held to a minimum.

Subtyping in the present study was defined as the number of participants' card piles that were described by at least one stereotype-inconsistent adjective. The presence of some, but not many, such card piles would indicate that more subtyping is occurring. The greater the number of piles described by stereotype-inconsistent adjectives, the less participants are thought to be subtyping. More piles indicates less subtyping, as this means that the stimulus individuals who possess disconfirming information are more randomly spread throughout the card piles rather than only

grouped with the other disconfirming individuals in a few piles. In order for Hypothesis 1 to be confirmed, participants in the concentrated conditions should have significantly fewer card piles described by stereotype-inconsistent adjectives than should participants in the Dispersed conditions.

Table 5 shows the means and standard deviations for the number of subtyped card piles for each condition in Experiment 1. The mean number of subtyped card piles was less than 1 for each condition because some individuals had no subtyped card piles and some participants had several subtyped card piles. The ANOVA results in Table 6 do not support Hypothesis 1, as there is no main effect for pattern. Instead, there is a main effect for amount of information, regardless of the pattern of inconsistent information  $F(1, 118) = 5.90, p < .017$ . Participants who received the greatest amount of stereotype-inconsistent information (Large/concentrated and Large/dispersed conditions) had significantly more card piles described by stereotype-inconsistent adjectives than did participants who received the least amount of stereotype-inconsistent information (Small/concentrated and Small/dispersed conditions).

### Hypothesis 2

Hypothesis 2 states that dispersed stereotype-inconsistent information will result in less stereotypical

Table 5

Subtyped Card Piles by Condition in Experiment 1

Condition	<u>n</u>	Subtyped Card Piles
Small/dispersed	31	
<u>M</u>		0.38
<u>SD</u>		0.71
Small/concentrated	31	
<u>M</u>		0.48
<u>SD</u>		0.50
Large/dispersed	30	
<u>M</u>		0.76
<u>SD</u>		0.59
Large/concentrated	30	
<u>M</u>		0.73
<u>SD</u>		0.69

Table 6

Between Group Comparison of Card Pile Subtyping in  
Experiment 1

Measure	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Number of subtyped card piles	Amount	1	3.02	3.02	5.90	.017
	Pattern	1	0.03	0.03	0.06	NS
	Pattern X Amount	1	0.13	0.13	0.25	NS
	Error	118	60.33	0.51		

adjective ratings of mentally disabled persons than will concentrated stereotype-inconsistent information, regardless of the amount of disconfirming evidence presented. Six two-way analyses of variance tested this hypothesis. It was necessary to do six analyses because participants rated three sets of adjectives for mentally disabled persons as a group as well as for an unknown mentally disabled individual. Prior to performing these analyses, two multiple analyses of variance procedures were performed to determine if probability levels required adjustment due to experiment-wise error. This was not found to be necessary, and the two-way analyses of variance were then performed.

Rating mentally disabled persons as a group. The first analysis compared participants' ratings of how typical were the stereotype-consistent adjectives of mentally disabled persons as a group. In order for Hypothesis 2 to be confirmed, participants in the Dispersed conditions should rate the stereotype-consistent adjectives as less typical of mentally disabled persons as a group than should participants in the Concentrated conditions.

Table 7 shows the mean scores and standard deviations for the stereotype-consistent adjectives in all conditions in Experiment 1. The ANOVA results in Table 8 do not support Hypothesis 2, as there is no main effect for pattern. Instead, there is a main effect for amount of information  $F(1, 118) = 4.83, p < .03$ . Participants in the



Table 7

Adjective Ratings of Mentally Disabled Persons as a Group by Condition in Experiment 1

Condition	<u>n</u>	Adjectives		
		Stereotype- Consistent	Stereotype- Inconsistent	Nonpresented Stereotype- Consistent
Small/dispersed	31			
<u>M</u>		6.12	4.96	5.78
<u>SD</u>		1.55	1.53	1.55
Small/concentrated	31			
<u>M</u>		6.01	4.45	6.03
<u>SD</u>		1.61	1.77	1.42
Large/dispersed	30			
<u>M</u>		7.15	5.42	6.57
<u>SD</u>		1.56	1.79	1.64
Large/concentrated	30			
<u>M</u>		6.29	5.07	6.26
<u>SD</u>		1.87	2.36	1.29
Control	30			
<u>M</u>		6.51	3.68	6.29
<u>SD</u>		1.56	1.52	1.73

Note. Higher scores indicate greater typicality.

Table 8

Between Group Comparison of Adjective Ratings of Mentally  
Disabled Persons as a Group in Experiment 1

Adjective	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Stereotype- Consistent	Amount	1	13.21	13.21	4.83	.03
	Pattern	1	7.23	7.23	2.64	NS
	Pattern X Amount	1	4.37	4.37	1.59	NS
	Error	118	322.93	2.74		
Stereotype- Inconsistent	Amount	1	8.91	8.91	2.50	NS
	Pattern	1	5.64	5.64	1.58	NS
	Pattern X Amount	1	0.22	0.22	0.06	NS
	Error	118	419.86	3.56		
Nonpresented Stereotype- Consistent	Amount	1	0.03	0.03	0.10	NS
	Pattern	1	8.04	8.04	2.67	NS
	Pattern X Amount	1	2.37	2.36	0.78	NS
	Error	118	355.55	3.01		

Large conditions rated the stereotype-consistent adjectives as significantly more typical of mentally disabled persons as a group than did participants in the Small conditions.

The second analysis compared participants' ratings of how typical were the stereotype-inconsistent adjectives of mentally disabled persons as a group. In order for Hypothesis 2 to be confirmed, participants in the Dispersed conditions should rate the stereotype-inconsistent adjectives as more typical of mentally disabled persons as a group than should participants in the Concentrated conditions.

Table 7 shows the mean scores and standard deviations for the stereotype-inconsistent adjectives in all conditions in Experiment 1. The ANOVA results in Table 8 do not support Hypothesis 2, as the experimental conditions do not differ in their ratings of the stereotype-inconsistent adjectives.

The third analysis compared participants' ratings of how typical were the non-presented stereotype-consistent adjectives of mentally disabled persons as a group. In order for Hypothesis 2 to be confirmed, participants in the Dispersed conditions should rate the non-presented stereotype-consistent adjectives as less typical of mentally disabled person as a group than should participants in the Concentrated conditions.

Table 7 shows the mean scores and standard deviations

for these adjectives in all conditions in Experiment 1. The ANOVA results in Table 8 do not support Hypothesis 2, as the experimental conditions do not differ in their ratings of the non-presented stereotype-consistent adjectives.

The data were further examined to determine if the experimental groups differed from the control group with regard to the adjective ratings.

Table 7 shows the mean scores and standard deviations for the adjective ratings of mentally disabled persons as a group in all conditions in Experiment 1. Results of a one-sided Dunnett test show that control participants rated the stereotype-inconsistent adjectives as significantly less typical of mentally disabled persons as a group than did participants in the Small/dispersed, Small/concentrated, and Large/concentrated conditions, with probability levels of .001, .03, and .01, respectively. This pattern of results was expected, because control group participants did not receive stereotype-inconsistent information about the mentally disabled stimulus individuals. As a result, they would have no experimentally induced reason to rate those adjectives as typical of mentally disabled persons.

The experimental participants do not differ from the control participants in their ratings of the stereotype-consistent and non-presented stereotype-consistent adjectives.

Ratings of an unknown mentally disabled person. The

fourth analysis compared participants' ratings of how typical were the stereotype-consistent adjectives of an unknown mentally disabled person. In order for Hypothesis 2 to be confirmed, participants in the Dispersed conditions should rate the stereotype-consistent adjectives as less typical of an unknown mentally disabled person than should participants in the Concentrated conditions.

Table 9 shows the mean scores and standard deviations for the stereotype-consistent adjectives in all conditions in Experiment 1. The ANOVA results in Table 10 do not support Hypothesis 2, as there is a trend toward a main effect for the Concentrated pattern of information  $F(1, 118) = 3.67, p < .058$ . Participants in the Dispersed conditions tended to rate the stereotype-consistent adjectives as more typical of an unknown mentally disabled person than did participants in the Concentrated conditions.

The fifth analysis compared participants' ratings of how typical were the stereotype-inconsistent adjectives of an unknown mentally disabled person. In order for Hypothesis 2 to be confirmed, participants in the Dispersed conditions should rate the stereotype-inconsistent adjectives as more typical of an unknown mentally disabled person than should participants in the Concentrated conditions.

Table 9 shows the mean scores and standard deviations for the stereotype-inconsistent adjectives in all conditions

Table 9

Adjective Ratings of an Unknown Mentally Disabled Individual  
by Condition in Experiment 1

Condition	<u>n</u>	Adjectives		
		Stereotype- Consistent	Stereotype- Inconsistent	Nonpresented Stereotype- Consistent
Small/dispersed	31			
<u>M</u>		6.23	5.03	5.93
<u>SD</u>		1.66	1.37	1.67
Small/concentrated	31			
<u>M</u>		6.04	4.72	6.17
<u>SD</u>		1.78	1.74	1.75
Large/dispersed	30			
<u>M</u>		6.91	5.40	6.67
<u>SD</u>		1.83	1.97	2.01
Large/concentrated	30			
<u>M</u>		5.78	4.94	5.83
<u>SD</u>		2.09	1.76	1.95
Control	30			
<u>M</u>		6.13	4.25	5.69
<u>SD</u>		1.97	1.69	1.97

Note. Higher scores indicate greater typicality.

Table 10

Between Group Comparison of Adjective Ratings of an Unknown  
Mentally Disabled Individual in Experiment 1

Adjective	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Stereotype- Consistent	Amount	1	1.27	1.27	0.37	NS
	Pattern	1	12.55	12.55	3.67	.058
	Pattern X Amount	1	7.03	7.03	2.05	NS
	Error	118	403.46	3.42		
Stereotype- Inconsistent	Amount	1	2.66	2.66	0.89	NS
	Pattern	1	4.49	4.49	1.51	NS
	Pattern X Amount	1	0.16	0.16	0.05	NS
	Error	118	351.84	2.98		
Nonpresented Stereotype- Consistent	Amount	1	1.25	1.25	0.36	NS
	Pattern	1	2.80	2.80	0.82	NS
	Pattern X Amount	1	8.88	8.88	2.59	NS
	Error	118	403.47	3.42		

in Experiment 1. The ANOVA results in Table 10 do not support Hypothesis 2, as the experimental conditions do not differ in their ratings of the stereotype-inconsistent adjectives.

The sixth analysis compared participants' ratings of how typical were the non-presented stereotype-consistent adjectives of an unknown mentally disabled person. In order for Hypothesis 2 to be confirmed, participants in the Dispersed conditions should rate the non-presented stereotype-consistent adjectives as less typical of an unknown mentally disabled person than should participants in the Concentrated conditions.

Table 9 shows the mean scores and standard deviations for these adjectives in all conditions in Experiment 1. The ANOVA results in Table 10 do not support Hypothesis 2, as the experimental conditions do not differ in their ratings of the non-presented stereotype-consistent adjectives.

The data were further examined to determine if the experimental groups differed from the control group with regard to the adjective ratings.

Table 9 shows the mean scores and standard deviations for the adjective ratings of an unknown mentally disabled individual in all conditions in Experiment 1. Results of a one-sided Dunnett test show that control participants rated the stereotype-inconsistent adjectives as significantly less typical of an unknown mentally disabled



person than did participants in the Large/dispersed condition, with a probability level of .02. There were no significant differences between the control group and the other experimental groups on the inconsistent adjectives.

The experimental participants also do not differ from the control participants in their ratings of the consistent and non-presented stereotype-consistent adjectives.

### Hypothesis 3

Hypothesis 3 states that dispersed stereotype-inconsistent information will result in less social rejection of mentally disabled persons than will concentrated stereotype-inconsistent information. Two two-way analyses of variance tested this hypothesis.

The first analysis compared participants' scores on the social responsibility factor of the Social Rejection Scale. In order for Hypothesis 3 to be confirmed, participants in the Dispersed conditions should express less rejection of mentally disabled persons in socially responsible roles than should participants in the Concentrated conditions.

Table 11 shows the mean scores and standard deviations for this measure in all conditions in Experiment 1. As shown in Table 12, the results do not support this hypothesis, as there is no main effect for pattern. Instead, there was a trend toward a main effect for amount of information  $F(1, 118) = 3.07, p < .08$ . Participants in the Large conditions were more likely to reject mentally

Table 11

Social Responsibility and Social Relations by Condition  
Experiment 1

Condition	<u>n</u>	Measure	
		Social Responsibility	Social Relations
Small/dispersed	31		
<u>M</u>		13.45	15.52
<u>SD</u>		3.11	3.52
Small/concentrated	31		
<u>M</u>		14.06	15.42
<u>SD</u>		3.55	3.68
Large/dispersed	30		
<u>M</u>		14.97	15.74
<u>SD</u>		3.36	3.94
Large/concentrated	30		
<u>M</u>		14.56	17.00
<u>SD</u>		2.61	3.19
Control	30		
<u>M</u>		13.83	14.77
<u>SD</u>		3.38	3.37

Note. Higher scores indicate greater rejection.

Table 12

Between Group Comparison of Social Responsibility and Social Relations in Experiment 1

Measure	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Social Responsibility	Amount	1	31.02	31.02	3.07	.08
	Pattern	1	0.35	0.35	0.03	NS
	Pattern X Amount	1	7.82	7.82	0.77	NS
	Error	118	1191.88	10.10		
Social Relations	Amount	1	23.74	23.74	1.84	NS
	Pattern	1	11.04	11.04	0.85	NS
	Pattern X Amount	1	14.87	14.87	1.15	NS
	Error	118	1525.59	12.93		

disabled persons in socially responsible roles than were participants in the Small conditions.

The second analysis compared participants' scores on the social relations factor of the Social Rejection Scale. In order for Hypothesis 3 to be confirmed, participants in the Dispersed conditions should express less rejection of social relations with mentally disabled persons than should participants in the Concentrated conditions.

Table 11 shows the mean scores and standard deviations for this measure in all conditions in Experiment 1. The ANOVA results in Table 12 do not support Hypothesis 3, as there was no difference between conditions on this factor. Participants in the Dispersed conditions were no less likely than participants in the Concentrated conditions to reject social relations with mentally disabled persons.

Overall, the results of the above analyses do not support Hypothesis 3.

The data were then examined to determine if the experimental groups differed from the control group with regard to social rejection of mentally disabled persons.

Table 11 shows the mean scores and standard deviations for the social relations and social responsibility factors of the Social Rejection Scale in all conditions in Experiment 1. Results of a one-sided Dunnett test show that control participants expressed significantly less rejection of social relations with mentally disabled persons

than did participants in the Large/concentrated condition, with a probability level of .03. There were no significant differences between the control group and the remaining experimental groups on this factor.

Results of another Dunnett test indicate that the experimental groups do not differ from the control group in their rejection of the mentally disabled in socially responsible roles.

#### Post-hoc Analyses

Two post-hoc, two-way analyses of variance were conducted to evaluate the differences between conditions with regard to stereotype-neutral adjective ratings of mentally disabled persons. These analyses were conducted to help further understand the results of Experiment 1.

The first analysis compared participants' ratings of how typical were the stereotype-neutral adjectives of mentally disabled persons as a group.

Table 13 shows the mean scores and standard deviations for these adjectives in all conditions in Experiment 1. The ANOVA results in Table 14 indicate a main effect for amount of information  $F(1, 118) = 8.94, p < .003$ . Participants in the Large conditions rated the stereotype-neutral adjectives as more typical of mentally disabled persons as a group than did participants in the Small conditions.

The second analysis compared participants' ratings of how typical were the stereotype-neutral adjectives of an

Table 13

Stereotype-Neutral Adjective Ratings by Condition in  
Experiment 1

Condition	n	Measure	
		Group	Unknown Person
Small/dispersed	31		
<u>M</u>		5.04	5.18
<u>SD</u>		0.87	0.83
Small/concentrated	31		
<u>M</u>		5.15	5.13
<u>SD</u>		0.89	0.97
Large/dispersed	30		
<u>M</u>		5.98	5.92
<u>SD</u>		1.21	1.14
Large/concentrated	30		
<u>M</u>		5.43	5.83
<u>SD</u>		1.29	1.24
Control	30		
<u>M</u>		4.77	4.90
<u>SD</u>		1.29	1.39

Note. Higher scores indicate greater typicality.

Table 14

Between Group Comparison of Stereotype-Neutral Adjective  
Ratings in Experiment 1

Measure	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Group	Amount	1	12.06	12.06	8.94	.003
	Pattern	1	1.30	1.30	0.96	NS
	Pattern X Amount	1	3.64	3.64	2.69	NS
	Error	118	159.24	1.35		
Unknown Person	Amount	1	15.98	15.98	12.06	.001
	Pattern	1	0.16	0.16	0.12	NS
	Pattern X Amount	1	0.01	0.01	0.01	NS
	Error	118	156.42	1.33		

unknown mentally disabled person.

Table 13 shows the means and standard deviations for these adjectives in all conditions of Experiment 1. The ANOVA results in Table 14 indicate a main effect for amount of information  $F(1, 118) = 12.06, p < .001$ . Participants in the Large conditions rated the stereotype-neutral adjectives as more typical of an unknown mentally disabled person than did participants in the Small conditions.

The data were further examined to determine if the experimental groups differed from the control group with regard to stereotype-neutral adjective ratings.

Table 13 shows the mean scores and standard deviations for the stereotype-neutral adjective ratings of mentally disabled persons as a group in all conditions in Experiment 1. Results of a one-sided Dunnett test show that control participants rated the stereotype-neutral adjectives as significantly less typical of mentally disabled persons as a group than did participants in the Large/concentrated and Large/dispersed conditions, with probability levels of .001 and .05, respectively.

Table 13 shows the mean scores and standard deviations for the stereotype-neutral adjective ratings of an unknown mentally disabled person in all conditions in Experiment 1. Results of a one-sided Dunnett test show that control participants rated the stereotype-neutral adjectives as significantly less typical of an unknown mentally disabled



person than did participants in the Large/concentrated and Large/dispersed conditions, with probability levels of .002 and .006, respectively.

This pattern of results was expected, because control group participants did not receive stereotype-neutral information about the mentally disabled stimulus individuals. As a result, they would have no experimentally induced reason to rate those adjectives as typical of mentally disabled persons.

## Experiment 2

### Hypothesis 4

Hypothesis 4 states that moderately salient disconfirming evidence will result in less subtyping of mentally disabled persons than will extremely salient disconfirming evidence. Two one-way analyses of variance tested this hypothesis.

Subtyping occurs when stereotype-disconfirming members of stigmatized groups are judged as exceptions to the stereotype instead of as representative of the stigmatized group. The subtyping model of schema change holds that some subtyping will inevitably occur whenever stereotype-inconsistent information about a stigmatized group is presented. Stereotyped schemas will be more likely to change when the amount of subtyping is held to a minimum.

Subtyping in the present study was defined as the

number of participants' card piles that were described by at least one stereotype-inconsistent adjective. The presence of some, but not many, such card piles would indicate that more subtyping is occurring. The greater the number of piles described by stereotype-inconsistent adjectives, the less participants are thought to be subtyping. More piles indicates less subtyping, as this means that the stimulus individuals who possess disconfirming information are more randomly spread throughout the card piles rather than only grouped with the other disconfirming individuals in a few piles.

In order for Hypothesis 4 to be confirmed, participants in the Moderate condition should have significantly more card piles described by stereotype-inconsistent adjectives than should participants in the Extreme condition.

Table 15 shows the means and standard deviations for the number of card piles and the number of subtyped card piles for each condition in Experiment 2. Very few card piles in the Moderate condition were described with stereotype-inconsistent adjectives ( $M = .10$ ,  $SD = .30$ ). The ANOVA results in Table 16 do not support Hypothesis 4. Participants who received moderately disconfirming stereotype-inconsistent information had significantly fewer card piles described by stereotype-inconsistent adjectives than participants in the extremely disconfirming condition  $F(1, 58) = 18.18$ ,  $p < .000$ .

Table 15

Card Sorting and Subtyping by Condition in Experiment 2

Measure	Condition <sup>a</sup>			
	Moderate		Extreme	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Number of card piles	5.23	1.22	4.73	1.38
Number of subtyped card piles	.10	.30	.67	.66

<sup>a</sup>n = 30 for each condition.

Table 16

Between Group Comparison of Card Sorting and Subtyping in  
Experiment 2

Measure	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Number of card piles	Between	1	3.75	3.75	2.19	NS
	Within	58	99.23	1.71		
	Total	59	102.98			
Number of subtyped card piles	Between	1	4.82	4.82	18.18	.000*
	Within	58	15.37	0.26		
	Total	59	20.19			

\* $p < .001$

### Hypothesis 5

Hypothesis 5 states that moderately salient stereotype-inconsistent information will result in less social rejection of mentally disabled persons than will extremely salient stereotype-inconsistent information. Two one-way analyses of variance tested this hypothesis.

The first analysis compared participants' scores on the social responsibility factor of the Social Rejection Scale. In order for Hypothesis 5 to be confirmed, participants in the Moderate condition should express less rejection of mentally disabled persons in socially responsible roles than should participants in the Extreme condition.

Table 17 shows the mean scores and standard deviations for this measure in both conditions in Experiment 2. The ANOVA results in Table 18 support this hypothesis  $F(1, 59) = 5.44, p < .02$ . Participants in the Moderate condition were less likely to reject mentally disabled persons in socially responsible roles than were participants in the Extreme condition.

The second analysis compared participants' scores on the social relations factor of the Social Rejection Scale. In order for Hypothesis 5 to be confirmed, participants in the Moderate condition should express less rejection of social relations with mentally disabled persons than should participants in the Extreme condition.

Table 17 shows the mean scores and standard deviations

Table 17

Social Responsibility and Social Relations by Condition in  
Experiment 2

Measure	Condition <sup>a</sup>					
	Moderate		Extreme		Control	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Social Responsibility	14.40	3.25	16.17	2.57	13.83	3.38
Social Relations	15.76	3.02	16.60	3.75	14.77	3.37

Note. Higher scores indicate greater rejection.

<sup>a</sup>n = 30 for each condition.

Table 18

Between Group Comparison of Social Responsibility and  
Social Relations in Experiment 2

Measure	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Social Responsibility	Between	1	46.82	46.82	5.44	.02
	Within	58	499.37	8.61		
	Total	59	546.19			
Social Relations	Between	1	10.44	10.44	0.89	NS
	Within	58	662.51	11.62		
	Total	59	672.95			

for this measure in both conditions in Experiment 2. The ANOVA results in Table 18 do not support Hypothesis 5, as there was no difference between conditions on this factor. Participants in the Moderate condition were no less likely than participants in the Extreme condition to reject social relations with mentally disabled persons.

Overall, the results of the above analyses partially support Hypothesis 5.

The data were further examined to determine if the experimental groups differed from the control group with regard to social rejection of mentally disabled persons.

Table 17 shows the mean scores and standard deviations for the social relations and social responsibility factors of the Social Rejection Scale in all conditions in Experiment 2. Results of a one-sided Dunnett test show that control participants expressed significantly less rejection of social relationships with mentally disabled persons than did participants in the Extreme condition, with a probability level of .04. There was not a significant difference between the control participants and participants in the Moderate group on this factor.

Results of another one-sided Dunnett test show that control participants were also significantly less rejecting of mentally disabled persons in socially responsible roles than were participants in the Extreme condition, with a probability level of .04. There was not a significant



difference between the control participants and participants in the Moderate group on this factor.

#### Post-hoc Analyses

Eight post-hoc, one-way analyses of variance were conducted to evaluate differences between conditions with regard to adjective ratings of (a) mentally disabled persons as a group and (b) an unknown mentally disabled person. These analyses were conducted to help further understand the differential impact of moderate and extreme stereotype-inconsistent information. Prior to performing these analyses, two multiple analyses of variance procedures were performed to determine if probability levels required adjustment due to experiment-wise error. This was not found to be necessary, and the two-way analyses of variance were then performed.

Rating mentally disabled persons as a group. The first analysis compared participants' ratings of how typical were the stereotype-consistent adjectives of mentally disabled persons as a group. If moderately salient stereotype-inconsistent information is more effective in changing stereotypes than extremely salient stereotype-inconsistent information, it is to be expected that participants in the Moderate condition would rate the stereotype-consistent adjectives as less typical of mentally disabled persons as a group than would participants in the Extreme condition.

Table 19 shows the mean scores and standard deviations

Table 19

Adjective Ratings of Mentally Disabled Persons as a Group by  
Condition in Experiment 2

Adjective	Condition <sup>a</sup>					
	Moderate		Extreme		Control	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Stereotype-Consistent	6.73	1.87	6.01	1.95	6.51	1.56
Stereotype-Inconsistent	3.76	1.41	5.08	1.56	3.68	1.52
Nonpresented Stereotype-Consistent	6.99	1.69	6.01	1.97	6.29	1.73
Stereotype-Neutral	5.80	1.25	5.38	0.87	4.77	1.29

Note. Higher scores indicate greater typicality.

<sup>a</sup>n = 30 for each condition.

for the stereotype-consistent adjectives in both conditions in Experiment 2. The ANOVA results in Table 20 do not support the expectations regarding moderately salient stereotype-inconsistent information, as the conditions do not differ in their ratings of the stereotype-consistent adjectives.

The second analysis compared participants' ratings of how typical were the stereotype-inconsistent adjectives of mentally disabled persons as a group. It was expected that participants in the Moderate condition would rate the stereotype-inconsistent adjectives as more typical of mentally disabled persons as a group than would participants in the Extreme condition.

Table 19 shows the mean scores and standard deviations for the stereotype-inconsistent adjectives in both conditions in Experiment 2. The ANOVA results in Table 20 do not support the expectations regarding moderately salient stereotype-inconsistent information. Participants in the Moderate condition rated the stereotype-inconsistent adjectives as significantly less typical of mentally disabled persons as a group than did participants in the Extreme condition  $F(1, 58) = 11.86, p < .001$ .

The third analysis compared participants' ratings of how typical were the non-presented stereotype-consistent adjectives of mentally disabled persons as a group. It was expected that participants in the Moderate condition would

Table 20

Between Group Comparison of Adjective Ratings of Mentally  
Disabled Persons as a Group in Experiment 2

Adjective	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Stereotype- Consistent	Between	1	6.65	6.65	1.82	NS
	Within	58	211.73	3.65		
	Total	59	218.38			
Stereotype- Inconsistent	Between	1	26.23	26.23	11.86	.001
	Within	58	128.31	2.21		
	Total	59	154.54			
Nonpresented Stereotype- Consistent	Between	1	14.36	14.36	4.26	.044
	Within	58	128.31	2.21		
	Total	59	154.54			
Stereotype- Neutral	Between	1	2.71	2.71	2.32	NS
	Within	58	67.79	1.17		
	Total	59	70.50			

rate the non-presented stereotype-consistent adjectives as less typical of mentally disabled persons as a group than would participants in the Extreme condition.

Table 19 shows the mean scores and standard deviations for these adjectives in both conditions in Experiment 2. The ANOVA results in Table 20 do not support the expectations regarding moderately salient stereotype-inconsistent information. Participants in the Moderate condition rated the non-presented stereotype-consistent adjectives as significantly more typical of mentally disabled persons as a group than did participants in the Extreme condition  $F(1, 58) = 4.26, p < .044$ .

Overall, the results of these analyses do not support the expectation that moderately salient stereotype-inconsistent information will be more effective in changing stereotypes than extremely salient stereotype-inconsistent information.

The fourth analysis compared participants' ratings of how typical were the stereotype-neutral adjectives of mentally disabled persons as a group.

Table 19 shows the means and standard deviations for these adjectives in both conditions in Experiment 2. The ANOVA results in Table 20 indicate that the conditions did not differ in their ratings of the stereotype-neutral adjectives.

The data were further examined to determine if the

experimental groups differed from the control group with regard to the adjective ratings.

Table 19 shows the mean scores and standard deviations for the adjective ratings of the mentally disabled as a group in all conditions in Experiment 2. Results of a one-sided Dunnett test reveal that control participants rated the stereotype-inconsistent adjectives as significantly less typical of mentally disabled persons as a group than did participants in the Extreme condition, with a probability level of .001. Results of another one-sided Dunnett test reveal that control participants rated the stereotype-neutral adjectives as significantly less typical of mentally disabled persons as a group than did participants in the Extreme and Moderate conditions, with probability levels of .04 and .001, respectively. This pattern of results was expected, because control group participants did not receive stereotype-inconsistent information about the mentally disabled stimulus individuals. As a result, they would have no experimentally induced reason to rate those adjectives as typical of mentally disabled persons.

The experimental participants do not differ from the control participants in their ratings of the stereotype-consistent and non-presented stereotype-consistent adjectives.

Ratings of an unknown mentally disabled individual.

The fifth analysis compared participants' ratings of how

typical were the stereotype-consistent adjectives of an unknown mentally disabled person. If moderately salient stereotype-inconsistent information is more effective in changing stereotypes than extremely salient stereotype-inconsistent information, it is to be expected that participants in the Moderate condition would rate the stereotype-consistent adjectives as less typical of an unknown mentally disabled person than would participants in the Extreme condition.

Table 21 shows the mean scores and standard deviations for the stereotype-consistent adjectives in both conditions in Experiment 2. The ANOVA results in Table 22 do not support the expectations regarding moderately salient stereotype-inconsistent information, as the conditions do not differ in their ratings of the stereotype-consistent adjectives.

The sixth analysis compared participants' ratings of how typical were the stereotype-inconsistent adjectives of an unknown mentally disabled person. It was expected that participants in the Moderate condition would rate the non-presented stereotype-consistent adjectives as less typical of an unknown mentally disabled person than would participants in the Extreme condition.

Table 21 shows the mean scores and standard deviations for the stereotype-inconsistent adjectives in both all conditions in Experiment 2. The ANOVA results in Table 22

Table 21

Adjective Ratings of an Unknown Mentally Disabled Individual  
by Condition in Experiment 2

Adjective	Condition <sup>a</sup>					
	Moderate		Extreme		Control	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Stereotype-Consistent	6.50	2.06	6.04	1.93	6.13	1.97
Stereotype-Inconsistent	4.69	2.31	5.11	1.71	4.25	1.69
Nonpresented Stereotype-Consistent	6.48	1.79	6.42	1.77	5.69	1.97
Stereotype-Neutral	5.94	1.58	5.72	0.99	4.90	1.39

Note. Higher scores indicate greater typicality.

<sup>a</sup>n = 30 for each condition.



Table 22

Between Group Comparison of Adjective Ratings for an  
Unknown Mentally Disabled Individual in Experiment 2

Adjective	Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Stereotype- Consistent	Between	1	3.17	3.17	0.79	NS
	Within	58	231.95	3.99		
	Total	59	235.12			
Stereotype- Inconsistent	Between	1	2.67	2.67	0.65	NS
	Within	58	239.32	4.13		
	Total	59	241.99			
Nonpresented Stereotype- Consistent	Between	1	0.05	0.05	0.01	NS
	Within	58	184.12	3.17		
	Total	59	184.17			
Stereotype- Neutral	Between	1	0.67	0.67	0.38	NS
	Within	58	101.36	1.75		
	Total	59	102.03			

do not support the expectations regarding moderately salient stereotype-inconsistent information, as the conditions do not differ in their ratings of the stereotype-inconsistent adjectives.

The seventh analysis compared participants' ratings of how typical were the non-presented stereotype-consistent adjectives of an unknown mentally disabled person. It was expected that participants in the Moderate condition would rate the non-presented stereotype-consistent adjectives as less typical of an unknown mentally disabled person than would participants in the Extreme condition.

Table 21 shows the mean scores and standard deviations for these adjectives in both conditions in Experiment 2. The ANOVA results in Table 22 do not support the expectations regarding moderately salient stereotype-inconsistent information, as the conditions did not differ in their ratings of the non-presented stereotype-consistent adjectives.

Overall, the results of these analyses do not support the expectation that moderately salient stereotype-inconsistent information will be more effective in changing stereotypes than extremely salient stereotype-inconsistent information.

The eighth analysis compared participants' ratings of how typical were the stereotype-neutral adjectives were of an unknown mentally disabled person.

Table 21 shows the means and standard deviations for these adjectives in both conditions in Experiment 2. The ANOVA results in Table 22 indicates that the conditions did not differ in their ratings of the stereotype-neutral adjectives.

The data were further examined to determine if the experimental groups differed from the control group with regard to the adjective ratings.

Table 21 shows the mean scores and standard deviations for the adjective ratings of the mentally disabled as a group in all conditions in Experiment 2. Results of a one-sided Dunnett test show that control participants rated the stereotype-neutral adjectives as significantly less typical of an unknown mentally disabled person than did participants in the Extreme and Moderate conditions, with probability levels of .02 and .004, respectively.

The experimental participants do not differ from the control participants in their ratings of the stereotype-consistent, stereotype-inconsistent, and non-presented stereotype-consistent adjectives.

## DISCUSSION

The present study examined different models of schema change in stereotypes of mentally disabled persons. Stereotype change in the present study was assessed on three measures, namely (a) the degree of subtyping, (b) social rejection, and (c) differences in adjective ratings. Participants in Experiment 1 who received the largest amount of disconfirming information exhibited significantly less subtyping than participants who received the smallest amount of disconfirming information. This is clear support for the bookkeeping model, which predicts that stereotypes change as a function of the amount of disconfirming information presented. In addition, participants in Experiment 2 who received extremely disconfirming information exhibited significantly less subtyping than participants who received moderately disconfirming information. This finding clearly supports the conversion model, which predicts that stereotypes change as a function of the salience of disconfirming information presented.

The conversion model is further supported when adjective ratings are examined. Participants in Experiment 2 who received extremely disconfirming information rated the stereotype-inconsistent adjectives as more typical and the nonpresented stereotype-consistent adjectives as less typical of mentally disabled persons as a group than did participants who received moderately disconfirming

information.

Taken together, these findings provide support for the hypothesis that stereotypes of mentally disabled persons can be changed through multiple exposures to individuals with mental disabilities who dramatically disconfirm those stereotypes.

The current findings do not, however, support the hypothesis that stereotype change will lead to decreased social rejection of mentally disabled persons. Participants in Experiment 2 who received moderately disconfirming information were less likely to reject mentally disabled persons in socially responsible roles than were participants who received extremely disconfirming information. However, participants in the moderate condition did not demonstrate significant stereotype change compared with participants in the extreme condition. The lack of a relationship between stereotype change and rejection of mentally disabled persons in socially responsible roles contradicts the common-sense expectation that change in knowledge structures will lead to change in negative affect and discriminatory behavior shown towards mentally disabled persons. It is startling to note that, in both experiments, control participants expressed significantly less social rejection of mentally disabled persons than did experimental participants, even though the control participants received no stereotype-disconfirming information.

The findings of the present study also contradict, in some important ways, predictions based on previous research by Weber and Crocker (1983). In their study, change in stereotypes associated with librarians and corporate lawyers was found to follow the subtyping and bookkeeping models. Weber and Crocker found that when disconfirming information was concentrated within a few stimulus individuals, stereotypes changed less than when disconfirming information was dispersed across stimulus individuals. Stimulus individuals who dramatically disconfirmed their occupational stereotype were subtyped, or grouped together, as unrepresentative exceptions to the rule. Moreover, the greater the number of disconfirming stimulus individuals presented, the greater the subsequent stereotype change.

Weber and Crocker concluded that the conversion model might apply to changes in stereotypes where participants were less certain of the stereotype. The current results may reflect that stereotypes of mentally disabled persons are more variable (i.e., participants were less certain) than stereotypes of corporate lawyers and librarians. As a result, the present participants may have adhered more to the conversion model than otherwise would have been the case.

The current findings also suggest that, as in the Weber and Crocker study, the more stereotype-inconsistent information the general public receives about mentally

disabled persons, the more likely that negative stereotypes of mentally disabled persons will change. However, contrary to the Weber and Crocker study, a concentrated pattern of disconfirming information may be more effective in changing public stereotypes of mentally disabled persons. The following discussion further examines the present results and their implications for mentally disabled persons in society.

#### Experiment 1

The findings in Experiment 1 are inconsistent with one another, in that participants demonstrated stereotype change on some measures but not on others.

Participants in the large stimulus conditions sorted their cards into significantly more piles described by stereotype-inconsistent adjectives than did participants in the small stimulus conditions. This suggests that, contrary to predictions of the subtyping model, the disconfirming stimulus individuals were not viewed as exceptions to the rule and grouped together. Instead, they were grouped with stereotype-consistent or neutral individuals. It also suggests that participants in the large conditions viewed the entire group of alleged mentally disabled individuals as less stereotypical than did participants in the small conditions, since they grouped the neutral and stereotype-consistent individuals with those who were stereotype-inconsistent.

The results of the subtyping task provide support for the bookkeeping model of schema change. However, this model was not supported when the adjective ratings are examined. Although participants in the large-stimulus conditions engaged in less subtyping, they viewed the stereotype-consistent adjectives as more typical of mentally disabled persons as a group than did participants in the small stimulus conditions. The presentation of stereotype-inconsistent information did not incline participants to associate the stereotype-inconsistent adjectives with mentally disabled persons as a group. This suggests that, while participants in the large stimulus conditions were able to view the stimulus individuals as less stereotypical on the subtyping task than were participants in the small conditions, they could not generalize that viewpoint to mentally disabled persons as a group.

Fiske and Neuberg (1990) suggest that when persons are asked to form impressions of others based on individuating attributes such as personal characteristics, group or category membership has less influence on the final impression than does individuating information. It may be that the individuating information provided about the mentally disabled stimulus individuals precluded generalization of those attributes to mentally disabled persons as a group.

There is some evidence in support of the conversion



model of schema change when adjective ratings of an unknown mentally disabled individual are examined. Participants in the concentrated conditions tended to view the stereotype-consistent adjectives as less typical of an unknown mentally disabled person did than participants in the dispersed conditions. This suggests that mentally disabled individuals who dramatically disconfirm the stereotype (i.e., those in the concentrated conditions) may have more impact on the overarching stereotype than do individuals who minimally disconfirm the stereotype (i.e., those in the dispersed conditions). It also indicates that it was easier for participants to extend what they learned about the stimulus individuals to a mentally disabled person who was purported to be similar to them.

One puzzling finding was that participants in the large stimulus conditions rated the stereotype-neutral adjectives as more typical of both mentally disabled persons as a group and the unknown mentally disabled individual. Again, Fiske and Neuberg (1990) concluded that neutral information that is presented with a category label such as mental patient may result in category-based processing during impression formation. That is, the neutral information may be viewed as typical of the category label and incorporated into the evaluation of the individual. It is also possible that participants viewed the neutral adjectives as being more typical of most people and, as a result, more typical of

mentally disabled persons.

The presentation of stereotype-inconsistent information did not appear to change participants' social rejection of mentally disabled persons as a group. In fact, participants who received the most stereotype-inconsistent information were more likely to reject mentally disabled persons in socially responsible roles than those who received the least amount of stereotype-inconsistent information. The Social Rejection Scale required participants to rate their behavioral intentions toward unspecified mentally disabled people. This again suggests that participants were unable to extend what they had learned about the stimulus individuals to mentally disabled persons in general. It also suggests that, while disconfirming information may change what the public thinks about a selected group of mentally disabled individuals, such information will not necessarily increase public acceptance of mentally disabled persons generally.

Stereotype-inconsistent information had no effect on participants' rejection of mentally disabled persons in terms of social relations. Participants rated how they would respond to hypothetical situations in which they or their family members would be in personal or even intimate relationships with mentally disabled persons. It is not surprising that the disconfirming information had no effect regarding social relations, as the items have greater

affective valence than the social responsibility items.

It is very surprising, however, that the control group expressed significantly less rejection of mentally disabled persons as a group than did participants in the Large/concentrated condition. This suggests that stereotype-inconsistent information may have actually increased social rejection in this instance.

### Experiment 2

Experiment 2 assessed the same three aspects of schema change (subtyping, adjective ratings, and social rejection), except that the amount of stereotype-consistent information was held constant across conditions and the disconfirming information was either moderately or extremely salient.

Despite predictions to the contrary, participants who received extremely disconfirming information about the mentally disabled stimulus individuals did not view them as exceptions to the rule. Participants in the extreme condition grouped disconfirming individuals with stereotype-neutral and stereotype-consistent stimulus individuals. This finding clearly supports the conversion model of schema change. Moreover, it suggests that extremely disconfirming mentally disabled individuals will have more impact on changing the public's stereotypes of mentally disabled persons than moderately disconfirming individuals.

The conversion model is further supported when adjective ratings are examined. Participants in the extreme

condition rated the stereotype-inconsistent adjectives as more typical and the nonpresented stereotype-consistent adjectives as less typical of mentally disabled persons as a group than did participants in the moderate condition. Further, they extended what they had learned about the stimulus individuals to mentally disabled persons as a group.

As in Experiment 1, there was no evidence in Experiment 2 that changing a stereotype will necessarily translate into increased acceptance of mentally disabled persons. Participants in the extreme condition subtyped less and rated mentally disabled persons as less stereotypical than did participants in the moderate condition. However, they indicated more rejection of mentally disabled persons in socially responsible roles than did participants in the moderate condition. This finding is consistent with the subtyping model of schema change, which states that dramatically disconfirming members of stereotyped groups will be less effective in changing stereotypes than will those who disconfirm the stereotype in a less salient manner. This is the only evidence in Experiment 2 which supports the subtyping model, and it is quite inconsistent with the findings regarding the subtyping task and the adjective ratings.

Another possible explanation for the contradictory findings regarding social rejection is that participants in

the moderate condition were somewhat better educated than participants in the extreme condition. Acceptance of mentally disabled persons in socially responsible roles has been positively associated with higher levels of education (Trute et al., 1989). Participants' education could have been more influential than was the disconfirming information they received in their acceptance of mentally disabled persons in socially responsible roles.

Finally, similar to findings in Experiment 1, the presentation of disconfirming information had no effect on participants' rejection of mentally disabled persons in terms of social relations.

It is again surprising to consider that, compared with participants in the extreme group, control participants expressed significantly less rejection of social relations with mentally disabled persons as well as of mentally disabled persons in socially responsible roles. This also suggests that the presentation of stereotype-inconsistent information actually increased social rejection while, at the same time, it changed stereotypical schemas.

#### Methodological Limitations

One limitation of the present study is that participants were not selected from a random sample of the general population, nor were they randomly assigned to condition. The selection of participants from fraternal and service organizations also resulted in a sample that was

more highly educated than the general population. Thus, the assumption that the stereotypical beliefs found in this study would also be found in a general or less educated population, could only be confirmed by research on a truly random sample. This applies to previous findings on models of schema change as well. Given the population from which the study sample was drawn, the present results can best be generalized to individuals residing in small to medium-size communities and rural areas. The stereotypical beliefs found in this study probably could not be generalized to a sample from a large urban area.

Another limitation of the present study concerns the subtyping measure. Since the subtyping measure is a post-intervention task only, it is not certain that the results represent real change. Moreover, the control group found the subtyping task to be confusing, as their stimulus cards only contained the names of the stimulus individuals. The control group could only sort their cards into piles based on what they saw in the videotape interviews. The control group subtyping results probably cannot be compared with those of the other conditions since they were grouped using different information.

Another drawback of the subtyping task is that a participant who created no card piles described by stereotype-inconsistent adjectives could also, in some instances, not be considered to be subtyping. This could

occur, for example, if a participant grouped all the cards in one pile and described the individuals in the pile with a neutral adjective. In this circumstance, the stereotype-inconsistent individuals would be grouped with the other members, and not seen as exceptions to the rule. However, using the present methodology, the participant would not have been counted as not subtyping.

It could be argued, of course, that, since subtyping can only occur when there is stereotype change, the above example would simply indicate a lack of stereotype change. As a result, subtyping or its absence, could not, by definition, even be measured. In any event, these questions expose a weakness in the subtyping measure that make interpretation of the present subtyping results difficult.

#### Affect, Cognition, and Methodology

The present study suggests that change in stereotypical schemas will not necessarily lead to increased acceptance of mentally disabled persons. If modification of stereotypical beliefs alone does not reduce rejection, then perhaps another factor, such as affect, should be addressed when contemplating stereotype change.

The importance of affect in social evaluation was demonstrated in a study by Abelson, Kinder, Peters, and Fiske (1982). They found that the emotions elicited by U.S. presidential candidates were significantly more influential than trait ratings in predicting candidate

preference and evaluation. Analogously, the emotions elicited by the stereotypes of mentally disabled persons may be far more influential determinants than the beliefs measured in the present study in predicting social rejection of mentally disabled persons.

The intention of the present study was to test a model of schema change suggested by previous research (Weber & Crocker, 1983), with affect as an additional variable of interest. Affective responses to mentally disabled persons were assessed only indirectly utilizing the Social Rejection Scale. It was assumed that changes in stereotypical schemas would necessarily lead to decreased negative affect toward mentally disabled persons, which in turn would result in increased acceptance of personal and public relationships with mentally disabled persons.

The study hypotheses were not confirmed. Not only was the hypothesized model of schema change not supported, but schema change apparently was not enough to decrease social rejection. It is conceivable that these findings resulted from sampling problems or some other methodological flaw. Alternatively, it can be argued that the hypotheses were not confirmed because (a) the findings of Weber and Crocker could not justifiably be generalized to stereotypes about mentally disabled persons, and (b) it is fallacious to suppose that schema change in itself results in affective change.



The generality of Weber and Crocker's (1983) findings may not extend to stereotypes of mentally disabled persons because (a) their study did not assign direct importance to affect in the process of schema formation, and (b) their study did not address change in stereotypes of stigmatized social groups. A model of schema formation offered by Fiske (1982) states that affect may simultaneously be incorporated with information into a cognitive system. As studied in Weber and Crocker (1983), affect toward librarians and lawyers may be mild and negligible in the formation of stereotypical schemas. In contrast, affect may be negative and more salient in the formation of stereotypical schemas regarding mentally disabled persons. Likewise, the perceived personal consequences of interactions with lawyers or librarians are probably less alarming than those related to interactions with mentally disabled persons. People generally do not expect librarians or lawyers to be unpredictable and dangerous.

Stephan and Stephan (1985) proposed that people experience anxiety to actual or anticipated interactions with members of outgroups. As people experience anxiety, the cognitive biases often found in normative information processing become amplified, thus leading to heightened anxiety and even more biased evaluation of outgroup members. Thus, the negative affect often associated with stigmatized social groups could alter the influence of disconfirming

information on the stereotypical schemas of those groups. Dispersed disconfirming information may not be sufficiently salient to negate the amplified cognitive biases that could occur with heightened anxiety. This idea is supported by the present finding that participants who received the most salient disconfirming information demonstrated the greatest stereotype change.

The failure to confirm the hypotheses related to social rejection in the present study may have proceeded from the erroneous assumption that schematic change will always result in affective change. Social judgements of individuals and groups have traditionally been viewed in the social cognition literature as the consequence of cognitive functions and structures (Hamilton & Troler, 1986). However, Abelson et al. (1982) demonstrated that affect is an independent influence that can sometimes take precedence over cognition in important social evaluations. If Abelson et al. (1982) are correct in their view that affect drives behavior, it is not at all surprising that changes in beliefs alone did not result in less rejecting behavioral intentions toward mentally disabled persons. Thus, an unforeseen shortcoming of the present study may have been its omission of participants' feelings in their relation to schema formation, and their potential involvement in greater acceptance of mentally disabled persons.

The present study suggests that providing information

about mentally disabled individuals may heighten public anxiety so that social rejection will be difficult, if not impossible, to reduce. The control group may have expressed less social rejection than the experimental groups because they received less information. This finding implies that attempts to increase public awareness of mental health issues during the past decades may have only served to increase social rejection of mentally disabled persons.

#### Implications for Mentally Disabled Persons

The present study suggests that providing multiple contacts between dramatically stereotype-disconfirming mentally disabled individuals and the general public can be an effective way to change negative stereotypes. One implication of this finding is that more former psychiatric patients may need to publicly identify themselves and not keep their histories a secret. Given the extent to which mentally disabled persons are stigmatized, however, the ensuing negative consequences of such actions may preclude any increased openness.

It is unfortunate that the present results suggest that increased openness by mentally disabled persons may only serve to increase rejection. This implies, for example, that attempts to locate new residential or treatment facilities for mentally disabled persons may be more successful if the public knows as little as possible about the situation until the facility is in place. Providing the

general public with information about proposed facilities may be only be counterproductive.

One must also question how realistic it is to expect seriously mentally disabled persons to present themselves to the general public as dramatically stereotype-disconfirming. Seriously mentally disabled individuals struggle with such debilitating symptoms that they often cannot engage in behaviors that disconfirm negative stereotypes. It may be necessary for higher functioning former psychiatric patients with less debilitating and chronic conditions to take the initiative to present themselves as stereotype-disconfirming exemplars. Link, Mirotznik, & Cullen (1991) cautioned, however, that efforts by former psychiatric patients to publicly disclose their disabilities may be harmful if not done through collective action as part of an advocacy or patients' rights group.

Fiske (1989) stated that the social perceiver must be held accountable for making the difficult cognitive switch from category-based to individuating processing when forming impressions of others. Research by Fiske and Neuberg (1989) indicates that the public is capable, given individuating information, of forming positive impressions of members of stereotyped groups, particularly when it is clearly in their interest to do so.

The general public will probably need incentives for acceptance of and interaction with mentally disabled

persons, as well as penalties for continued rejection and avoidance of mentally disabled persons. Government agencies may need to offer financial incentives to the public to employ and provide housing to mentally disabled persons. It may also be necessary for advocacy and patients' rights groups to offer social incentives, such as public recognition and praise, to those who employ mentally disabled persons or accept residential facilities for mentally disabled persons into their neighborhoods. Moreover, the entertainment and news industries may need encouragement and public recognition for offering accurate and positive portrayals of mentally disabled persons.

Continued rejection and stereotyping of mentally disabled persons may need to be legally penalized, much like racial discrimination has been, in order for mentally disabled persons to enjoy basic civil rights and participate fully in society. This would entail taking a legalistic, human-rights approach to stigmatization of mentally disabled persons. The legal rights of mentally disabled persons to refuse treatment, receive appropriate treatment, and enjoy basic civil liberties vary from region to region and country to country. There appears to be a complex interplay between public attitudes toward mentally disabled persons and their rights as codified in law (Segall, Tefft, and Trute, 1991). The general public may not be inclined to make what Fiske (1989) calls "the hard choice" to stop stereotyping mentally

disabled persons until they know that it is the only morally and legally legitimate choice.

In addition to changing the content of stereotypical schemas, it may be imperative to also change the accompanying negative affect. Stephan and Stephan (1985) found, for example, that individuals with low levels of anxiety about interactions with an outgroup engaged in less stereotyping and perceived themselves to be more similar to the outgroup than did individuals with high intergroup anxiety. The general public's negative affective responses to mentally disabled persons are perpetuated to a large extent by the media in inaccurate portrayals of mentally disabled persons as violent, unpredictable, and dangerous. Patients' rights groups and advocacy groups may need to demand that such portrayals be replaced by honest and compassionate treatment of mentally disabled persons. The results of the present study suggest that simply changing the content of stereotypical schemas will not be enough to decrease rejection of mentally disabled persons. The persistent reinforcement of negative affective responses to mentally disabled persons will also need to change.

#### Suggestions for Future Research

Modification of the Social Rejection Scale. It may be useful in subsequent studies to administer, along with the original version, an alternative version of the Social Rejection Scale (Trute & Loewen, 1978) in which the items

relate to specific mentally disabled individuals who are presented on videotape or in other ways. This modification could assess how powerful individuating information is in increasing acceptance of specific stigmatized individuals.

Modification of the subtyping measure. Several problems were noted in the present study with the subtyping measure. It would be useful in future studies to obtain some pre-intervention measure of participants' propensity to classify stereotype-disconfirming mentally disabled persons as exceptions to the rule. This would provide information whether post-intervention differences between conditions represent real changes in subtyping.

It would also be useful in future studies to make the subtyping measure less confusing for the control group. This could be accomplished by giving the control group neutral stimulus information, but only after the adjective ratings and Social Rejection Scale had been completed. This would provide the control group with more meaningful information with which to create card piles, yet would control for the neutral stimulus information somehow biasing responses to the questionnaires.

Finally, it would be helpful for future researchers to develop a subtyping measure that was less cumbersome to administer and score than the present measure, and that was also more conceptually clear and understandable.

Modification of videotaped interviews. The videotaped

interviews made the individuals described on the stimulus cards come alive for the participants. The transcripts in Appendix E do not fully convey the plausibility of the interviews, since the drab institutional surroundings and the unintentionally disheveled appearance of the confederates must be seen to be appreciated. It may be useful in future studies to make the videotape stimuli even more plausible. This could be accomplished by employing actors to demonstrate the characteristics described on the stimulus cards for each stimulus individual.

The confederates in the present study were described as ready to be discharged from the hospital. Many participants commented that the men did not seem to be ready for discharge yet, thus affirming the plausibility of the experimental stimuli. It may be useful in future studies, however, to make no mention of discharge, as this statement could have led participants to rate the stimulus individuals more positively than if discharge had not been mentioned.

Direct assessment of affective responses. It would be essential in future studies to directly assess affective responses to mentally disabled persons. This could be accomplished using a strategy similar to that of Abelson et al. (1982), in which participants were administered an affective checklist and asked whether presidential candidates had made them experience various feelings. Abelson et al. (1982) administered the affective checklist



verbally. The tendency for socially desirable responding in would need to be controlled for if a similar strategy were employed in future studies.

Sufficient extremity of disconfirming information. The stereotype-inconsistent information in the extreme condition of Experiment 2 was effective in changing participants' stereotypes. It would be useful in future studies to determine the degree of stereotype-inconsistency mentally disabled individuals need to demonstrate in order to change stereotypes. For example, it would be useful to determine whether socially appropriate behavior is sufficient or employment is also essential in order to disconfirm these stereotypes.

Incentives for openness and acceptance. As discussed previously, increased openness by mentally disabled persons about their disabilities and increased acceptance of mentally disabled persons by the general public will be essential for changing stereotypes. Increased openness by mentally disabled individuals is not likely to occur until the negative consequences for such openness are decreased. Future studies need to identify the kinds of incentives and penalties that will lead the public to evaluate mentally disabled persons using individually-based information.

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**APPENDIX A**  
Pre-test questionnaire

This study is about what the public thinks of people who are mentally disabled. These people have been psychiatric patients, and are also called "mentally ill". Your participation in this study will take 15-30 minutes. You will be asked to rate how typical are a number of characteristics as descriptors of mentally disabled people as a group. You will also be asked to provide certain demographic information such as your age, gender, level of education, and knowledge about mental health problems and services.

Your participation in this research is voluntary. You may withdraw from the study at any time. You do not have to answer any question you don't want to. Your answers and demographic information will be kept strictly confidential. You will not be identified in any report or presentation of the results.

## [Background Information]

1. What is the highest level of education you have completed? (Check only one)

\_\_\_\_\_ Grade 6 or less

\_\_\_\_\_ Grade 7-9

\_\_\_\_\_ Some High School

\_\_\_\_\_ High School Graduate or GED

\_\_\_\_\_ Some Technical or Vocational training after High School

\_\_\_\_\_ Technical or Vocational School Graduate

\_\_\_\_\_ Some College or University

\_\_\_\_\_ College or University Graduate

\_\_\_\_\_ Post-graduate University Education

2. How old are you? \_\_\_\_\_

3. What is your gender?

\_\_\_\_\_ Male

\_\_\_\_\_ Female

## [Pretest Rating of Mentally Disabled Persons]

Several characteristics are listed on the pages in front of you. Circle the number on the rating scale that corresponds to how typical each characteristic is of mentally disabled people as a group. If a characteristic is not at all typical, circle 0. If a characteristic is completely typical, circle 10. If a characteristic is somewhere between not at all typical and completely typical, circle the number between 0 and 10 that best represents how typical it is.

AS A GROUP, THE MENTALLY ILL ARE:

## 1. Restless

Not at all typical				Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10	

## 2. Flirtatious

Not at all typical				Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10	

## 3. Creative

Not at all typical				Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10	

## 4. Irritable

Not at all typical				Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10	

AS A GROUP, THE MENTALLY ILL ARE:5. **Uninhibited**

Not at all typical				Neither typical nor atypical					Completely typical		
0	1	2	3	4	5	6	7	8	9	10	

6. **Cruel**

Not at all typical				Neither typical nor atypical					Completely typical		
0	1	2	3	4	5	6	7	8	9	10	

7. **Withdrawn**

Not at all typical				Neither typical nor atypical					Completely typical		
0	1	2	3	4	5	6	7	8	9	10	

8. **Humorous**

Not at all typical				Neither typical nor atypical					Completely typical		
0	1	2	3	4	5	6	7	8	9	10	

9. **Self-controlled**

Not at all typical				Neither typical nor atypical					Completely typical		
0	1	2	3	4	5	6	7	8	9	10	

10. **Temperamental**

Not at all typical				Neither typical nor atypical					Completely typical		
0	1	2	3	4	5	6	7	8	9	10	

AS A GROUP, THE MENTALLY ILL ARE:

## 11. Fearful

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 12. Reckless

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 13. Sincere

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 14. Sociable

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 15. Aggressive

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 16. Intelligent

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10



AS A GROUP, THE MENTALLY ILL ARE:

## 17. Irresponsible

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 18. Friendly

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 19. Kind

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 20. Conscientious

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 21. Disorderly

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 22. Impulsive

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

AS A GROUP, THE MENTALLY ILL ARE:23. **Dangerous**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

24. **Apathetic**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

25. **Calm**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

26. **Hostile**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

27. **Moody**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

28. **Excitable**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

AS A GROUP, THE MENTALLY ILL ARE:

## 29. Undependable

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 30. Nagging

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 31. Cheerful

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 32. Aloof

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 33. Reliable

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## 34. Unpredictable

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

AS A GROUP, THE MENTALLY ILL ARE:35. **Stingy**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

36. **Logical**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

37. **Suspicious**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

38. **Tense**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

39. **Unstable**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

40. **Shy**

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

## [Knowledge About/Experience With Mental Health]

Next, I would like to know about your personal experience with mental health problems and services. For each question, please check yes or no, whichever best describes your experience with or opinions about mental health. Remember that you do not have to answer any question you don't want to.

- |  | YES   | NO    |
|--|-------|-------|
| 1. I have read factual information or seen factual TV programs concerning mental health.   | _____ | _____ |
| 2. I have received some formal education regarding mental health.  | _____ | _____ |
| 3. In my job, I sometimes interact with or have in the past interacted with members of the public who appear to have mental health problems. | _____ | _____ |
| 4. I am currently working with or in the past have worked with a co-worker having mental health problems.                                    | _____ | _____ |
| 5. A friend of mine currently has or in the past has had mental health problems.   | _____ | _____ |
| 6. I have lived or worked close to a mental health facility.   | _____ | _____ |
| 7. I have been to a mental health facility, but not as a client or patient.  | _____ | _____ |
| 8. A member of my family currently has or in the past has had mental health problems.  | _____ | _____ |
| 9. I currently have or in the past have had professional help for mental health problems.  | _____ | _____ |

**APPENDIX B**

Request to administer pre-test questionnaire (Letter 1)

[Letter 1]

Dear [group representative]

(Date)

I am a staff member of St. Joseph's Hospital Mental Health Clinic completing a Ph.D. in clinical psychology at the University of Manitoba in Winnipeg. My doctoral research is a study of what the general public thinks of the mentally ill. I need to survey groups of the general public, and I am writing to inquire whether [group name] would be interested in serving as participants. Participants will be asked to complete some brief questionnaires. Participation in the study would take approximately 45-60 minutes. I will be happy to meet with members and explain the results in detail once the study is completely finished.

I will donate \$100 to [group name] for permission to survey your members for my study. Participation is voluntary, and individual members may elect not to participate at any time. [Group name] will receive the full donation no matter how many members choose to participate.

I will be visiting Dickinson the week of July 10 and would like to administer the questionnaires during that time. I will contact you in a few days to answer any questions you may have about the study.

Sincerely,

Renee Boomgaarden

**APPENDIX C**  
Consent forms



## [Participants' Consent Form]

The membership of \_\_\_\_\_ consents to participate in the public attitude research project conducted by Renee Boomgaarden under the supervision of the Department of Psychology, University of Manitoba.

Individual members may elect not to participate now or at any time during the course of the study.

\_\_\_\_\_  
Group Representative's Signature

\_\_\_\_\_  
Date

## [Consent for Use of Picture]

I hereby voluntarily and without compensation authorize pictures to be made of me as part of the schema-change research project conducted by Renee Boomgaarden under the supervision of the Veterans Administration and the Department of Psychology, University of Manitoba. I authorize disclosure of the pictures to Ms. Boomgaarden, her dissertation committee, her research assistant(s), and participants of the study. I understand that the said pictures will be used as part of an experiment and will be described to participants as pictures of a mentally disabled person. I understand that participants will be informed at the completion of the study that said pictures were those of a confederate posing as a mentally disabled person. I also understand that said pictures will be kept by Ms. Boomgaarden after the study is completed and not will not be used for any other purpose thereafter.

I have read and understand the foregoing and I consent to the use of my picture as specified for the above-described purpose. I further understand that no royalty, fee, or other compensation of any character shall become payable to me for the use of my picture.

---

Signature

---

Date

**Appendix D**  
Debriefing statement

## [Debriefing Statement]

The purpose of this study was to determine how different types of information about mentally disabled persons affect subsequent ratings mentally disabled persons. The results of this study will be used to determine how information about mentally disabled persons should be presented to the general public so that attitudes about mentally disabled persons can be made more positive. If you have any questions about this research I will be happy to talk with you after everyone here has finished today. I will also be happy to visit your organization once my study is completed to explain the results and answer any further questions that you might have. Thank you for your assistance with this project.

**APPENDIX E**  
Stimulus sentences and videotape transcripts

## Condition A Stimulus Sentences

1. David has been asked to leave local stores and restaurants for shouting his disagreements with sales clerks and cashiers. [C]
- David is never intimidated by people who become threatening or aggressive towards him. [I]
- David refuses to reduce the amount of fat in his diet, even though he has high blood pressure and high cholesterol. [N]
2. Kevin is described by his friends as a highly self-restrained person who almost never acts in an impetuous manner. [I]
- Kevin sings in a community choir. [N]
- Kevin reads newspaper editorials. [N]
3. John hides when he sees men with tatoos, as he believes such men are trying to kill him. [C]
- John is described by his friends as an easygoing and even-tempered person. [I]
- John plays racquetball. [N]
4. Joe is considered a good influence on others due to his placid and quiet disposition. [I]
- Joe salutes when the U.S. flag is presented in parades. [N]
- Joe is a member of the Lutheran church and sometimes reads the scripture lessons to the congregation during services. [N]

C = Stereotype-consistent

I = Stereotype-inconsistent

N = Stereotype-neutral

5. Dan almost always resists the urge to make unplanned, impulse buys when he goes shopping. [I]
- Dan describes himself as a critical person who has high standards and is hard to please. [N]
- Dan is a member of a pro-life organization. [N]
6. Bob opposes school busing to achieve desegregation. [N]
- Bob makes spur-of-the-moment, unplanned bus trips across the country, often without taking along extra clothes or money. [C]
- Bob is a volunteer frogman for the local sheriff's department and helps retrieve the victims of drowning accidents. [I]

## Condition B Stimulus Sentences

1. David has been asked to leave local stores and restaurants for shouting his disagreements with sales clerks and cashiers. [C]
- David reads newspaper editorials. [N]
- David salutes when the U.S. flag is presented in parades. [N]
2. Kevin is never intimidated by people who become threatening or aggressive towards him. [I]
- Kevin is described by his friends as an easygoing and even-tempered person. [I]
- Kevin is also described by his friends as a highly self-restrained person who almost never acts in an impetuous manner. [I]
3. John plays racquetball. [N]
- John is a member of a pro-life organization. [N]
- John is a member of the Lutheran church and sometimes reads the scripture lessons to the congregation during services. [N]
4. Joe describes himself as a critical person who high standards and is hard to please. [N]
- Joe refuses to reduce the amount of fat in his diet, even though he has high blood pressure and high cholesterol. [N]
- Joe makes spur-of-the-moment, unplanned bus trips across the country, often without taking along extra clothes or money. [C]

C = Stereotype-consistent

I = Stereotype-inconsistent

N = Stereotype-neutral



5. Dan is a volunteer frogman for the local sheriff's department and helps retrieve the victims of drowning accidents. [I]

Dan is considered a good influence on others due to his placid and quiet disposition. [I]

Dan almost always resists the urge to make unplanned, impulse buys when he goes shopping. [I]

6. Bob hides when he sees men with tatoos, as he believes such men are trying to kill him. [C]

Bob opposes school busing to achieve desegregation. [N]

Bob sings in a community choir. [N]

## Condition C Stimulus Sentences

1. David has been asked to leave local stores and restaurants for shouting his disagreements with sales clerks and cashiers. [C]
- David is never intimidated by people who become threatening or aggressive towards him. [I]
- David refuses to reduce the amount of fat in his diet, even though he has high blood pressure and high cholesterol. [N]
2. Kevin sings in a community choir. [N]
- Kevin is described by his friends as a highly self-restrained person who almost never acts in an impetuous manner. [I]
- Kevin reads newspaper editorials. [N]
3. Mike stays quite composed and levelheaded no matter how upset others around him become. [I]
- Mike is a picky eater who will not eat many foods unless they are prepared exactly the way he likes. [N]
- Mike was reared in a Catholic home and goes regularly to Mass. [N]
4. Jeb is described by his family as very set in his ways. [N]
- Jeb was awarded the Bronze star for heroism in Vietnam. [I]
- Jeb cannot be trusted with his own finances, as he will spend any money he has on cigarettes, fast food, and anything else that catches his eye. [C]

C = Stereotype-consistent

I = Stereotype-inconsistent

N = Stereotype-neutral

5. Ed is a quiet person who remains very cool headed in emergencies. [I]
- Ed feels panicked and frightened in open spaces, and often is unable to leave his home. [C]
- Ed likes to read historical novels. [N]
6. Cary was respected by the men in his platoon for his ability to remain cool and collected during battle. [I]
- Cary is sometimes afraid that his medication will poison him. [C]
- Cary has voted for Republican presidential candidates in the last three elections. [N]
7. Russ disapproves of interracial marriages. [N]
- Russ is described by his friends as a courageous person who faced the problems in his life without shrinking. [I]
- Russ believes it is his duty to vote in State and National elections. [N]
8. Tom is very self-disciplined and cautious. [N]
- Tom bicycles five miles per day. [N]
- Tom spends much of his leisure time reading magazines in the public library. [N]
9. John plays racquetball. [N]
- John hides when he sees men with tatoos, as he believes such men are trying to kill him. [C]
- John is described by his friends as an easygoing and even-tempered person. [I]

10. Joe is considered a good influence on others due to his placid and quiet disposition. [I]
- Joe salutes when the U.S. flag is presented in parades. [N]
- Joe is a member of the Lutheran church and sometimes reads the scripture lessons to the congregation during services. [N]
11. Dan describes himself as a critical person who has high standards and is hard to please. [N]
- Dan is a member of a pro-life organization. [N]
- Dan almost always resists the urge to make unplanned, impulse buys when he goes shopping. [I]
12. Bob is a volunteer frogman for the local sheriff's department and helps retrieve the victims of drowning accidents. [I]
- Bob makes spur-of-the-moment, unplanned bus trips across the country, often without taking along extra clothes or money. [C]
- Bob opposes school busing to achieve desegregation. [N]
13. Bill exhibits a great deal of patience when dealing with difficult or rude people. [I]
- Bill becomes so enthusiastic when he starts new projects that he goes for days without eating or sleeping and has a hard time settling down. [C]
- Bill regularly attends Veteran's Day ceremonies. [N]
14. Herman believes in a strong national defense, even if it means cutting social programs. [N]
- Herman, who lives in a large, midwestern city, is not afraid to walk alone in his crime-ridden neighborhood. [I]
- Herman participates in judo for recreation and exercise. [N]

15. Scott is often carried away with intense emotion when discussing national news stories. [C]
- Scott deliberates carefully before making most decisions. [I]
- Scott plays the trumpet. [N]
16. Kelly is concerned about his health, and is able to resist the temptation to eat too many sweets at holiday gatherings. [I]
- Kelly doesn't like to socialize with members of racial minorities, [N]
- Kelly attends the Methodist church. [N]
17. Gordon was considered a fearless paratrooper in the infantry and still likes to skydive. [I]
- Gordon has a history of making sudden, unexpected suicide attempts. [C]
- Gordon is quite particular about his personal appearance. [N]
18. It is hard to change Wes' opinion once he has made up his mind. [N]
- Wes played the drums in a Country and Western band. [N]
- Wes doesn't allow his feelings to negatively influence his behavior. He usually thinks before he acts. [I]

## Condition D Stimulus Sentences

1. David has been asked to leave local stores and restaurants for shouting his disagreements with sales clerks and cashiers. [C]
- David reads newspaper editorials. [N]
- David salutes when the U.S. flag is presented in parades. [N]
2. Kevin is never intimidated by people who become threatening or aggressive towards him. [I]
- Kevin is described by his friends as an easygoing and even-tempered person. [I]
- Kevin is also described by his friends as a highly self-restrained person who almost never acts in an impetuous manner. [I]
3. Mike is described by his friends as a courageous person who faces then problems in his life without shrinking. [I]
- Mike exhibits a great deal of patience when dealing with difficult or rude people. [I]
- Mike is described by his friends as very set in his ways. [I]
4. Jeb spends much of his leisure time reading magazines in the public library. [N]
- Jeb feels panicked and frightened in open spaces, and often is unable to leave his home. [C]
- Jeb has voted for Republican presidential candidates in the last three elections. [N]

C = Stereotype-consistent

I = Stereotype-inconsistent

N = Stereotype-neutral

5. Ed sometimes is afraid that his medication will poison him. [C]
- Ed regularly attends Veteran's Day ceremonies. [N]
- Ed played the drums in a Country and Western band. [N]
6. Cary is quite particular about his personal appearance. [N]
- Cary is described by his family as very set in his ways. [N]
- Cary plays the trumpet. [N]
7. Russ was awarded the Bronze Star for heroism in Vietnam. [I]
- Russ is a quiet person who remains very cool-headed in emergencies. [I]
- Russ is concerned about his health, and is able to resist the temptation to eat too many sweets at holiday gatherings. [I]
8. Tom disapproves of interracial marriages. [N]
- Tom has a history of making sudden, unexpected suicide attempts. [C]
- Tom likes to read historical novels. [N]
9. John plays racquetball. [N]
- John is a member of a pro-life organization. [N]
- John is a member of the Lutheran church and sometimes reads the scripture lessons to the congregation during services. [N]

10. Joe makes spur-of-the-moment, unplanned bus trips across the country, often without taking along extra clothes or money. [C]
- Joe describes himself as a critical person who high standards and is hard to please. [N]
- Joe refuses to reduce the amount of fat in his diet, even though he has high blood pressure and high cholesterol. [N]
11. Dan is a volunteer frogman for the local sheriff's department and helps retrieve the victims of drowning accidents. [I]
- Dan is considered a good influence on others due to his placid and quiet disposition. [I]
- Dan almost always resists the urge to make unplanned, impulse buys when he goes shopping. [I]
12. Bob hides when he sees men with tatoos, as he believes such men are trying to kill him. [C]
- Bob opposes school busing to achieve desegregation. [N]
- Bob sings in a community choir. [N]
13. Bill participates in judo for recreation and exercise. [N]
- It is hard to change Bill's opinion once he has made up his mind. [N]
- Bill becomes so enthusiastic when he starts new projects that he goes for days without eating or sleeping and has a hard time settling down. [C]
14. Herman is a picky eater who will not eat many foods unless they are prepared exactly the way he likes. [N]
- Herman believes in a strong national defense, even if it means cutting social programs. [N]
- Herman bicycles five miles per day. [N]



15. Scott stays quite composed and levelheaded no matter how upset others around him become. [I]
- Scott deliberates carefully before making most decisions. [I]
- Scott, who lives in a large, midwestern city, is not afraid to walk alone in his crime-ridden neighborhood. [I]
16. Kelly is often carried away with intense emotion when discussing national news stories. [C]
- Kelly doesn't like to socialize with members of racial minorities. [N]
- Kelly attends the Methodist Church. [N]
17. Gordon is very self-disciplined and cautious. [I]
- Gordon was considered a fearless paratrooper in the infantry and still likes to skydive. [I]
- Gordon was respected by the men in his platoon for his ability to remain cool and collected during battle. [I]
18. Wes believes it is his duty to vote in State and National elections. [N]
- Wes cannot be trusted with his own finances, as he will spend any money he has on cigarettes, fast food, and anything else that catches his eye. [C]
- Wes was reared in a Catholic home and goes regularly to Mass. [N]

## Condition E Stimulus Sentences

1. David plays the trumpet. [N]  
 It is hard to change David's opinion once he has made up his mind. [N]  
 David believes it is his duty to vote in State and National elections. [N]
2. Kevin is described by his friends as an easygoing and even-tempered person. [I]  
 Kevin is never intimidated by people who become threatening or aggressive towards him. [I]  
 Kevin is concerned about his health, and is able to resist the temptation to eat too many sweets at holiday gatherings. [I]
3. Mike disapproves of interracial marriages. [N]  
 Mike sometimes is afraid that his medication will poison him. [C]  
 Mike likes to play the harmonica. [N]
4. Jeb hides when he sees men with tatoos, as he believes such men are trying to kill him. [C]  
 Jeb doesn't like to socialize with members of racial minorities. [N]  
 Jeb participates in judo for recreation and exercise. [N]

C = Stereotype-consistent

I = Stereotype-inconsistent

N = Stereotype-neutral

5. Ed, who lives in a large, midwestern city, is not afraid to walk alone in his crime-ridden neighborhood. [I]
- Ed exhibits a great deal of patience when dealing with difficult or rude people. [I]
- Ed almost always resists the urge to make unplanned, impulse buys when he goes shopping. [I]
6. Cary makes spur-of-the-moment, unplanned bus trips across the country, often without taking along extra clothes or money. [C]
- Cary describes himself as a critical person who has high standards and is hard to please. [N]
- Cary believes that oriental people are inferior to white people. [N]
7. Russ regularly attends Veteran's Day ceremonies. [N]
- Russ is afraid that government agents posing as medical staff are trying to ruin him financially. [C]
- Russ cannot tolerate shoddy workmanship and makes a point of returning clothing purchases with minor flaws that most people would just ignore. [N]
8. Tom is in favor of a constitutional amendment forbidding flag burning. [N]
- Tom lifts weights at a local health club. [N]
- Tom is in favor of the death penalty for the killers of on-duty law officers. [N]
9. John is very self-disciplined and cautious. [I]
- John is considered a good influence on others due to his placid and quiet disposition. [I]
- John is described by his friends as a courageous person who faces the problems in his life without shrinking. [I]

10. Joe has voted for Republican presidential candidates in the last three elections. [N]
- Joe is a picky eater who will not eat many foods unless they are prepared exactly the way he likes. [N]
- Joe has been asked to leave local stores and restaurants for shouting his disagreements with sales clerks and cashiers. [C]
11. Dan was respected by the men in his platoon for his ability to remain cool and collected during battle. [I]
- Dan is a volunteer frogman for the local sheriff's department and helps retrieve the victims of drowning accidents. [I]
- Dan deliberates carefully before making most decisions. [I]
12. Bob stays quite composed and levelheaded no matter how upset others around him become. [I]
- Bob was awarded the Bronze Star for heroism in Vietnam. [I]
- Bob doesn't allow his feelings to negatively influence his behavior. He usually thinks before he acts. [I]
13. Bill sings in a community choir. [N]
- Bill likes to read historical novels. [N]
- Bill easily loses control and will strike out at people he believes have wronged him. [C]
14. Herman plays racquetball twice a week. [N]
- Herman attends the Methodist Church. [N]
- Herman is described by his family as very set in his ways. [N]

15. Scott is described by his friends as a highly self-restrained person who almost never acts in an impetuous manner. [I]
- Scott is a quiet person who remains very cool-headed in emergencies. [I]
- Scott was considered a fearless paratrooper in the infantry and still likes to skydive. [I]
16. Kelly feels panicked and frightened in open spaces, and often is unable to leave his home. [C]
- Kelly is a member of a pro-life organization. [N]
- Kelly played the drums in a Country and Western band. [N]
17. Gordon has a history of making sudden, unexpected suicide attempts. [C]
- Gordon was reared in a Catholic home and goes regularly to Mass. [N]
- Gordon believes in a strong national defense, even if it means cutting social programs. [N]
18. Wes becomes so enthusiastic when he starts new projects that he goes for days without eating or sleeping and has a hard time settling down. [C]
- Wes insists on taking as much time as he wants to do things even when this might pose an inconvenience to other people. [N]
- Wes is considered a well-read person. [N]

## Condition M Stimulus Sentences

1. David likes to play the harmonica. [N]  
 David is a born-again Christian and attends a bible study group. [N]  
 David cannot be trusted with his own finances, as he will spend any money he has on cigarettes, fast food, and anything else that catches his eye. [C]
2. Kevin was awarded the Bronze Star for heroism in Vietnam. [I]  
 Kevin is a member of the Lutheran church and sometimes reads the scripture lesson to the congregation during services. [N]  
 Kevin is a picky eater who will not eat many foods unless they are prepared exactly the way he likes. [N]
3. Mike has been asked to leave local stores and restaurants for shouting his disagreements with sales clerks and cashiers. [C]  
 Mike cannot tolerate shoddy workmanship and makes a point of returning clothing purchases with minor flaws that most people would just ignore. [N]  
 Mike plays the trumpet. [N]
4. Jeb is in favor of a constitutional amendment forbidding flag burning. [N]  
 Jeb was reared in a Catholic home and goes regularly to Mass. [N]  
 Jeb describes himself as a critical person who has high standards and is hard to please. [N]

C = Stereotype-consistent

I = Stereotype-inconsistent

N = Stereotype-neutral

5. Ed doesn't allow his feelings to negatively influence his behavior. He usually thinks before he acts. [I]
- It is hard to change Ed's opinion once he has made up his mind. [N]
- Ed played the drums in a Country and Western band. [N]
6. Cary is in favor of the death penalty for the killers of on-duty law officers. [N]
- Cary is quite particular about his personal appearance. [N]
- Cary opposes school busing to achieve desegregation. [N]
7. Russ sings in a community choir. [N]
- Russ hides when he sees men with tatoos, as he believes such men are trying to kill him. [C]
- Russ spends much of his leisure time reading magazines in the public library. [N]
8. Tom attends the Methodist Church. [N]
- Tom is afraid that government agents posing as medical staff are trying to ruin him financially. [C]
- Tom regularly attends Veteran's Day ceremonies. [N]
9. John is sometimes afraid that his medication will poison him. [C]
- John is described by his friends as a highly self-restrained person who almost never acts in an impetuous manner. [I]
- John has voted for Republican presidential candidates in the last three elections. [N]

10. Joe insists on taking as much time as he wants to do things even when this might pose an inconvenience to other people. [N]
- Joe has a history of making sudden, unexpected suicide attempts. [C]
- Joe believes that oriental people are inferior to white people. [N]
11. Dan likes to read historical novels. [N]
- Dan is described by his family as very set in his ways. [N]
- Dan stays quite composed and levelheaded no matter how upset others around him become. [I]
12. Bob is a quiet person who remains very cool-headed in emergencies. [I]
- Bob disapproves of interracial marriages. [N]
- Bob makes spur-of-the-moment, unplanned bus trips across the country, often without taking along extra clothes or money. [C]
13. Bill is considered to be a well-read person. [N]
- Bill can't have even a minor disagreement with someone without becoming so agitated he raises his voice and shakes his fist. [C]
- Bill believes it is his duty to vote in State and National elections. [N]
14. Herman is often carried away with intense emotions when discussing national news stories. [C]
- Herman always salutes when the U.S. flag is presented in parades. [N]
- Herman plays racquetball twice a week. [N]



15. Scott lifts weights at a local health club. [N]  
Scott is a volunteer frogman for the local sheriff's department and helps retrieve the victims of drowning accidents. [I]  
Scott refuses to reduce the amount of fat in his diet, even though he has high blood pressure and high cholesterol. [N]
16. Kelly bicycles five miles per day. [N]  
Kelly reads newspaper editorials whenever he can. [N]  
Kelly becomes so enthusiastic when he starts new projects that he goes for days without eating or sleeping and has a hard time settling down. [C]
17. Gordon believes in a strong national defense, even if it means cutting social programs. [N]  
Gordon easily loses control and will strike out at people he believes have wronged him. [C]  
Gordon doesn't like to socialize with members of racial minorities. [N]
18. Wes is a member of pro-life organization. [N]  
Wes participates in judo for recreation and exercise. [N]  
Wes feels panicked and frightened in open spaces, and often is unable to leave his home. [C]

## [Videotape Transcript 1]

Interviewer: I want to thank you for agreeing to be video taped today. I'm going to ask you a couple of fairly simple questions. My first question is, What's your name?

Patient: Dan.

Interviewer: Where are you from originally?

Patient: I'm from Charleston, Missouri.

Interviewer: What did you have for breakfast this morning?

Patient: I didn't have breakfast.

Interviewer: Dan, who is the president of the U.S.?

Patient: George Bush . . . George Bush

Interviewer: What's your doctor's name?

Patient: My doctor? DiGello.

Interviewer: Dan, what is your next meal going to be?

Patient: Probably supper.

Interviewer: What kind of weather are we having today?

Patient: Beautiful weather, perfect weather.

Interviewer: That's all the questions I have. I'd like to thank you for agreeing to be taped.

## [videotape transcript 2]

Interviewer: Thank you for being videotaped today. I'm going to ask you some simple questions. What is your first name?

Patient: Bob.

Interviewer: Okay, Bob. Where are you from originally?

Patient: Washington state, Spokane.

Interviewer: What did you have for breakfast this morning?

Patient: Cold cereal.

Interviewer: And what will your next meal be? What will be the next meal that your eat?

Patient: Supper tonight.

Interviewer: Bob, what kind of weather are we having today?

Patient: Very warm, slightly humid.

Interviewer: Who is president of the US?

Patient: George Bush.

Interviewer: What's your doctor's name?

Patient: Dr. Hillier.

Interviewer: That's all the questions I have. Thank you for being videotaped.

## [videotape transcript 3]

Interviewer: I want to thank you for agreeing to be videotaped today and I am going to ask you a few questions. My first question is what's your name?

Patient: Bill Miller.

Interviewer: Okay, Bill. Where are you from originally?

Patient: Southern Missouri

Interviewer: Bill, what did you have for breakfast today?

Patient: I had toast and. . . toast.

Interviewer: Bill, who is the US president?

Patient: Right now?

Interviewer: Right now.

Patient: Bush.

Interviewer: Bill, what kind of weather are we having today?

Patient: Nice cool weather.

Interviewer: What's going to be the next meal that you eat?

Patient: Lunch.

Interviewer: Bill, what's your doctor's name?

Patient: Alling.

Interviewer: That's all the questions I have for you right now. Thank you for being videotaped.

**Appendix F**  
Questionnaire for Experiments 1 and 2

This study is about what the public thinks of people who are mentally ill. You will be given information about a number of mentally ill men. You will also view a short videotaped interview of each man. You will then be asked to complete some short questionnaires. You will also be asked to provide certain demographic information such as your age, gender, level of education, and knowledge about mental health problems and services.

Your participation in this research is voluntary. You may withdraw from the study at any time. You do not have to answer any question you don't want to. Your answers and demographic information will be kept strictly confidential. You will not be identified in any report or presentation of the results.

## [Rating Mentally Disabled Persons as a Group]

Several characteristics are listed on the pages in front of you. Circle the number on the rating scale that corresponds to how typical each characteristic is of mentally ill people as a group. If a characteristic is not at all typical, circle 0. If a characteristic is completely typical, circle 10. If a characteristic is somewhere between not at all typical and completely typical, circle the number between 0 and 10 that best represents how typical it is.

1. Fearful

Not at all typical			Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10

2. Patriotic

Not at all typical			Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10

3. Unstable

Not at all typical			Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10

4. Conservative

Not at all typical			Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10

5. Calm

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

6. Athletic

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

7. Impulsive

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

8. Religious

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

9. Dangerous

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

10. Literate

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10



11. Excitable

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

12. Prejudiced

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

13. Stubborn

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

14. Fussy

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

15. Self-controlled

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

16. Musical

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

17. Moody

Not at all typical			Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10

18. Brave

Not at all typical			Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10

PLEASE STOP HERE AND WAIT FOR FURTHER INSTRUCTIONS

## [Rating Unknown Mentally Disabled Person]

Now, imagine that there is a mentally ill person about whom you have not been given any information. Several characteristics are listed on the pages in front of you. Circle the number on the rating scale that corresponds to how typical each characteristic would be of a mentally ill person for whom you have not been given any information. If a characteristic would be not at all typical, circle 0. If a characteristic would be completely typical, circle 10. If a characteristic would be somewhere between not at all typical and completely typical, circle the number between 0 and 10 that best represents how typical it is.

1. Fearful

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

2. Patriotic

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

3. Unstable

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

4. Conservative

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

5. Calm

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

6. Athletic

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

7. Impulsive

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

8. Religious

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

9. Dangerous

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

10. Literate

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

11. Excitable

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

12. Prejudiced

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

13. Stubborn

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

14. Fussy

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

15. Self-controlled

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

16. Musical

Not at all typical				Neither typical nor atypical				Completely typical		
0	1	2	3	4	5	6	7	8	9	10

17. Moody

Not at all typical			Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10

18. Brave

Not at all typical			Neither typical nor atypical				Completely typical			
0	1	2	3	4	5	6	7	8	9	10

PLEASE STOP HERE AND WAIT FOR FURTHER INSTRUCTIONS

## [Social Rejection Scale]

Please indicate whether you Agree or Disagree with each of the following statements regarding the mentally ill. In cases where you don't strongly agree or strongly disagree, please circle the number that most reflects your feelings.

1. You would strongly discourage your children from marrying someone who had been a patient in a psychiatric hospital.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

2. You would not resent the presence of a residence for discharged psychiatric hospital patients in your area.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

3. You would agree to providing board and room for a discharged psychiatric patient in your home if you had room.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

4. You would not object to a member of your family dating someone who had been a patient in a psychiatric hospital.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

5. You would not object to a group of discharged psychiatric patients renting or buying an apartment or house on your street.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

6. You can imagine yourself falling in love with someone who had been a patient in a psychiatric hospital.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

7. If the house next door was for sale, you would object to someone with a history of psychiatric problems buying it.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5



8. If you were a manager and were responsible for hiring people to work for you, you would be willing to hire a discharged psychiatric hospital patient.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
----------------	-------	-----------	----------	-------------------

1	2	3	4	5
---	---	---	---	---

9. You would welcome someone who had spent time in a psychiatric hospital to take part in your community functions.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
----------------	-------	-----------	----------	-------------------

1	2	3	4	5
---	---	---	---	---

10. You would be willing to work on the same job with someone who had been a patient in a psychiatric hospital.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
----------------	-------	-----------	----------	-------------------

1	2	3	4	5
---	---	---	---	---

11. If you were responsible for renting apartments in your building, you would not hesitate to rent living quarters to someone known to have been in a psychiatric hospital.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
----------------	-------	-----------	----------	-------------------

1	2	3	4	5
---	---	---	---	---

## [Knowledge About/Experience With Mental Illness]

Next, I would like to know about your personal experience with mental health problems and services. For each question, please check yes or no, whichever best describes your experience with or opinions about mental health. Remember that you do not have to answer any question you don't want to.

- |  | YES   | NO    |
|--|-------|-------|
| 1. I have read factual information or seen factual TV programs concerning mental health.   | _____ | _____ |
| 2. I have received some formal education regarding mental health.  | _____ | _____ |
| 3. In my job, I sometimes interact with or have in the past interacted with members of the public who appear to have mental health problems. | _____ | _____ |
| 4. I am currently working with or in the past have worked with a co-worker having mental health problems.                                    | _____ | _____ |
| 5. A friend of mine currently has or in the past has had mental health problems.   | _____ | _____ |
| 6. I have lived or worked close to a mental health facility.   | _____ | _____ |
| 7. I have been to a mental health facility, but not as a client or patient.  | _____ | _____ |
| 8. A member of my family currently has or in the past has had mental health problems.  | _____ | _____ |
| 9. I currently have or in the past have had professional help for mental health problems.  | _____ | _____ |

## [Background Information]

1. What is the highest level of education you have completed? (Check only one)
- Grade 6 or less
  - Grade 7-9
  - Some High School
  - High School Graduate or GED
  - Some Technical or Vocational training after High School
  - Technical or Vocational School Graduate
  - Some College or University
  - College or University Graduate
  - Post-graduate University Education
2. How old are you? \_\_\_\_\_
3. What is your gender?
- Male
  - Female

**APPENDIX G**  
Request to administer questionnaire (Letter 2)

[Letter 2]

Dear [group representative]

(Date)

I am a staff member of St. Joseph's Hospital Mental Health Clinic completing a Ph.D. in clinical psychology at the University of Manitoba in Winnipeg. My doctoral research is a study of what the general public thinks of the mentally ill. I need to survey groups of the general public, and I am writing to inquire whether [group name] would be interested in serving as participants. Participants will be asked to view a short videotape and then complete some brief questionnaires. Participation in the study would take approximately 45-60 minutes, and could take place during a regular [group name] meeting. I will also meet with members and explain the results in detail once the study is completely finished.

I will donate \$100 to [group name] for permission to survey your members for my study. Participation is voluntary, and individual members may elect not to participate at any time. I am asking a number of groups in the Dickinson area to participate in this study, and I would ideally like to survey 20 to 30 people in each organization. Each organization will receive the full donation no matter how many members choose to participate.

I would like to complete the study by late March or early April. I will contact you in a few days to answer any questions you may have about the study.

Sincerely,