The Effect of Priming Causal Attributions on Reactions to Social Stigmas

by

Verena Menec

A Thesis Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of Master of Arts

Department of Psychology
University of Manitoba
Winnipeg, Manitoba

ISBN 0-315-76881-9

THE EFFECT OF PRIMING CAUSAL ATTRIBUTIONS ON REACTIONS TO SOCIAL STIGMAS

BY

VERENA MENEC

A thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

MASTER OF ARTS

Table of Contents

List of Tables

List of Figures

Acknowledgements

I would like to express my appreciation to Dr. Raymond Perry for his assistance with this manuscript. His advice, guidance, and encouragement over the past years as my advisor have contributed immeasurably to this project. I also want to thank my other committee members, Dr. Jamie-Lynn Magnusson and Dr. Murray Singer for their helpful suggestions.

Abstract

Motivated behavior and emotions are, according to Weiner's attribution theory (1986), determined by causal attributions. Little is known, however, about the process by which attributions are selected. The purpose of the present study was to investigate the cognitive processes involved in the causal search. This issue was investigated within the context of reactions to social stigmas which are influenced by attributions about the cause of these conditions (Weiner, Perry, & Magnusson, 1988).

A priming paradigm was used in the present study, which involved two phases: a priming phase and a person perception phase. Subjects first completed a sentence construction task that was designed to prime either controllable or uncontrollable attributions. In a second, ostensibly unrelated task, they were presented with descriptions of stigmas with one group of subjects receiving uncontrollable information about the origin of the stigmas, a second group, no information, and a third group, controllable information. Type of stigma was added as an additional independent variable, with each subject responding either to two physical or two behavioral stigmas. Responses to the first scenario were analyzed separately from those to the second scenario, resulting in a Priming (uncontrollable, none, controllable) x Information (uncontrollable, none, controllable) x Stigma Type (physical, behavioral) 3 x 3 x 2 factorial design for Scenario 1 and 2, respectively.

The dependent measures were: perceptions of the controllability of the cause of the stigma, anger, sympathy, and help-related

judgments. Each of these measures was a summary score based on three questions. Moreover, the perceived cause of the stigmas was assessed, in that subjects rated the extent to which they attributed the cause of the stigma to behavioral, situational, or physiological factors.

The results for the first scenario show that priming affected responses, but generally only when information in the priming task matched information presented in the person perception phase. That is, uncontrollable priming decreased the likelihood that the cause of stigmas was attributed to the target's behavior, decreased the perceived controllability of the cause, and increased willingness to help. However, these effects were found only for physical stigmas, which tended to be perceived as relatively uncontrollable. Moreover, controllable priming increased anger toward behavioral stigmas, with behavioral stigmas being rated as more controllable than physical stigmas. Controllable priming, in combination with controllable information, also decreased attributions to situational factors.

The results for the second scenario were somewhat different, with controllable priming increasing the likelihood of attributing both physical and behavioral stigmas to behavioral factors. Uncontrollable priming-uncontrollable information further increased ratings to physiological factors, whereas controllable priming-controllable information decreased scores. Controllability, anger, sympathy, and help measures were not affected by priming.

The findings of this study suggest that reading the priming stimuli increased the availability of controllable or uncontrollable attributions. In the subsequent person perception phase, subjects were

therefore more likely to attribute the cause of the stigmas to factors consistent with the primed constructs. Thus, it appears that the causal search, and consequently emotions and help judgments, were affected by the relative availability of a particular cause in memory. However, these effects seemed to depend on the similarity between the information provided in the priming and the person perception phase. These results are interpreted in terms of two theoretical accounts which incorporate the notion of context-specificity of priming effects, namely a "synapse" model (Higgins, 1989) and an episodic knowledge model (e.g., Jacoby & Kelley, 1990).

Introduction

Overview

Weiner's attribution theory (1972, 1985, 1986) holds that motivated behavior and emotions are determined by attributions about the cause of an event. While the model focuses on the consequences of causal inferences, making specific predictions about attribution-emotion-behavior linkages, the determinants of attributions are of secondary importance. Weiner argues that a variety of factors, such as past experience or mood, determine which attribution is selected in a given situation, but this issue has not been investigated systematically within the context of Weiner's theory. Little is therefore known about the factors guiding the causal search. Thus, the purpose of the present study was to investigate the cognitive processes involved in attributional search, and consequently motivated behavior and emotions. One area of research that may benefit from such an investigation is that of social stigmas. As recent research indicates (Weiner, Perry, & Magnusson, 1988), people's reactions toward individuals with stigmas are amenable to an attributional interpretation. By determining how attributions are selected, it may therefore be possible to make more specific predictions about an individual's emotional and behavioral responses toward the stigmatized.

One useful approach for exploring the process involved in causal search is the priming paradigm. This paradigm involves exposing subjects to stimuli and assessing the effect of this experience on subsequent responses to related information. Priming effects occur without subjects' consciously applying previous information and have

therefore been discussed within the general framework of implicit memory (Schacter, 1987). Priming has frequently been used to examine cognitive processes in non-social contexts, such as word perception, but has also been applied to person perception. In the social cognition literature, priming effects have been a much-researched topic since the seminal study by Higgins, Rholes, and Jones (1977) and several theories of person perception have been proposed to account for priming effects. These theories can be classified into two general theoretical viewpoints, namely activation and processing models. These accounts will be discussed in some detail in the present paper.

An Attributional Analysis of Reactions to Stigmas

Stigmas have been defined as attributes that are highly discrediting and that "spoil" the possessor's personality (Goffman, 1963). Goffman (1963) identifies three types of stigmas: physical disabilities, mental disorders and "blemishes of individual character", and tribal stigmas of race, nation, and religion (p. 4). Weiner et al. (1988) argue that stigmas can be thought of as negative outcomes. Consistent with Weiner's (1986) attribution theory, which predicts that negative, as well as unexpected, and important outcomes initiate a search to determine why the event occurred, stigmas are therefore expected to elicit a causal search in observers. For example, on seeing a blind person, one would want to know what the cause of this condition is. It is important to note, however, that stigmas which, by definition, are deviations from a norm can also be conceptualized as unexpected outcomes. Such a view is in line with research that considers stigmas as novel stimuli (Langer, Fiske, Taylor, & Chanowitz, 1976). Therefore,

as negative, unexpected, and presumably also important outcomes, stigmas should, according to Weiner's (1986) theory, maximize the likelihood of inducing a causal analysis.

Weiner's (1986) theory further holds that any causal explanation can be classified according to three underlying dimensions: controllability, stability, and locus of causality.[1] Controllable causes are subject to an individual's volition, whereas uncontrollable causes are not. The stability dimension differentiates between causes that are relatively constant over time and those that are expected to fluctuate, whereas locus of causality refers to the degree to which an outcome is perceived as due to factors within the person, or factors that are external to the individual.

Each causal dimension is associated with specific emotions which, in turn, have behavioral consequences. Since the controllability dimension is linked with emotions and behaviors that are directed toward other individuals, it is of primary interest for the present study. Research shows that negative outcomes attributed to uncontrollable causes elicit pity, whereas outcomes attributed to controllable causes evoke anger. These emotions subsequently mediate helping behaviors, with pity resulting in willingness to help and anger leading to neglect (Betancourt, 1990; Meyer & Mulherin, 1980; Reisenzein, 1986; Schmidt & Weiner, 1988). The stability dimension determines expectations and is associated with hopefulness (Weiner, 1986). Stability is therefore a determinant of the perceived permanence of a stigmatizing condition and influences expectations of the perceived effectiveness of treatment programs (Weiner et al., 1988). As locus of causality is associated with

[1] Weiner (1986) considers two further dimensions, globality and intentionality. Since their psychological reality has not been demonstrated conclusively, they will not be further discussed.

the self-directed emotions of pride and self-esteem, according to Weiner (1986), it is not directly relevant to social perception.

In Weiner et al's study (1988, Experiment 1), subjects were presented with ten brief scenarios describing individuals with a variety of stigmatizing conditions. No mention of the cause of the stigmas was made. Subjects then rated each stigma on the basis of how much anger, pity, and liking they felt for the stimulus person, how willing they would be to help the individual, and the extent to which the targets were responsible and to be blamed for having the stigma. The latter two questions were included as indices of the controllability of the cause of the stigmas. It was found that stigmas with a physical origin (Alzheimer's disease, blindness, cancer, heart disease, and paraplegia) were perceived as uncontrollable and elicited a high degree of pity and willingness to help, but little anger. Stigmas with a mental/behavioral origin (AIDS, child abuse, drug addiction, obesity, Vietnam War syndrome) were generally rated as controllable and produced little pity, reduced willingness to help, but high anger.

Weiner et al. (1988, Experiment 2) further showed that responses could be altered by describing the cause of the stigmas as either controllable or uncontrollable. For example, obesity was ascribed to either a glandular dysfunction (uncontrollable cause) or to excessive eating (controllable cause). Results show that controllability information increased ratings of blame, responsibility, and anger, but decreased pity, and willingness to help. Cancer, for example, produced mean ratings of blame of 2.6 on a scale ranging from 0 to 9, when no causal information was provided. Responses decreased to 1.3 when

uncontrollable information was given, but increased to 5.0 in the controllable condition. Similarly, in terms of pity, no information, uncontrollable and controllable information elicited ratings of 6.9, 7.5, and 5.3, respectively. These findings were replicated by Menec, Perry and Perry (1990) who further showed that reactions were more positive toward stigmas with a physical origin than stigmas with a mental/behavioral origin, regardless of the type of information provided. For example, physical stigmas that were ascribed to a controllable cause produced more positive affective and behavioral responses than mental/behavioral stigmas described as due to a controllable cause.

The results of this research indicate that people's reactions to stigmas are influenced by the perceived cause of the condition. Furthermore, responses can be changed by providing specific information about the origin of a stigma. It is not clear, however, why people focus on one particular attribution when no specific contextual information is provided, since most stigmas can easily be attributed to several potential causes. For example, an individual may be paralyzed because of his or her own careless driving habits or because of the carelessness of a second party, a factor that is not under the individual's control. Furthermore, some stigmas are likely caused by a combination of factors. For example, a person may have a family history of heart disease, but may also smoke. The relative contribution of genetic factors and lifestyle may be difficult, if not impossible to assess. Similarly, both hereditary factors and excessive sun exposure increases the risk of developing certain types of skin cancer. Despite

this ambiguity, people appear to focus on certain causes only. In the case of mental/behavioral stigmas, people tend to focus on controllable causes, whereas physical stigmas are attributed to uncontrollable causes (Weiner et al., 1988).

Causal Search

Weiner (1986) notes that causal inferences may be guided by situational and personal factors. Furthermore, he argues that only certain elements of the causal structure, such as the controllability dimension, may be applied in a given situation. For example, Wong and Weiner (1981) found that subjects favor internal and controllable causes, that is, effort attributions, after failure in an achievement-related context. Moreover, research shows that attributions may be influenced by the need to maintain a sense of self-worth (e.g., Covington & Omelich, 1979, Harvey & Weary, 1981). Forgas, Bower and Moylan (1990) further found that mood affects achievement attributions. The authors interpreted these results in terms of a cognitive model, according to which mood influences causal inferences by increasing the availability of cognitive constructs.

Similarly, studies show that attributions are influenced by the perceptual distinctiveness of an individual relative to her or his environment (see Fiske & Taylor, 1984 for a review). For example, the behavior of one woman in an all-male group, and vice versa, was perceived as influenced more by situational and less by dispositional factors than the behavior of a nonsalient actor (McArthur & Post, 1977). Thus, attributions were influenced by the salience of the target. Such salience effects have also been interpreted in terms of construct

availability (Fiske & Taylor, 1984; Higgins & King, 1981), or the notion that causal inferences are guided by the relative availability of a causal explanation in memory. While such a cognitive explanation of the causal search has been proposed by several researchers, it has not been investigated systematically within the context of Weiner's (1986) theory of motivation.

The construct accessibility hypothesis suggests that any experience that increases the availability of a construct may affect subsequent causal inferences, without people being consciously aware of it. For example, reading an article about the circumstances of a car accident may affect inferences on seeing a paralyzed individual, even though the two events are unrelated. Similarly, judgments about the cause of behaviors may be influenced by one's perception of persons encountered previously and, to the extent that such fortuitous events affect causal attributions, emotions and motivated behavior might also be influenced. The effect of brief exposure on subsequent judgments has been investigated extensively within the context of priming research and several theories of memory and information processing have evolved from priming studies. Research on priming may therefore be useful for investigating the cognitive processes involved in causal search.

Priming

Overview. Priming involves exposing subjects to stimuli and assessing the effect of this exposure on subsequent responses. Priming is often defined as the facilitating effect of previous experiences on later responses. However, since there is some inconsistency in the

literature as to the definition of priming and several other relevant terms, "priming" will be used in this paper in an operational sense, referring to experimental manipulations whereby subjects are exposed to category-related information (after Smith & Branscombe, 1988). The term "activation" will be used to describe theoretical mechanisms.

Facilitating or priming effects have been demonstrated with various research paradigms including: lexical decision making, which involves judgments about whether stimuli are words; tachistoscopic identification; and word completion, whereby subjects are presented with word fragments and are required to generate a word (Schacter, 1987). In a classic study, for example, Meyer and Schvanefeldt (1971) showed that it took less time to decide that an item was a word (e.g., butter) when it was preceded by an associated word (e.g, bread) than when the preceding item was unrelated (e.g., nurse). Such priming effects occur automatically, without the individual's awareness and can therefore be thought of as reflecting implicit memory (Bassili, 1990; Schacter, 1987). Implicit memory is involved when subjects' performance on a test task is influenced by prior exposure to information without their conscious recollection of that experience (Schacter, 1987). In contrast, explicit memory is revealed when performance on a test task requires conscious retrieval of previously encountered material.

Researchers have interpreted priming effects as evidence for a semantic network model of memory (e.g, Anderson, 1983). According to this view, memory consists of a network of nodes with each node representing a concept. Nodes are linked if they are related or have

been studied together. Whether a concept becomes accessible in memory, as well as the speed by which it becomes accessible, depends on its level of activation. Concepts can be activated by environmental stimuli and activation is assumed to spread through the associative network to related concepts, thereby increasing their activation level. In Meyer and Schvanefeldt's (1971) study, therefore, reading the word "butter" is assumed to activate the associated word "bread", facilitating the speed by which the latter term is recognized.

Activation of concepts in the associative network occurs rapidly, as little as 200 milliseconds after presentation of the priming stimulus and decays within seconds (Anderson, 1983). However, numerous studies indicate that priming effects can persist for days (e.g., Jacoby, 1983), weeks (Mitchel & Brown, 1988), and even months after initial exposure (Kolers, 1976; Sloman, Hayman, Ohta, Law, & Tulving, 1988). These findings suggest that priming is not a unitary process, but that there are at least two, and possibly even more, types of priming phenomena (Ratcliff & McKoon, 1988). Various theoretical viewpoints have been proposed to account for long-term priming effects. One such view is, for example, that facilitating effects are due to memory for details of the test situation, rather than due to activation of abstract representations (e.g., Jacoby, 1983; Jacoby & Witherspoon, 1982).

Priming in Social Settings. The effect of priming on people's reactions to stimulus persons has been investigated extensively within the context of person perception and impression formation (e.g., Erdley & D'Agostino, 1988; Newman & Uleman, 1990; Sinclair, Mark, & Shotland, 1987; Sherman, Mackie, & Driscoll, 1990). In a classic study by Higgins

et al (1977), subjects read a paragraph describing a stimulus person who engaged in a variety of behaviors. These behaviors were ambiguous as to the personality trait they reflected. For example, the individual was described as planning to go skydiving or crossing the Atlantic in a sailboat. These activities might be interpreted as either adventurous or reckless. Prior to reading the description, in an ostensibly unrelated study, experimental subjects had been exposed to traits, such as adventurous, which could potentially be used to characterize the stimulus person. A control group read traits that were not applicable. Subjects were then asked to describe the target in their own words. It was found that subjects tended to describe the stimulus person with trait categories that had been primed, but only when the priming stimuli were applicable to the target.

Srull and Wyer (1979; 1980) replicated these results using a priming task in which subjects were exposed to behavioral examples of a trait, rather than trait adjectives. The task involved forming sentences describing hostile behaviors. Subjects then rated the target on several trait dimensions, some of which implied hostility. Srull and Wyer (1979) further manipulated the number of priming items and the interval between priming and reading of the information (no delay, one hour, and 24 hours). Results show that evaluations of the target on traits that were similar to the primed concept were influenced by exposure to the priming task. This priming effect decreased with the time interval between the priming task and presentation of the target description, however. Furthermore, hostility-related ratings increased monotonically with an increase in the number of priming items.

Furthermore, several researchers have investigated the effect of priming on causal inferences (Pryor & Kriss, 1977; Rholes & Pryor, 1982; Smith & Miller, 1979). Rholes and Pryor (1982), for example, presented subjects with potential causal agents, either a person or an object, in the first phase of their study. In the second phase, subjects read one-sentence descriptions of a behavior, such as "The minister liked the restaurant", with each sentence consisting of both a person and an object term. Subjects were then asked to indicate if the behavior was due to something about the person or due to something about the object. It was found that priming person terms, compared to object terms, produced stronger person attributions.

More recently, researchers have found that priming affects liking and preference for a hypothetical political candidate (Sherman et al., 1990), attributions of responsibility for rape (Wyer, Bodenhausen, & Gorman, 1985), and interaction with a partner (Herr, 1986). In Herr's (1986) study, subjects were first exposed to names of famous individuals, personifying varying degrees of hostility (e.g., Adolph Hitler was used as a hostile prime, whereas Santa Claus was a nonhostile stimulus). In the second phase, subjects were asked to play a prisoner's dilemma game with a fellow subject. Results show that subjects exposed to hostile primes evaluated their partner more negatively and also made more competitive choices than subjects in the nonhostile condition.

While this research indicates that constructs can be activated by situational factors, one might argue that such brief exposure may not override long-held beliefs. That is, there may be individual differences

in social perception, and people may habitually use certain constructs to interpret information. In the case of stigmas, people's attributions about the cause of the stigma may be based on beliefs, stereotypes, or cultural myths, which have been acquired as a result of socialization. Several researchers have argued that both individual differences in social perception and situational influences can be explained in terms of the same mediating variable, namely construct accessibility (e.g., Bargh & Pratto, 1986; Bargh & Thein, 1985; Higgins, King, & Mavin, 1982). Long-term or chronically accessible constructs presumably develop as a result of social interaction and frequent exposure to particular types of social behaviors (Higgins & King, 1981), an assumption that has its roots in Kelly's (1955) conceptualization of personality.

Constructs that are more accessible because of individual differences can interact with situationally activated concepts (Bargh, Bond, Lombardi, & Tota, 1986; Bargh, Lombardi, & Higgins; Southwick, Steele, & Lindell, 1986). Bargh et el. (1986) examined the joint-effect of chronically accessible and situationally activated constructs on impression formation. Subjects with either chronically accessible (chronics) or inaccessible constructs (nonchronics) for a particular trait dimension (kindness or shyness) were required to give their impression of a stimulus person whose behavior was ambiguous in terms of these traits. Prior to this task, subjects had been exposed to either kindness-related or shyness-related words. It was found that judgments were influenced by both sources of accessibility, with

situationally and chronically activated constructs combining in an additive fashion.

In contrast, Bargh, Lombardi, and Higgins (1988) presented subjects with a chronically accessible construct with nonchronic priming stimuli. The use of primed versus chronic constructs was then assessed at three time intervals. While both chronics and nonchronics were influenced by priming, chronics exhibited an increased tendency to use their chronically accessible construct over time, whereas no such trend was found for nonchronics. The results indicate that situationally activated constructs can override chronically accessible ones. However, this effect is short-lived, decaying after as little as two minutes.

In sum, research shows that priming can affect trait inferences, evaluations of and liking for stimulus persons, causal inferences, as well as behavioral responses. Furthermore, even brief exposure to priming stimuli can override long-held beliefs, at least for a short period of time. However, no research has specifically investigated effects of priming on motivation. According to Weiner's (1986) model, motivation is a function of affects and expectations, which are determined by causal attributions. By priming particular causal attributions, it should therefore be possible to influence affects, expectancies, and consequently motivated behavior. Within the context of stigmas, the perceived controllability of the cause of the condition is of particular interest, since this dimension is linked with other-directed affects which, in turn, influence helping. Thus, by increasing the likelihood of subjects attributing the condition to controllable or

uncontrollable causes it should be possible to modify emotional responses, and consequently behavioral judgments.

It is useful to differentiate between implicit and explicit memory at this point since it clarifies the difference between priming attributions and simply communicating a particular attribution. Informing subjects about the cause of an outcome, as for example in Weiner et al.'s (1988) study, qualifies as an explicit memory task since subjects presumably consciously retrieve and apply the attributions they are given. In contrast, in a priming study, subjects' judgments are influenced by previous experiences even though they are not told to remember and apply the priming stimuli in the test phase. Indeed, priming effects have been found by administering priming stimuli subliminally (Bargh et al., 1986; Bargh & Pietromonaco, 1982).

Theoretical Accounts

Schacter (1987) discusses three theoretical viewpoints to account for priming effects, namely activation, processing, and multiple memory interpretations. Accounts proposed in social cognition can be categorized in a similar way, although the distinction between processing and multiple memory views is not clear-cut. The following discussion will therefore focus on activation and processing models only.

Activation Models. Activation theories hold that priming effects are due to activation of schemas or constructs in memory (Higgins, 1989; Higgins, Bargh, & Lombardi, 1985; Srull & Wyer, 1989; Wyer & Srull, 1980; 1981). According to Higgins et al.'s (Higgins et al., 1985; Higgins, 1989) neurally inspired "synapse" model, the excitation level of

a construct is increased whenever the construct is activated. The more excitation accumulated by a construct the more likely it is to be used for encoding new, related information. Thus, priming increases the excitation level of a construct and, when encountering new information, the construct is therefore more likely to be used for encoding that information.

An alternative account is Wyer and Srull's (1980; 1981) "storage bin" model. These researchers propose that information in long-term memory is organized in storage bins. The constructs or schemas that are contained in these bins are stored in the order they have been accessed, with the piece of information that was used most recently for encoding being deposited on top of the bin. During information processing, bins are searched from the top down. Information at the top is therefore accessed first and, if applicable, is used for encoding new information. The model therefore predicts that constructs that are used during a priming task are more likely to be at the top of a bin and are consequently more likely to be retrieved and used for stimulus processing in the social perception phase.

Processing Models. Unlike activation theories which attribute priming effects to activation of schemas, proponents of a procedural memory account argue that priming tasks strengthen procedural knowledge (Smith, 1984; Smith & Branscombe, 1987; 1988). Based on Anderson's ACT* theory (Anderson, 1983), Smith and Branscombe (1987) define procedural knowledge as knowledge of how to do things, including motor skills, such as riding a bicycle, and cognitive skills such as decision making, language generation, or mathematical problem solving.

Procedural knowledge is made up of productions or condition-action pairs. The condition, which is typically written as IF clauses, specifies some data pattern, whereas the action part, denoted as THEN statements, indicates what to do when the condition is met. In a study in which subjects are exposed to behavioral examples of a construct, such as hostility (e.g., Srull & Wyer, 1979), a production might be:

IF (actor) performs (behavior)
and (behavior) harms (target person)
and (behavior) is intentional
THEN conclude (actor) is hostile

(Smith & Branscombe, 1987, p.367)

The production is applied if the condition statements match information contained in working memory. The inference that the actor is hostile would then be deposited in working memory. For example, if one learns that a landlord withheld a security deposit from his tenant, and concludes that this act was intentional and will also harm the tenant, then the conditions of the production are met and the production might be applied. One would therefore infer that the landlord was hostile. According to the procedural view, the priming task repeatedly activates a production, since its conditions match information in the priming material and, as a result, the production is strengthened (Smith, 1984). The stronger a production, the more likely it will be used in subsequent judgments of stimulus material. During the test phase, subjects are therefore more likely to infer that the stimulus person engaged in hostile behavior.

Similar to Smith, Jacoby and his associates argue that priming effects are not due to activation of abstract knowledge representations, but arise from memory for prior episodes (Jacoby & Kelley, 1990; Jacoby, Marriott, & Collins, 1990). According to this view, specific details of the priming task are remembered, including the context in which a stimulus was encountered and the type of processing engaged in. Whether priming information will be retrieved and used for judgments in the test phase depends on the similarity between cues present during encoding and at retrieval.

The crucial difference between activation and processing accounts is that the latter predict that priming effects are process and context-specific (Smith, 1990). That is, priming is expected to influence subsequent judgments only to the extent that the same procedures are used or the same contextual cues are present in the priming and the test phase. In contrast, activation models have traditionally been thought of as being independent of context and task demands since schemas presumably represent typical characteristics of objects or events, rather than specific experiences (e.g., Rumelhart, 1984). Several studies indeed support the hypothesis that priming is process and context-specific (e.g., Smith & Branscombe, 1987; 1988; Jacoby, 1983). However, some data is more easily interpreted in terms of activation models (Higgins, 1989). It appears, then, that both theoretical viewpoints are necessary for a complete understanding of priming effects. Moreover, it is important to note that recent elaborations of activation models have attempted to deal with context-specificity (e.g., Higgins, 1989).

Priming Causal Attributions - an Overview

Research indicates, then, that people are influenced by brief exposure to situational stimuli when judging new, related information. Similarly, in the case of stigmas, people may attribute the cause of the stigma to factors that are most accessible in memory. When no specific information about the cause of the condition is provided, people may rely on long-term sources of accessibility, such as stereotypes or social experiences. While Weiner et al.'s (1988) study showed that such attributions can be altered by specifically referring to the cause of the stigma, reflecting an explicit memory task, the present study was designed to investigate if subjects' responses could be influenced by information that was presumably irrelevant to the stigma.

The present study involved two phases, a priming phase and person perception phase. Subjects were first exposed to a task intended to prime causal attributions that had been classified as either uncontrollable or controllable. A control group received no priming and was exposed to filler items only. In the second phase of the study, which was described as being unrelated to the priming task, subjects read brief descriptions of individuals with stigmatizing conditions. Since this procedure might create demand characteristics, a plausible cover story for running two "experiments" in one session was invented. Furthermore, subjects' suspiciousness about the relation between the the priming phase and the perception phase was assessed.

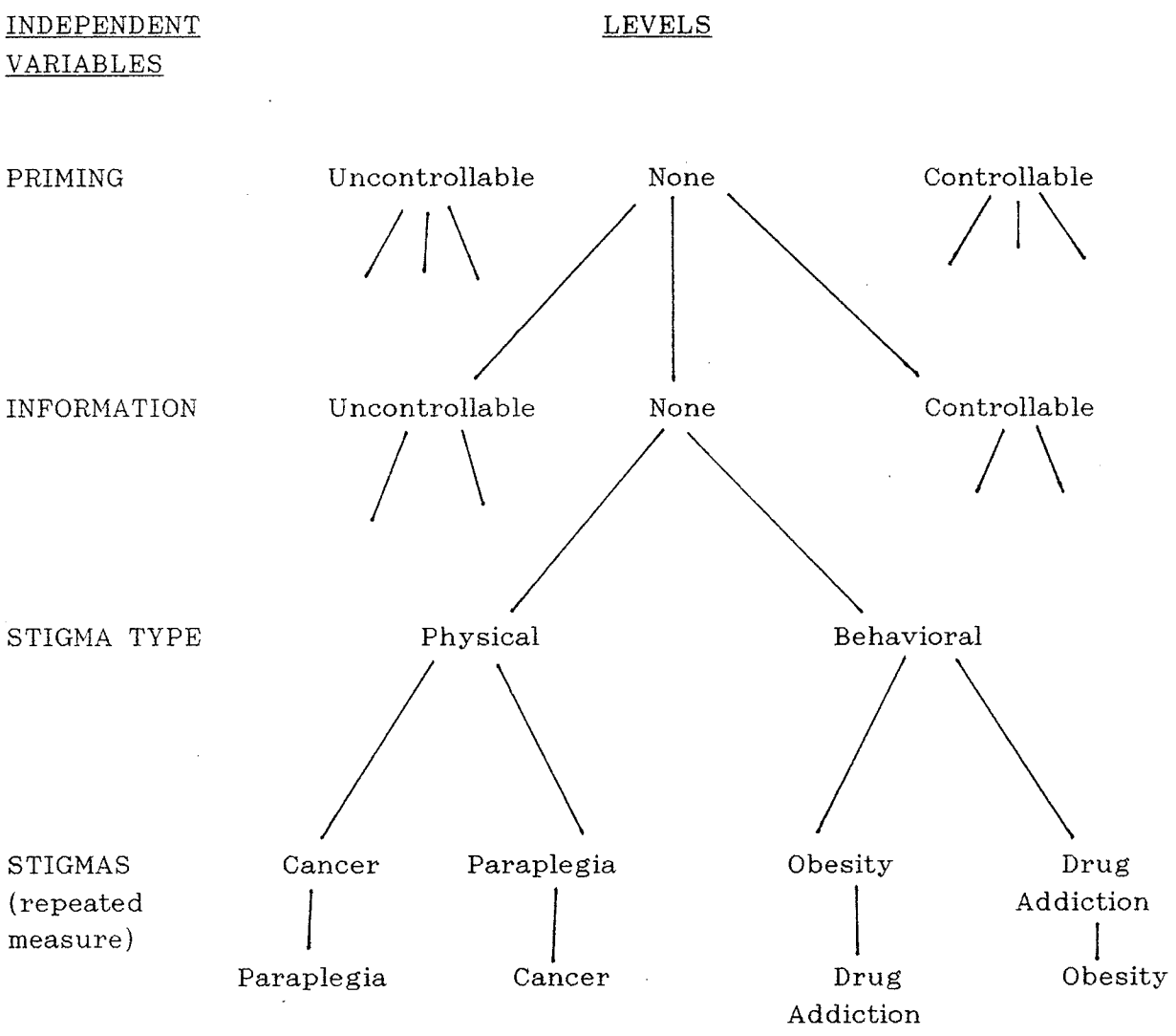
Three stimulus information conditions were included: one group received no information about the cause of the stigmas, and two groups were provided with uncontrollable and controllable information,

respectively. Each subject responded to two stigmas, either cancer and paraplegia, or obesity and drug abuse. These conditions were chosen from those used by Weiner et al. (1988), the former as examples of physical stigmas, the latter as representatives of behavioral stigmas. Two stigmas were included to obtain some measure of generality and to investigate if priming effects would still be present after some time had elapsed. The study therefore involved a 3 x 3 x 2 x 2 mixed design, with priming (uncontrollable, none, controllable), information (uncontrollable, none, controllable) and stigma type (physical, behavioral) as between subjects variables, and stigma (cancer/paraplegia and obesity/drug abuse) as a within subjects variable. In addition, stigmas were presented in counterbalanced order. The research design is presented in Figure 1. Dependent measures were: perceived controllability of the cause of the stigma, anger, sympathy, and willingness to help. Furthermore, subjects were asked to indicate to what extent they attributed the cause of the stigmas to physiological, situational, or behavioral factors.

It was hypothesized that subjects who were exposed to the priming stimuli would be more likely to attribute the stigmas to factors that were consistent with the primed attributions. Subjects in the controllable priming condition should therefore perceive the stigmas as more controllable than subjects exposed to uncontrollable primes. Based on the literature, it is not clear how priming might affect judgments when explicit information versus no information about the cause of the stigmas is provided. Srull and Wyer (1980) found that priming affected ratings of ambiguous information more strongly than judgments of

Figure 1: Research Design

Priming x Information x Stigma Type x Stigma x Order
3 x 3 x 2 x 2 x 2 Factorial Design



Note: Each level of priming is crossed with three levels of information, and each level of information is crossed with two levels of stigma type.

unambiguous information. However, the reverse pattern was obtained by Rholes and Pryor (1982) in a study investigating the effects of priming on causal attributions. Rholes and Pryor (1982) argue that the discrepancy in findings may be due to the processing of ambiguous information. According to these researchers, the ambiguous information in their study may have been processed more actively and more cautiously, thereby reducing the impact of priming.

Rholes and Pryor's (1982) experimental manipulation is quite different from that in the proposed study, however. While Rholes and Pryor defined ambiguity in terms of covariation information (e.g., low consensus, high consistency, and low distinctiveness covariation information conceptualized as an unambiguous pattern), subjects in the present study were explicitly told what the cause of the stigmas was, or they received no causal information at all. Given this difference in manipulation, Rholes and Pryor's (1982) results may not be applicable to the present study. Consistent with Srull and Wyer's (1980) study, it was therefore hypothesized that priming effects would be particularly likely in the ambiguous no information condition, as compared to the unambiguous controllable and uncontrollable information conditions.

Furthermore, it is possible that information that is consistent with the priming stimuli (that is, controllable information-controllable priming-behavioral stigma; uncontrollable information-uncontrollable priming-physical stigma) will produce the most polarized responses. An alternative possibility is that a ceiling is reached which cannot be further influenced by priming. Conversely, information that is contradictory to the priming stimuli, that is: controllable information-

uncontrollable priming, uncontrollable information-controllable priming, behavioral stigma-uncontrollable priming, or physical stigma-controllable priming, might interact in a subtractive manner, producing relatively neutral responses.

Consistent with Weiner et al.'s (1988) results, controllable information was expected to elicit higher controllability ratings than no information, which in turn should receive higher scores than uncontrollable information. Moreover, controllable stigmas were expected to elicit less sympathy and less willingness to help, but more anger than uncontrollable stigmas. A main effect was further expected for the type of stigma, with behavioral stigmas being perceived as more controllable than physical stigmas and consequently evoking more anger, less sympathy, and less willingness to help than physical stigmas.

Method

Subjects

Subjects were 370 university students recruited from the introductory psychology subject pool at the University of Manitoba. They received course credit for their participation in the study. The sample consisted primarily of first year Arts and Science students, with somewhat more female than male subjects participating (approximately 55% vs. 45%).

Materials

Priming Task. The question as to when a construct is used for interpreting new information has not been answered conclusively. It is assumed, however, that features of the construct have to be

sufficiently related to features of the new information to be used for encoding that information (Wyer & Srull, 1980). For example, Higgins et al. (1977) found priming effects only when the stimuli were applicable to the stimulus information. Furthermore, priming stimuli have to be perceived by subjects as relevant to the stimulus information (Higgins, 1989). In order to maximize priming effects, it was therefore important to select priming stimuli that were applicable for encoding the target information. Unfortunately, little is known about the attributional process. It is not clear, for example, whether people's initial focus is on a specific cause, such as lack of willpower, which is subsequently categorized according to the causal dimensions of controllability, locus, and stability, or whether the causal structure is invoked first and specific attributions are inferred from it. A study by Smith and Miller (1983) provides some evidence that the former possibility is more plausible. The researchers showed that specific traits are inferred from stimulus information during the initial comprehension of a sentence and that this inference is encoded along with the original information. Other types of inferences, such as attributing causes to either the situation or the person, are then made on the basis of that material.

Trait adjectives and behavioral examples of traits were used as priming stimuli in the present study, since they might be considered potential causal explanations of stigmas. Weiner (1985) notes that traits such as tolerance or laziness are often perceived as controllable, whereas personal attributes like aptitude or physical coordination would be considered uncontrollable. Moreover, traits were chosen that

might be perceived as relevant for the stigmas used in the proposed study. For example, the trait "careless" might be relevant since paraplegia might be attributed to an individual's carelessness. In contrast, a trait such as "honest" may not be considered relevant to the stigmas used in the present study.

A sentence construction task was employed to prime causal attributions. The task involved a list of items, each item consisting of four words arranged in random order, (e.g., her found knew I), with some of the items reflecting the construct to be primed. Subjects were instructed to underline three words that would form a complete sentence. This task has produced reliable effects in several studies with sentences involving behavioral examples of a trait (Srull & Wyer, 1979; 1980) or trait adjectives (Bargh et al., 1988; Sedikides, 1990).

Previous research showed that constructing one sentence containing a critical priming concept influenced subsequent judgments (Bargh et al., 1988). Furthermore, subjects' ratings of a target with respect to the primed concepts increased monotonically as the number of priming stimuli increased from six to 48 (Srull & Wyer, 1979). Ten priming stimuli, two trait adjectives and 8 behavioral examples of traits were used in the present study.

Selection of Priming Stimuli. A list of personality traits compiled by Anderson (1968) was the starting point for constructing priming stimuli. Twenty traits were chosen from this list which, intuitively, appeared to be either controllable or uncontrollable, and appeared relevant to stigmas. A preliminary list of 60 terms was then generated with synonyms of these trait adjectives with the aid of a

thesaurus. These traits were divided in half and the lists were given to two groups of subjects (n=16, and n=19), who were asked to imagine a person being described by each word and to indicate to what extent the trait was controllable by this individual. Each word was rated on a 9-point scale, ranging from "not at all under personal control" (1) to "totally under personal control" (9). Furthermore, subjects rated each word based on their emotional reaction to a person who possesses such an attribute (1 = extremely negative; 9 = extremely positive), and in terms of how meaningful the word was (1 = I have no idea of the meaning of this word; 9 = I have a clear understanding of the meaning of this word).

Stimuli were selected according to the following criteria: 1) Mean meaningful rating of at least 7; 2) relatively neutral emotional response, with ratings around 5; 3) controllability ratings clearly above or below 5, that is, the midpoint. From the pool of potential stimuli, traits were chosen that best satisfied these criteria. The four stimuli selected were: unlucky, doomed, daydreaming, and daredevil. These traits clearly differed in terms of controllability (Ms = 2.45 vs. 7.22), $t(33) = 9.73$, $p < .0001$, but produced similar, neutral emotional reactions (Ms = 4.84 vs 4.63), $t(33) = .34$, $p < .74$. These traits were also meaningful to subjects (M = 8.38). See Table 1 for means and standard deviations. (Ratings for all stimuli are listed in Appendix A).

It should be noted that few trait adjectives met all three criteria, one reason being that many adjectives received low meaningfulness ratings. In addition, traits were generally perceived as relatively controllable (overall M = 6.15), and controllability was correlated with

Table 1:

Means and Standard Deviations for Ratings of Priming Stimuli

Uncontrollable Stimuli

	Measures		
	Control	Emotion	Meaning
Stimuli			
unlucky	1.95 (1.35)	4.89 (2.16)	8.68 (0.95)
doomed	2.94 (1.93)	4.79 (2.32)	8.26 (0.81)
she was let-go	3.14 (1.98)	4.45 (1.90)	8.14 (1.25)
she excluded them	2.73 (1.52)	4.86 (2.14)	8.23 (1.31)
she slipped	3.82 (2.11)	5.14 (1.42)	8.50 (1.14)
she was misled	2.77 (1.72)	4.77 (1.82)	8.50 (1.06)
she was abandoned	1.73 (1.61)	4.64 (2.87)	8.68 (0.89)
she was pushed	2.18 (1.74)	5.27 (2.33)	8.64 (0.90)
she was forgotten	2.27 (1.80)	4.95 (2.38)	8.32 (1.36)
she was shoved	2.41 (1.94)	5.09 (2.39)	8.32 (1.36)

Table 1 (continued)

Controllable Stimuli

	Measures		
	Control	Emotion	Meaning
Stimuli			
daydreaming	7.06 (2.29)	4.88 (1.89)	8.88 (0.50)
daredevil	7.38 (1.82)	4.38 (1.71)	7.69 (2.52)
she misplaced it	7.41 (1.56)	4.00 (1.34)	8.64 (0.79)
she confused them	6.05 (2.08)	4.41 (1.47)	8.50 (1.14)
she overturned it	7.14 (1.82)	4.82 (1.22)	7.95 (1.59)
she was late	6.91 (1.60)	3.68 (1.17)	8.55 (0.96)
she dirtied it	6.77 (1.85)	4.32 (1.13)	8.41 (1.22)
she failed it	6.82 (2.32)	3.86 (1.96)	8.59 (0.91)
she cut it	7.68 (1.70)	5.41 (1.47)	8.64 (0.79)
she slouched	7.72 (1.55)	3.59 (1.65)	8.82 (0.39)

Note: Standard deviations are indicated in brackets.

emotional responses ($r = -.22$). As a result, only four traits qualified as uncontrollable stimuli. Of these, two traits were chosen that most closely matched two controllable stimuli.

A second list of behavioral examples of traits was then created. These behaviors were generated on an intuitive basis, keeping the trait adjectives used previously in mind. For example, an attempt was made to imagine an individual who could be characterized as unlucky, and possible behavioral examples of that attribute were then listed. In order to create priming stimuli that were consistent with filler items, it had to be possible to express the behavior in a three-word sentence. A list of 62 items was generated, which was given to a different group of subjects ($n = 22$). Each behavior was rated on the same three measures used for trait adjectives, namely controllability, emotional reaction, and meaningfulness. Items were selected according to the criteria discussed earlier. These stimuli are listed in Table 1. T-tests indicated that the sentences selected differed in terms of controllability, $t(21) = 11.71$, $p < .0001$ (Ms = 7.06 vs. 2.63 for controllable and uncontrollable stimuli, respectively), but not emotions, $t(21) = 1.07$, $p < .30$ (Ms = 4.26 vs. 4.90).

The sentence construction task was then developed with the selected items. Filler stimuli were taken from materials developed by Costin (1975) and did not contain any trait adjectives (priming materials are presented in Appendix B) These fillers had been rated in terms of their hostility content and had been found to reflect little hostility. As such, fillers were not expected to produce negative emotional reactions. Two tests were constructed, each consisting of 30

items, 20 fillers and ten priming stimuli. A test consisting of 30 fillers was used in the no priming condition. The items were listed in random order, with the exception that the location of the two trait adjectives was the same on the two priming lists. The order of the words was also randomly determined.

Stigmas. Two physical stigmas, cancer and paraplegia, and two behavioral stigmas, obesity and drug addiction, were included in this study. These stigmas were selected from those used by Weiner et al. (1988) and Menec et al. (1990) since they were manipulated successfully, producing results that were consistent with Weiner's attribution theory. Furthermore, the four stigmas were chosen because they are all physiologically based. Weiner et al. (1988) classified these stigmas as physical or behavioral on an intuitive basis. Using data collected by Menec et al. (1990), principal axes factor analyses were run for affective and behavioral measures, followed by Varimax rotation, to determine if this classification was appropriate. For all dependent measures, cancer and paraplegia emerged as one factor and obesity and drug abuse as a second factor, suggesting that they belong to different stigma types.

Scenarios for the physical stigmas are presented below. The causal information presented in the controllable information condition is underlined. In the uncontrollable condition, these sentences were replaced by the cause presented in brackets.

- Linda B., who is 31 years old, has recently been diagnosed as having cancer. The primary cause of the cancer is Linda's excessive smoking. (The primary cause of the cancer are hereditary factors.)

- Nancy K. (29 years old) recently suffered extensive spinal cord injuries in a traffic accident and is expected to remain paralyzed. Nancy collided with the rear of a car stopped at a red light. (A car collided with the rear of Linda's car stopped at a red light).

In the no information condition any reference to age as well as the sentences referring to possible causes were omitted and replaced by the filler sentences: "The cancer was diagnosed shortly before Linda's 31st birthday" in the cancer condition, and "Nancy was 29 years old when the accident occurred " in the paraplegia condition. Scenarios for the behavioral stigmas were:

- Linda B., who is 31 years old, has recently become excessively overweight. The primary cause of the obesity is Linda's excessive eating and lack of exercise. (The primary cause of the obesity is a glandular dysfunction).

- Nancy K. (29 years old) is dependent on drugs. Recreational drug experimentation has developed into a severe drug abuse habit. (Previous treatment for pain resulting from an injury has developed into a severe drug abuse habit).

Filler items for these stigmas were: "Linda was 31 years old when she realized that she was severely obese" and "Nancy acknowledged her drug abuse habit shortly before her 29th birthday". The causes of the stigmas have been used in previous research and have been effective in influencing subjects' emotional and behavioral responses (Weiner et al., 1988; Menec et al., 1990). The order of presentation of the two stigmas was counterbalanced.

Dependent Measures. Dependent measures were: perceived controllability of the cause of the condition, sympathy, anger, and helping, each of which was assessed with three questions. The questions were based on measures used by Weiner et al. (1988) and Reisenzein (1986). These measures are presented in Table 2. Each question was rated on a 10-point scale and the order of the 12 questions was randomized for each stigma. Subjects were further asked to indicate what they perceived to be the cause of the stigmas. Questions for cancer and obesity were: "To what extent is the condition caused by a genetic predisposition or a physiological defect"; "To what extent is the condition caused by the person's lifestyle". In the paraplegia and drug addiction conditions the questions were: "To what extent is the condition caused by the person's behavior"; and "To what extent is the condition caused by situational factors". These questions were also rated on a 10-point scale (1 = not at all a factor; 10 = very much a factor).

Postexperimental Questionnaire. A funnel-type postexperimental questionnaire (Page, 1973) was included to assess subjects' suspiciousness about the relation between the priming phase and the

Table 2: Dependent Measures

Controllability

1) How controllable, do you think, is the cause of this person's present condition? (1 = not at all under personal control; 10 = completely under personal control)
2) How responsible, do you think, is that person for the cause of the present condition? (1 = very much responsible; 10 = not at all responsible)
3) I would think that it was the person's own fault that she developed the present condition (1 = no, not at all; 10 = yes, absolutely so)

Sympathy

1) How much sympathy would you feel for that person? (1 = very much; 10 = none at all)
2) I would feel pity for this person (1 = none at all; 10 = very much)
3) How much concern would you feel for this person? (1 = very much; 10 = none at all)

Anger

1) How angry would you feel at that person? (1 = not at all; 10 = very much)
2) How irritated would you feel by that person? (1 = very much; 10 = not at all)
3) I would feel aggravated by that person (1 = not at all; 10 = very much so)

Help Judgments

1) How likely is it that you would help this person with a small problem (1 = definitely would help; 10 = definitely would not help)
2) I would donate money for research concerning this person's condition (1 = definitely would not; 10 = definitely would)
3) How likely is it that you would give money to this person (1 = definitely would; 10 = definitely would not)

social perception phase. Subjects were first asked to indicate what they thought the experimenter expected to find in the two "studies", followed by increasingly specific questions about the relation between the two phases.

Manipulation Check. Subjects' perceptions of the priming stimuli was also measured, in that subjects in the controllable and uncontrollable priming conditions were given a list of the ten priming sentences they had previously been exposed to and asked to rate each trait or characteristic in terms of its controllability. The question was the same as that used in the item selection studies, namely "Do you think this behavior or trait is controllable by the person" (1 = not at all under personal control; 9 = totally under personal control).

Procedure

Subjects were randomly assigned to one of the information and stigma type conditions. They were tested in groups of approximately 15. At the beginning of the experiment, they were informed that the study they had initially signed up for was in the area of person perception. They were then told that since this study would not require much time to complete, the experimenter would run a psycholinguistics study prior to the person perception study. The experimenter further explained that this psycholinguistics study would take only a few minutes and would involve creating sentences. This cover story was used to minimize the likelihood that subjects would detect the relation between the two phases.

Subjects were then presented with the sentence construction items. The experimenter read the instruction with subjects and paced

them through the task by reading the scrambled sentences with them. This ensured that the delay between the sentence construction task and reading of the first scenario was the same for all subjects. Subjects were given approximately 3 seconds for each item. Following this task, which took approximately three minutes, subjects were informed that the first experiment was finished, and that they would now begin the person perception study. Subjects then read the stimulus information and, immediately following each scenario, they responded to the dependent measures. Questions pertaining to the controllability of the stigma, emotional reactions and behavioral judgments were presented first, followed by the two questions about the cause of the condition. (A Person Perception Questionnaire is presented in Appendix C). The postexperimental questionnaire was then administered, followed by the manipulation check in the case of subjects in the uncontrollable and controllable priming conditions. Subjects were then debriefed about the relationship between the two "studies", and the purpose of the study was explained.

The delay between priming and reading of the first target information was less than one minute. This delay is within the range of that in previous studies which used traits as priming stimuli (e.g., Higgins, et al., 1977; 1985; Smith & Branscombe, 1987). These studies demonstrated priming effects with intervals of 15 seconds to approximately two minutes. Furthermore, studies using behavioral examples of priming constructs involved delays ranging from a few minutes[2] up to one week (e.g., Srull & Wyer, 1979; 1980), although the effect of priming decreased rapidly over time.

---

[2] The authors refer to this as a "no delay" condition and do not provide more specific information as to how long the interval was.

Results

Design and Rationale for Analyses

The study involved a mixed design with priming (uncontrollable, none, controllable), information (uncontrollable, none, controllable), and stigma type (physical, behavioral) as between subjects variables. Stigma (cancer and paraplegia vs. obesity and drug addiction) was included as a within subjects variable and was nested within levels of stigma type (see Figure 1). In addition, the two stigmas were presented in counterbalanced order. For each stigma, subjects responded to 14 dependent measures: The perceived controllability of the cause of the condition was assessed with three questions, as were feelings of anger and sympathy, and willingness to help. Summary scores were created by averaging across the three measures pertaining to control, anger, sympathy, and help. Two additional questions measured the perceived cause of the condition.

In order to determine if there were any counterbalancing effects, control, anger, sympathy, and help measures were analyzed with a Priming x Information x Stigma Type x Order x Stigma repeated measures multivariate analysis of variance (MANOVA). A four-way Information x Stigma Type x Order x Stigmas interaction was obtained, $F(8,606) = 3.92$, $p < .01$, indicating that a counterbalancing effect occurred. It was therefore decided to analyze the stigma presented first separately from the second one. Two physical and two behavioral stigmas had been included for generalization purposes. Responses to the two physical stigmas were combined, as were those for the two behavioral stigmas. This resulted in a Priming (uncontrollable, none,

controllable) x Information (uncontrollable, none, controllable) x Stigma Type (physical, behavioral) 3 x 3 x 2 between subjects factorial design for Scenario 1 and Scenario 2, respectively.

Control, anger, sympathy, and help were analyzed with a 3 x 3 x 2 MANOVA. The MANOVA approach was deemed appropriate since the dependent measures are conceptually related, with perceptions of controllability leading to the emotions of anger and sympathy which, in turn, are linked to willingness to help. This relation is reflected in relatively strong intercorrelations between the variables (see Table 3). The Pillai trace test statistic was used since it tends to be the most robust to violations of the homogeneity of variance-covariance matrix assumption (Tabachnik & Fidell, 1983). Significant multivariate effects were followed up with specific univariate contrasts.

Effects were probed with a modified version of the Bonferroni-Dunn multiple comparison procedure (Maxwell & Delaney, 1990, p. 180). This test statistic is calculated with a nonpooled error term and therefore does not require homogeneity of variances. Degrees of freedom are computed according to the solution proposed by Satterthwaite (Satterthwaite, 1946), with the significance level being divided by the number of comparisons performed. Priming effects were tested with a more liberal test than information or stigma type effects, in that α was not adjusted for the number of comparisons. Moreover, the significance level was set at .05 for information and stigma type effects, and at .10 for effects involving priming. It was decided to apply different criteria since findings involving information and stigma type were expected to replicate results of previous research, justifying

Table 3:

Correlation Matrix for Dependent Measures: Scenario 1

	Anger	Sympathy	Help
Control	.51	-.44	-.32
Anger		-.34	-.26
Sympathy			.43

a more conservative significance level. Since the priming manipulation was exploratory in nature it was felt that a Type II error would be more serious than a Type I error, warranting a less stringent approach.

Subject Suspiciousness

Subjects' suspiciousness of the relation between the priming task and the person perception task was assessed with a postexperimental questionnaire. Responses indicated that none of the subjects was able to identify the hypotheses. Many subjects reported that there was some relation between phases only upon further questioning. The most commonly stated hypothesis was that the priming task was some type of personality measure which would be related to responses to the stimulus persons.

Manipulation Check

Subjects' perceptions of the priming stimuli were also assessed. If the manipulation was effective, priming stimuli in the controllable priming condition should be perceived as more controllable than stimuli in the uncontrollable condition. This assumption was confirmed, t (212) = 20.65, $p < .0001$, Ms = 6.80 vs. 4.11 (SD = 1.05, 0.87) in the controllable and uncontrollable groups, respectively. Several subjects who clearly did not perceive stimuli in the intended way were dropped from further analyses. Nine subjects with mean scores above 6 (upper 5%) in the uncontrollable priming condition, and 6 subjects with ratings below 4.8 (lower 5%) were excluded. These criteria ensured that the number of subjects deleted in the two conditions was not too disparate, while maintaining adequate sample sizes for all dependent variables.

It is interesting to note that uncontrollable stimuli were rated as more controllable than in the selection phase (Ms = 4.11 vs 2.59), whereas controllable stimuli were perceived as somewhat less controllable (Ms = 6.80 vs 7.09). This difference may reflect regression toward the mean, but may also be due to a difference in instructions. Subjects in the selection study were specifically reminded to use the entire 9-point scale, which may have polarized ratings more than in the present study in which no such instructions were given.

Overview of Results

The following result section is divided into two major parts: results for Scenario 1 and findings for Scenario 2. For each scenario, analyses are provided for controllability, affective, and help measures, followed by findings for perceived cause measures. For these dependent variables, effects for priming, information, and stigma type are discussed in turn. Since the purpose of the study was to investigate the impact of priming, results involving the priming variable are of particular interest. Especially noteworthy are findings for Scenario 1, since this vignette was read immediately after the priming task, thereby maximizing the likelihood of detecting priming effects. Analyses for the second scenario provide some indication of the persistence of potential priming effects. Findings for the information and stigma type manipulations were expected to replicate previous research.

First Scenario: Controllability, Affective, and Help Measures

Controllability, anger, sympathy, and help were analyzed simultaneously with a Priming (uncontrollable, none, controllable) x

Information (uncontrollable, none, controllable) x Stigma Type (physical, behavioral) 3 x 3 x 2 MANOVA. Main effects were found for information, $F(8,648) = 20.36$, $p < .01$, and stigma type, $F(4,323) = 35.73$, $p < .01$, but not for priming. Stigma type also interacted with information, $F(8,648) = 6.15$, $p < .01$, as well as with priming, $F(8,648) = 1.83$, $p < .07$. See Table 4 for means and standard deviations. (Univariate results are presented in Appendix D). Priming effects were further investigated with t-tests for physical and behavioral stigmas, respectively. The Information x Stigma Type interaction was probed with t-tests comparing the three information groups at each level of stigma type. Furthermore, physical stigmas were compared to behavioral stigmas at each level of information.

It was expected that priming would increase the likelihood that subjects would attribute the cause of the stigmas to either controllable or uncontrollable factors. As a result, affective reactions and help judgments should also be modified. However, it was not clear how priming would interact with information and stigma type. Two-tailed t-tests were therefore used for all contrasts.

Priming effects. The multivariate priming by stigma type interaction was followed up with contrasts for physical and behavioral stigmas separately, since priming effects were of primary interest. Several contrasts were significant ($p < .10$, critical $t = 1.66$, degrees of freedom according to Satterthwaite's solution were approximately 100). A summary of results is provided in Table 5.

For physical stigmas, uncontrollable priming elicited lower ratings of control than no priming ($t = 1.75$), and lower scores than

Table 4:

Means and Standard Deviations given Information, Priming, and Stigma Type: Scenario 1

Uncontrollable Information

		Uncontrollable Priming		No Priming		Controllable Priming	
Measure		Beh	Phys	Beh	Phys	Beh	Phys
Control	M	3.67	2.20	4.09	3.27	3.47	2.82
	SD	1.74	1.26	1.93	2.00	1.55	1.71
	n	22	18	22	21	17	19
Anger	M	3.13	2.00	2.91	2.48	2.90	2.00
	SD	2.04	1.16	1.73	1.54	1.39	1.36
	n	20	18	22	21	17	19
Sympathy	M	6.65	8.24	6.55	7.90	6.43	7.81
	SD	1.52	1.79	1.72	1.58	2.02	2.48
	n	22	18	22	20	17	19
Help	M	5.68	6.74	5.47	6.37	6.25	6.46
	SD	0.98	1.39	1.78	1.84	1.48	1.56
	n	22	18	22	21	17	19

Table 4 (continued)

No Information

Measure		Uncontrollable Priming		No Priming		Controllable Priming	
		Beh	Phys	Beh	Phys	Beh	Phys
Control	M	6.42	2.36	5.98	3.08	6.20	3.26
	SD	1.72	1.11	1.62	1.24	1.03	1.32
	n	19	15	22	22	18	18
Anger	M	4.14	2.75	4.38	2.47	4.65	2.20
	SD	1.53	1.98	1.83	1.28	1.79	1.49
	n	19	16	22	22	18	18
Sympathy	M	5.75	7.46	5.55	7.71	5.74	7.54
	SD	1.90	1.96	1.72	1.71	1.71	1.85
	n	19	16	22	22	18	18
Help	M	5.25	6.83	5.21	6.44	4.76	6.11
	SD	1.48	1.38	1.60	1.94	1.64	1.40
	n	19	16	22	22	18	18

Table 4 (continued)

Controllable Information

Measure		No Priming		Uncontrollable Priming		Controllable Priming	
		Beh	Phys	Beh	Phys	Beh	Phys
Control	M	6.97	6.23	6.46	6.05	6.37	5.75
	SD	1.58	1.85	1.60	1.88	1.58	1.26
	n	20	19	21	22	17	17
Anger	M	4.07	3.89	3.97	4.27	5.31	3.22
	SD	1.68	1.73	2.13	2.05	1.17	1.86
	n	20	19	21	22	18	17
Sympathy	M	5.22	7.30	6.00	7.08	5.13	6.98
	SD	2.16	1.82	1.68	1.90	1.59	1.86
	n	20	18	21	22	18	18
Help	M	4.80	6.79	5.41	5.83	4.78	6.15
	SD	1.52	1.43	1.58	1.64	1.93	1.73
	n	20	19	21	22	18	18

Note: Beh = Behavioral Stigmas, Phys = Physical Stigmas.

Table 5:

Means for the Stigma Type and Priming Interaction: Scenario 1

	Behavioral Stigmas			Physical Stigmas		
Measures	Uncontr Priming	No Priming	Contr Priming	Uncontr Priming	No Priming	Contr Priming
Control	5.69	5.51	5.35	3.60[a]	4.13[b]	3.94
Anger	3.78[a]	3.75[a]	4.29[b]	2.88	3.07[a]	2.47[b]
Sympathy	5.87	6.03	5.77	7.67	7.56	7.44
Help	5.24	5.36	5.26	6.79[a]	6.21[b]	6.24[a]

Note: Uncontr Priming = Uncontrollable Priming; Contr Priming = Controllable Priming. Means that do not share a superscript are significantly different, $p < .10$.

controllable priming, although the latter comparison was not significant, t = 1.22. Comparisons for anger measures indicated that no priming evoked more anger than controllable priming (t = 2.01), whereas the other two contrasts were not significant, ts < 1.31. Similarly, none of the comparisons reached significance for sympathy, ts < 1. For help judgments, uncontrollable priming led to greater willingness to help than controllable priming, t = 1.92. Uncontrollable priming also produced greater willingness to help than no priming, t = 1.96. For behavioral stigmas, only two comparisons were significant: Controllable priming produced more anger than uncontrollable priming (t = 1.67), and no priming (t = 1.74).

These results show that priming indeed influenced subjects' reactions toward the targets. For physical stigmas, uncontrollable priming decreased the perceived controllability of the stigma and increased willingness to help the target. Furthermore, controllable priming elicited more anger than uncontrollable and no priming, but only in the case of behavioral stigmas.

Information effects. It was hypothesized that stigmas that were ascribed to a controllable cause would be perceived as more controllable than stigmas whose cause was not described. No information, in turn, was expected to produce higher ratings than uncontrollable information. Furthermore, controllable information was expected to result in more anger, less sympathy, and less willingness to help than no information, which was expected to elicit more anger, but less sympathy and help than uncontrollable information. To test these hypotheses, six comparisons were computed for each dependent

measure, three for each level of stigma type. All test statistics were distributed with approximately 100 degrees of freedom and the critical t-value for 6 comparisons was 2.69, $p < .05$.

Replicating previous research (Weiner, et al., 1988), stigmas that were ascribed to a controllable cause were perceived as more controllable than stigmas described as due to uncontrollable factors (see Table 6 for a summary of the results). Similarly, controllable information elicited less anger, but more sympathy and greater willingness to help than uncontrollable information. Such a difference in sympathy and help judgments was found for behavioral stigmas only, however. Unexpectedly, no information generally did not differ from controllable information for behavioral stigmas and from uncontrollable information in the physical condition.

Stigma type effects. Physical stigmas were expected to elicit more positive emotions and help judgments than behavioral stigmas. Comparisons between the two stigmas were computed for each level of information, with a critical value of 2.43 for 3 comparisons per dependent measure, df = 100, $p < .05$. Ten of 12 contrasts were significant (see Table 6), with physical stigmas being perceived as less controllable, and eliciting less anger, but more sympathy and greater willingness to help than behavioral stigmas, all ts > 2.56. No differences were found between physical and behavioral stigmas for perceived control ($t = 1.95$) and anger ($t = 2.00$) in the controllable information condition.

First Scenario: Perceived Cause Measures

For each stigma, subjects answered two questions pertaining to

Table 6:

Means for the Stigma Type and Information Interaction: Scenario 1

	Behavioral Stigmas			Physical Stigmas		
Measures	Uncontr Info	No Info	Contr Info	Uncontr Info	No Info	Contr Info
Control	3.74[a]	6.20[b]	6.60[b]	2.76[a]	2.90[a]	6.01[b]
Anger	2.98[a]	4.39[b]	4.45[b]	2.16[a]	2.47[a]	3.79[b]
Sympathy	6.54[a]	5.68	5.45[b]	7.98	7.57	7.12
Help	5.80[a]	5.07	5.00[b]	6.52	6.46	6.26

Note: Uncontr Info = Uncontrollable Information; No Info = No Information; Contr Info = Controllable Information. Means that do not share a superscript are significantly different, $p < .05$ for a family of six comparisons per dependent measure.

its cause. The questions were worded in such a way as to be consistent with the corresponding scenario. For cancer and obesity, subjects rated the extent to which physiological factors and the extent to which the person's lifestyle caused the condition. Questions were somewhat different for paraplegia and drug addiction, in that subjects were asked about the extent to which the condition was due to situational factors and the extent to which it was due to the person's behavior. Ratings pertaining to lifestyle and behavior were combined. That is, it was possible to collapse across stigmas, as in the case of the previous analyses. However, questions related to physiology and situational factors had to be analyzed separately. The analysis for physiological causes therefore includes only cancer versus obesity, whereas the analysis for situational causes compares paraplegia and drug addiction. As a result, cell sizes are reduced for these measures (see Table 7). Attributions to physiology, situation, and behavior were analyzed separately with Priming (uncontrollable, none, controllable) x Information (uncontrollable, none, controllable) x Stigma Type (physical, behavioral) 3 x 3 x 2 analyses of variance (ANOVAs). These results are presented in Table 8.

Priming effects. Priming main effects were found for all three perceived cause measures, although the effect for situational attributions was qualified by a Priming x Information interaction (see Table 8). Similarly, a Priming x Stigma Type interaction qualified the main effect for behavior attributions (see Table 8). Probing the priming main effect for physiology attributions (t critical = 1.68, df = 50, $p < .10$) showed that controllable priming produced higher ratings than

Table 7:

Means and Standard Deviations for Perceived Cause Measures: Scenario 1

Uncontrollable Information

Measure		Uncontrollable Priming		No Priming		Controllable Priming	
		Beh	Phys	Beh	Phys	Beh	Phys
Physiology[a]	M	8.27	7.00	7.18	6.60	7.50	7.50
	SD	1.42	2.69	1.72	2.59	1.77	2.95
	n	11	9	11	10	8	10
Situation[b]	M	7.45	8.33	7.00	6.82	6.33	8.44
	SD	2.38	2.24	1.67	2.32	2.50	1.42
	n	11	9	11	11	9	9
Behavior[c]	M	5.59	2.56	4.86	3.71	5.47	3.42
	SD	2.20	1.82	2.59	2.49	2.43	2.52
	n	22	18	22	21	17	19

No Information

Measure		Uncontrollable Priming		No Priming		Controllable Priming	
		Beh	Phys	Beh	Phys	Beh	Phys
Physiology	M	5.90	5.22	4.55	5.91	5.50	7.38
	SD	2.33	2.33	2.21	2.07	2.27	1.85
	n	11	9	11	11	10	8
Situation	M	7.89	9.57	7.91	7.91	7.88	8.30
	SD	1.76	0.53	2.07	1.87	2.10	1.95
	n	9	7	11	11	8	10
Behavior	M	6.95	2.94	7.59	4.73	8.33	4.94
	SD	1.81	1.91	2.04	2.27	1.37	2.69
	n	19	16	22	22	18	18

Table 7 (continued)

Controllable Information

Measure		Uncontrollable Priming		No Priming		Controllable Priming	
		Beh	Phys	Beh	Phys	Beh	Phys
Physiology	M	5.64	4.67	4.70	4.18	6.60	5.44
	SD	2.77	2.29	2.83	1.60	2.07	1.59
	n	11	9	10	11	10	9
Situation	M	7.22	7.70	7.55	8.00	5.75	6.00
	SD	2.44	1.83	1.51	0.89	2.60	2.69
	n	9	10	11	11	8	9
Behavior	M	7.70	6.58	7.10	6.86	7.72	6.39
	SD	2.25	2.48	2.45	2.23	1.87	2.85
	n	20	19	21	22	18	18

[a] "To what extent, do you think, is this condition caused by a genetic predisposition or a physiological defect?". [b] "To what extent, do you think, is this condition caused by situational factors?". [c] "To what extent, do you think, is this condition caused by the person's lifestyle/behavior?" (1 = not at all a factor, 10 = very much a factor).

Table 8:

Significant Univariate Results for Perceived Cause Measures:

Scenario 1

Effect	Physiology	Situation	Behavior
Priming	3.81** (2,160)	2.76* (2,156)	2.42* (2,334)
Information	14.55*** (2,160)	5.29*** (2,156)	44.74*** (2,334)
Stigma Type	0.41 (1,160)	4.87** (4,156)	76.65*** (1,334)
Priming x Info	0.40 (4,160)	2.04* (4,156)	1.66 (4,334)
Info x Stigma Type	2.57* (2,160)	0.27 (2,156)	8.91*** (2,334)
Priming x Stigma Type	1.27 (2,160)	0.99 (2,156)	2.60* (2,334)
MSe	4.99	4.02	5.17

Note: * < .10; ** < .05; *** <.01. Degrees of freedom are indicated in brackets; Info = Information.

no priming, t = 2.73 (Ms = 6.65 vs 5.52), but did not differ from uncontrollable priming, t = 1.26 (Ms = 6.65 vs 6.12). Uncontrollable priming also did not differ from no priming, t = 1.40.

The Priming x Information interaction for situation attributions (see Figure 2) was followed by comparing priming groups at each level of information (t critical = 1.70, df = 30). Significant differences were found only for controllable information, in that subjects in the controllable priming condition attributed the stigma less to situational factors than uncontrollable priming subjects, t = 1.94 (Ms = 5.88 vs 7.46), and no priming subjects, t = 2.72 (Ms = 5.88 vs 7.77). No difference was obtained between uncontrollable and no priming groups, t = < 1.

Moreover, probing the Priming x Stigma Type interaction for behavior attributions (see Figure 3) showed that for physical stigmas, uncontrollable priming elicited lower ratings than controllable priming, t = 1.93 (Ms = 4.03 vs 4.92), and no priming, t = 2.63 (Ms = 4.03 vs 5.10) (t critical = 1.66). None of the other comparisons was significant, ts < 1.65. Means for behavioral stigmas were 6.75, 7.17, and 6.52 for uncontrollable, controllable and no priming, respectively.

To summarize, priming interacted with stigma type and information. As expected, subjects receiving uncontrollable priming were less likely to attribute the cause of the condition to the individual's behavior, although this effect was obtained only for physical stigmas. Similarly, controllable priming, when combined with controllable information decreased attributions to situational factors, relative to uncontrollable priming. Unexpectedly, controllable priming

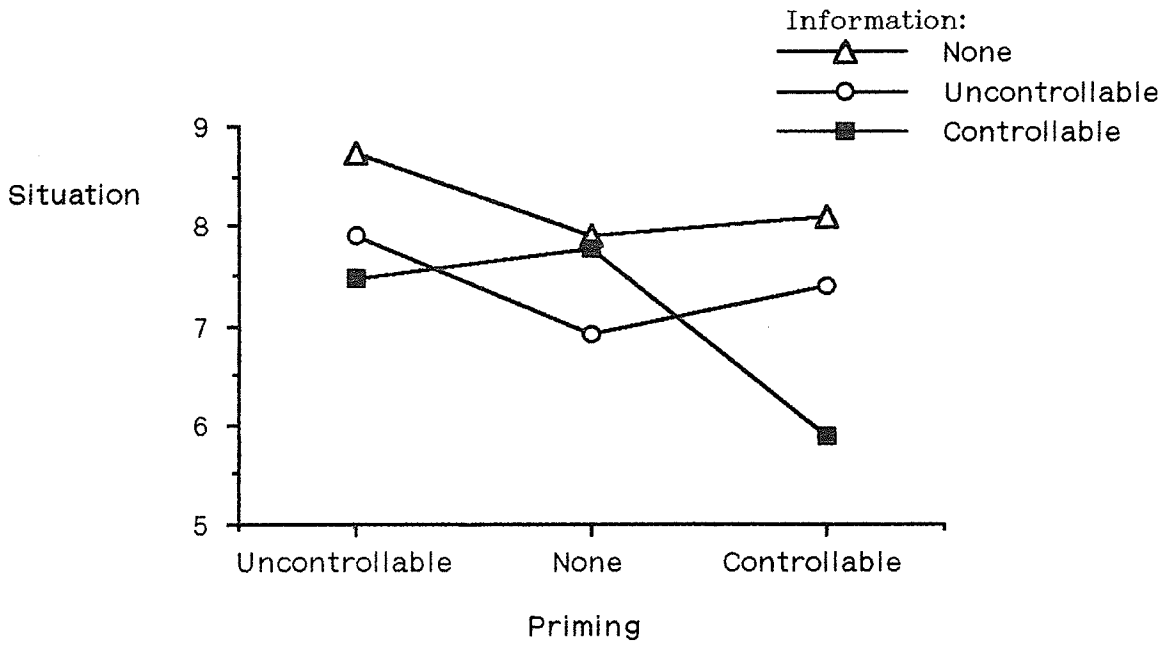


Figure 2: The effect of priming on attributions to situational factors.

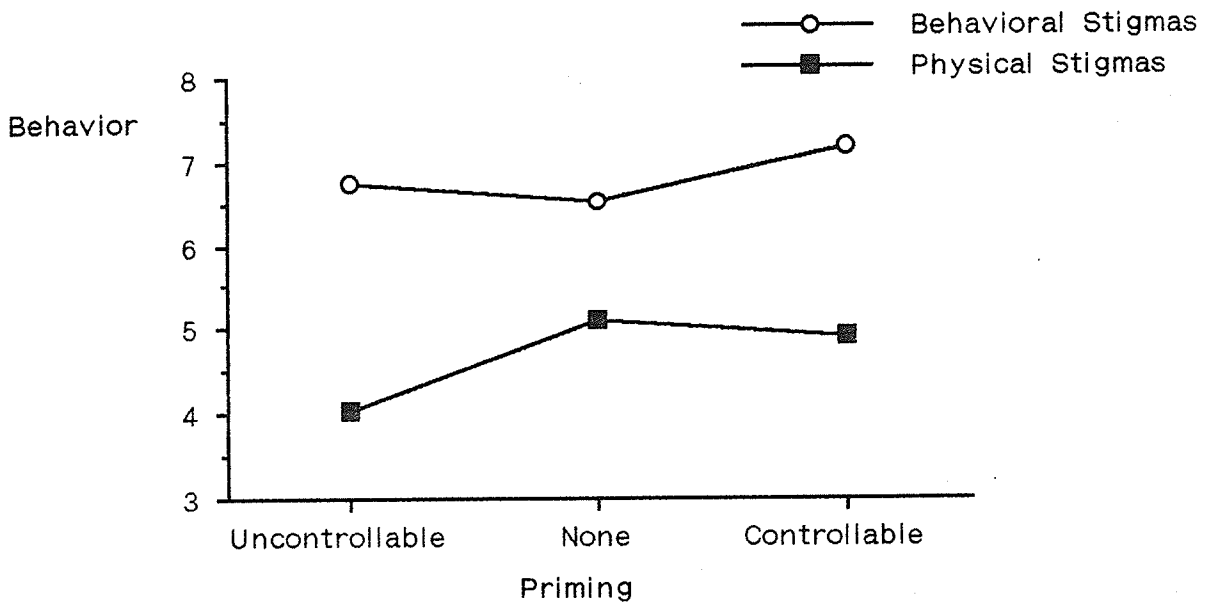


Figure 3: The effect of priming on attributions to behavioral factors.

subjects attributed the stigma more to physiological factors than no priming subjects.

Information effects. The ANOVA results showed a main effect for information for physiology attributions. This effect was probed with three contrasts (t critical for 3 comparisons = 2.43, df = 100), which showed that stigmas ascribed to uncontrollable causes were attributed more to physiological factors than controllable stigmas, t = 7.51 (Ms = 7.34 vs 5.21), and stigmas in the no information condition, t = 5.81 (Ms = 7.34 vs 5.75). The difference between controllable and no information was not significant, t = 1.91. Probing the information main effect for situational attributions resulted in only one significant contrast: Controllable information elicited lower scores than no information (Ms = 7.04 vs. 8.24), t = 3.24, t critical(75) = 2.43.

Moreover, t-tests probing the Information x Stigma Type interaction for behavior attributions showed that for physical stigmas, uncontrollable information elicited lower ratings than controllable information (t = 7.52). The critical value for six comparisons (df = 100) at $p < .05$ was 2.69. No information also produced lower ratings than controllable information (t = 5.29). Similarly, for behavioral stigmas, uncontrollable information led to lower scores than controllable information, t = 5.20 and no information, t = 6.00.

In sum, these results indicate that subjects receiving controllable information were generally more likely to attribute the cause of the condition to the person's behavior, but less likely to explain it in terms of physiological or situational factors than uncontrollable or no information subjects. Stigmas ascribed to uncontrollable factors, in

turn, were attributed less to the target's behavior, but more to physiological factors than when no causal information was provided.

Stigma type effects. Contrasts were performed to determine if subjects responded differently to physical versus behavioral stigmas. As one would expect, the cause of physical, as compared to behavioral stigmas, was more likely to be attributed to situational factors, but less likely to the target's behavior, although the latter effect was found only for no information and uncontrollable information (t = 5.59 and 5.41), but not for controllable information, t = 2.05 (t critical = 2.43).

Summary of Results for Scenario 1

Results for the first scenario indicate, then, that priming generally influenced perceptions of the cause of the conditions, although priming effects depended on the type of stigma or the specific information provided. As expected, subjects exposed to uncontrollable priming were less likely to attribute the cause of the stigmas to the person's behavior. These findings were obtained only for physical stigmas, however. Furthermore, controllable priming decreased attributions to situational factors, relative to uncontrollable priming, but only when the cause of the stigma was ascribed to controllable factors. A similar effect was obtained for controllability, anger, and help measures, in that only physical stigmas produced greater willingness to help when uncontrollable priming was provided. Moreover, greater anger was expressed when controllable priming was combined with behavioral stigmas. Thus, it appears that priming was effective only when information in the priming phase matched information in the person perception phase.

The effects for information and stigma type replicate previous research, in that uncontrollable information generally evoked more positive emotional responses and help judgments than controllable information. As expected, reactions were more positive toward physical than behavioral stigmas. Moreover, as one would expect, controllable stigmas were generally attributed to behavioral causes, whereas uncontrollable stigmas were more likely to be attributed to physiological or situational factors. These findings are consistent with Weiner's (1986) model, which would predict that behavioral factors may be perceived as controllable, whereas physiological and situational causes might be more readily thought of as uncontrollable.

Second Scenario: Controllability, Affective, and Help Measures

Controllability, anger, sympathy, and help measures were analyzed with a Priming (uncontrollable, none, controllable) x Information (uncontrollable, none, controllable) x Stigma Type (physical, behavioral) 3 x 3 x 2 MANOVA, as in the case of Scenario 1. Results were similar to those of the first scenario, with main effects for information, $F(8,654) = 21.28$, $p < .01$, stigma type, $F(4,326) = 32.38$, $p < .01$, and an Information x Stigma Type interaction, $F(8,654) = 3.21$, $p < .01$. (See Appendix D for univariate results and Table 9 for means and standard deviations). Unlike Scenario 1, however, no interaction effects were found for priming. The Information x Stigma Type interaction was again probed by comparing information groups at each level of stigma type. Results of these contrasts are shown in Table 10. Generally, controllable information again produced higher controllability ratings, more anger, and less sympathy than uncontrollable information and no

Table 9:

Means and Standard Deviations given Information, Priming and Stigma Type: Scenario 2

Uncontrollable Information

		Uncontrollable Priming		No Priming		Controllable Priming	
Measure		Beh	Phys	Beh	Phys	Beh	Phys
Control	M	3.80	2.24	4.36	2.29	4.14	2.82
	SD	2.10	1.56	2.30	1.11	2.51	1.56
	n	22	18	22	21	17	19
Anger	M	3.17	2.35	3.48	2.21	3.51	2.23
	SD	2.00	2.16	1.81	1.36	2.15	1.33
	n	21	18	22	21	17	19
Sympathy	M	6.89	8.76	6.24	7.94	7.10	7.77
	SD	2.03	1.81	2.04	1.99	1.84	1.98
	n	22	18	22	21	17	19
Help	M	5.58	6.80	5.53	6.68	5.45	6.72
	SD	1.60	1.27	1.89	1.98	1.72	1.36
	n	22	18	22	21	17	19

Table 9 (continued)

No Information

Measure		Uncontrollable Priming		No Priming		Controllable Priming	
		Beh	Phys	Beh	Phys	Beh	Phys
Control	M	6.74	3.29	6.25	3.76	6.93	3.37
	SD	1.38	2.16	1.46	1.79	1.66	1.38
	n	19	16	21	22	18	18
Anger	M	4.26	2.04	3.85	2.71	4.87	1.94
	SD	2.12	1.01	2.12	1.66	1.82	1.50
	n	19	16	22	22	18	18
Sympathy	M	5.75	8.15	6.17	8.09	6.50	7.93
	SD	1.47	1.44	1.37	1.58	1.95	1.71
	n	19	16	22	22	18	18
Help	M	5.35	6.60	5.32	6.39	4.74	6.70
	SD	1.33	1.56	1.67	1.35	1.86	1.49
	n	19	16	22	22	18	18

Table 9 (continued)

Controllable Information

Measure		Uncontrollable Priming		No Priming		Controllable Priming	
		Beh	Phys	Beh	Phys	Beh	Phys
Control	M	6.90	6.52	7.53	6.70	7.11	6.16
	SD	1.45	2.40	1.49	2.19	1.82	1.98
	n	20	18	21	22	18	17
Anger	M	5.15	4.00	4.46	4.42	5.17	4.16
	SD	1.85	2.85	2.30	2.26	1.92	2.37
	n	20	19	21	22	18	17
Sympathy	M	5.35	7.21	5.83	6.77	5.61	6.90
	SD	2.42	2.04	1.79	2.49	1.85	2.10
	n	20	19	21	22	18	17
Help	M	5.23	6.88	5.08	6.08	4.91	5.52
	SD	1.83	1.77	1.23	1.95	1.51	1.75
	n	20	19	21	22	18	18

Note: Beh = Behavioral Stigmas, Phys = Physical Stigmas.

Table 10:

Means for the Stigma Type and Information Interaction: Scenario 2

	Behavioral Stigmas			Physical Stigmas		
Measures	Uncontr Info	No Info	Contr Info	Uncontr Info	No Info	Contr Info
Control	4.10[a]	6.64[b]	7.18[b]	2.45[a]	3.47[b]	6.46[c]
Anger	3.39[a]	4.33	4.93[b]	2.26[a]	2.23[a]	4.19[b]
Sympathy	6.74[a]	6.14	5.60[b]	8.16[a]	8.06[a]	6.96[b]
Help	5.52	5.14	5.07	6.73	6.56	6.16

Note: Uncontr Info = Uncontrollable Information; No Info = No Information; Contr Info = Controllable Information. Means that do not share a superscript are significantly different, $p < .05$ for a family of six comparisons per dependent measure.

information. Uncontrollable information generally did not differ from no information. Interestingly, no difference between groups was found for help measures.

In addition, physical stigmas were compared to behavioral stigmas at each level of information, t(critical) = 2.43 for 3 comparisons, $p < .05$, df = 100. Physical stigmas were perceived as less controllable and elicited less anger, more sympathy, and more willingness to help than behavioral stigmas, all ts > 3.30. As in the case of Scenario 1, no difference was found between stigma types for control (t = 2.00) and anger (t = 1.75) when controllable information was provided.

Second Scenario: Perceived Cause Measures

Priming effects. Consistent with analyses for Scenario 1, attributions to physiology, situation, and behavior were analyzed with separate ANOVAs. These results are shown in Table 11. (Means and standard deviations are listed in Table 12). Probing the Priming x Information interaction for physiology (see Figure 4) revealed that for controllable information, controllable priming produced lower ratings than no priming, t = 2.77 (Ms = 3.82 vs. 6.01), and uncontrollable priming, t = 2.47 (Ms = 3.82 vs. 5.76), t critical(26) = 1.71, $p < .10$. The difference between no priming and uncontrollable priming was not significant, $t < 1$. For uncontrollable information, uncontrollable priming elicited higher ratings than no priming, t = 1.83 (Ms = 8.59 vs. 7.55) and controllable priming, t = 1.87 (Ms = 8.59 vs. 7.39). No priming did not differ from controllable priming, $t < 1$. None of the comparisons for the no information condition was significant, ts < 1.62. Contrasts

Table 11:

Significant Univariate Results for Perceived Cause Measures:

Scenario 2

Effect	Physiology	Situation	Behavior
Priming	1.39 (2,154)	0.15 (2,155)	3.38** (2.330)
Information	21.01*** (2,154)	3.59** (2,155)	73.06*** (2,330)
Stigma Type	7.68** (1,154)	2.49 (1,155)	63.21*** (1,330)
Priming x Info	3.29** (4,154)	1.32 (4.155)	0.61 (4,330)
Info x Stigma Type	1.41 (2,154)	4.01** (2,155)	3.42** (2,330)
MSe	4.93	3.82	5.07

Note: * < .10; ** < .05; *** <.01. Degrees of freedom are indicated in brackets; Info = Information.

Table 12:

Means and Standard Deviations for Perceived Cause Measures: Scenario 2

Uncontrollable Information

		Uncontrollable Priming		No Priming		Controllable Priming	
Measure		Beh	Phys	Beh	Phys	Beh	Phys
Physiology[a]	M	8.18	9.00	8.00	7.09	7.89	6.89
	SD	1.54	1.41	1.18	2.77	2.57	2.03
	n	11	8	11	11	9	9
Situation[b]	M	7.00	8.44	7.00	9.20	8.50	9.10
	SD	2.53	2.65	2.75	1.87	1.20	1.37
	n	11	9	10	10	8	10
Behavior[c]	M	5.23	2.89	5.27	2.95	5.35	3.21
	SD	2.72	2.59	2.55	2.50	2.34	2.42
	n	22	18	22	21	17	19

No Information

		Uncontrollable Priming		No Priming		Controllable Priming	
Measure		Beh	Phys	Beh	Phys	Beh	Phys
Physiology	M	5.56	5.57	6.27	5.82	7.63	5.80
	SD	1.74	1.99	1.68	2.40	1.60	2.86
	n	9	7	11	11	8	10
Situation	M	7.80	8.89	7.90	8.73	8.33	8.29
	SD	1.03	1.27	1.79	1.85	1.87	1.80
	n	10	9	10	11	9	7
Behavior	M	7.11	4.38	7.41	4.64	7.94	6.00
	SD	2.31	2.25	1.84	2.01	1.86	2.60
	n	19	16	22	22	18	17

Table 12 (continued)

Controllable Information

Measure		Uncontrollable Priming		No Priming		Controllable Priming	
		Beh	Phys	Beh	Phys	Beh	Phys
Physiology	M	7.22	4.30	6.20	5.82	4.75	2.89
	SD	2.28	2.87	3.22	2.08	2.25	1.96
	n	9	10	10	11	8	9
Situation[b]	M	7.91	8.11	7.50	6.90	7.80	6.33
	SD	2.55	1.05	2.37	1.79	1.48	2.24
	n	11	9	10	10	10	9
Behavior[c]	M	7.63	6.79	8.47	7.09	8.56	7.67
	SD	2.27	2.44	1.43	2.27	1.20	2.30
	n	19	19	19	22	18	18

[a] "To what extent, do you think, is this condition caused by a genetic predisposition or a physiological defect?". [b] "To what extent, do you think, is this condition caused by situational factors?". [c] "To what extent, do you think, is this condition caused by the person's lifestyle/behavior?" (1 = not at all a factor, 10 = very much a factor).

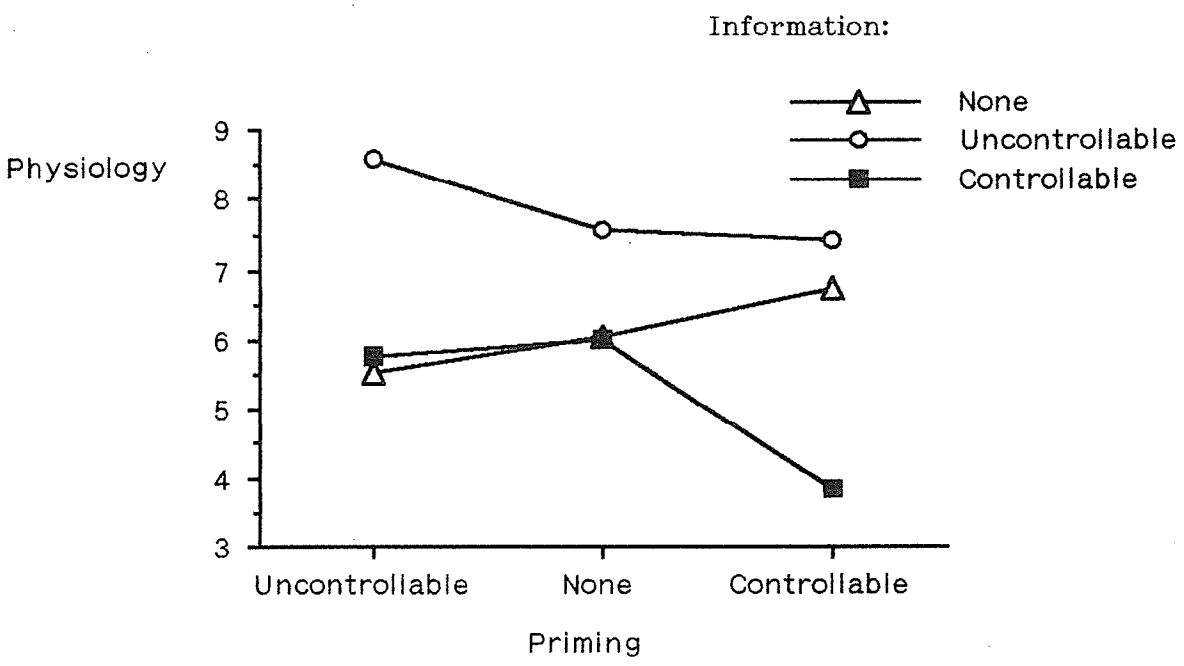


Figure 4: The effect of priming on attributions to physiological factors

probing the priming main effect for behavior attributions showed that subjects exposed to controllable priming were more likely to attribute the stigma to behavior than uncontrollable priming subjects, t = 2.54 (Ms = 6.46 vs 5.67) and no priming subjects, t = 1.74 (Ms = 6.46 vs 5.97), t(critical) = 1.66.

Information effects. As for Scenario 1, an information main effect was found for physiology attributions. Contrasts showed that uncontrollable information resulted in higher scores than controllable and no information (t = 6.27 vs. 4.51), t critical(85) = 2.44, $p < .05$. As in the case of Scenario 1, controllable information did not differ from no information, t = 2.11. Information x Stigma Type interactions for situation and behavior were again followed with contrasts at each level of stigma type. None of the comparisons was significant for attributions to situational factors, ts < 2.36 (t critical for 6 comparisons = 2.78, df = 40, $p < .05$).

Results for behavior attributions replicated those of Scenario 1: For physical stigmas, uncontrollable information produced lower ratings than controllable (t = 9.28) and no information (t = 4.35). In addition, no information led to lower scores than controllable information, t = 4.96 (t critical = 2.69 for 6 comparisons, df = 100). A similar pattern was obtained for behavioral stigmas, with uncontrollable information eliciting lower responses than controllable information (t = 7.42) and no information (t = 5.27).

Stigma type effects. The main effect for stigma type for physiology indicated that, as one would expect, physical stigmas were more likely to be attributed to physiological causes than behavioral

stigmas. Moreover, physical stigmas received lower ratings than behavioral stigmas, with ts > 2.74 at all levels of Information (t critical = 2.43 for 3 comparisons, df = 100). However, no difference between stigma types was found for attributions to situational factors, ts < 1.68 (t critical = 2.50 df=42).

Summary of Results for Scenario 2

Results for Scenario 2 were somewhat different from those of the first vignette, in that priming did not affect controllability ratings, anger, sympathy, or help judgments. However, the pattern for the perceived cause of the conditions was similar. Subjects who received controllable priming attributed the cause of the stigmas more to behavioral factors than uncontrollable priming subjects. As for the first scenario, priming effects occurred when priming information was consistent with stimulus information, that is, controllable priming in combination with controllable information, as well as uncontrollable priming-uncontrollable information, produced the most polarized responses for attributions to physiological factors. Effects for information and stigma type generally replicated findings for Scenario 1.

Discussion

Priming

It had been argued that priming would increase the availability of controllable or uncontrollable causal attributions and, as a result, increase the likelihood that these explanations would be used during a subsequent causal search. More specifically, it was hypothesized that presenting subjects with stimuli that might be perceived as either

controllable or uncontrollable would influence subsequent attributions about the cause of the stigmas, with attributions being displaced in the direction of the priming stimuli. As a result of this influence on causal attributions, affective reactions and help judgments were also expected to be influenced. Priming effects were thought to be particularly likely when no information about the cause of the stigma was provided, since this experimental condition is presumably the most ambiguous one. In contrast, it was not clear how priming would affect responses when specific information was presented.

Although results of the present study show that information interacted with priming on some dependent measures, priming also interacted with the type of stigma. Results for the scenario responded to first showed that uncontrollable priming subjects were less likely to attribute the cause of physical stigmas to the person's behavior, although no such effect was found for behavioral stigmas. Controllable priming also decreased attributions to situational factors, but only when subjects also received controllable information about the cause of the stigma. These findings make sense within the context of Weiner's (1986) model since behavior is presumably under a person's control, and uncontrollable priming should decrease the likelihood of attributing the stigma to controllable factors. Similarly, situational factors are probably perceived as uncontrollable, and controllable priming subjects should therefore place less emphasis on such causes.

Moreover, for physical stigmas, uncontrollable priming led to lower controllability ratings and, consistent with Weiner's (1986) theory, to greater willingness to help. In contrast, controllable priming

increased anger for behavioral stigmas. Unexpectedly, controllable priming produced less anger than no priming for physical stigmas. Interestingly, the effect of priming on positive and negative reactions was not reciprocal in nature, in that uncontrollable priming elicited more positive reactions, without decreasing anger. Similarly, controllable priming evoked more anger, but did not result in less sympathy or willingness to help. These findings are quite compatible with Weiner's theory which posits sympathy-help and anger-neglect linkages. Sympathy and anger are thought to be independent of each other, a view that has received some empirical support (Reisenzein, 1986). Although increased help judgments were not associated with more sympathy in the present study, this may be due to a weak priming manipulation.

Subjects responded to two scenarios in order to obtain some indication of the duration of priming effects. In terms of perceived cause measures, results for Scenario 2 were similar to those for Scenario I . For attributions to physiological factors, subjects who received both controllable priming and controllable information were less likely to attribute the stigma to a physiological defect, whereas uncontrollable priming - uncontrollable information increased attributions to physiology. In addition, subjects who received controllable priming attributed the stigmas more to the target's behavior than uncontrollable and no priming subjects.

Interestingly, findings for physiology were very similar to those for situational attributions for Scenario 1 (see Figures 2 and 4), whereas situational attributions were not affected by priming for

Scenario 2. Moreover, attributions to behavior did not interact with stigma type. Although MANOVA results showed that priming did not influence controllability, affect, and help measures, inspection of the means indicated that responses to the second vignette were in a similar direction as those for Scenario 1. Controllable priming led to greater anger for behavioral stigmas, whereas uncontrollable priming increased sympathy and willingness to help for physical stigmas.

Results indicate, then, that priming effects were context-specific, in that judgments were generally influenced only when priming stimuli were similar to stimulus information. The priming condition that did not match stimulus information did not affect responses, producing ratings similar to those in the no priming group. For example, although uncontrollable priming decreased attributions to behavioral factors for physical stigmas, relative to no priming, controllable priming did not increase ratings. It appears that controllable priming stimuli may have been perceived as irrelevant within the context of physical stigmas. Thus, in general terms, uncontrollable priming affected judgments for uncontrollable stigmas, and controllable priming influenced controllable stigmas. This was the case whether stimulus information was explicit, that is when the cause of the stigma was ascribed to a specific cause, or when the stigma itself implied a cause, with physical stigmas being attributed to uncontrollable factors, and behavioral stigmas being interpreted as due to controllable causes.

These findings provide support for the availability hypothesis and the notion that the causal search is guided by the relative accessibility of inferences in memory. Weiner (1986) argues that the selection of

causal attributions is influenced by situational contexts, as well as personal concerns. This study shows that even fortuitous events can affect subsequent judgments about the cause of an outcome. For example, reading a news story about child abuse might influence subsequent perceptions of a criminal incident. Similarly, in the achievement domain, cues present in the school setting may increase the availability of particular attributions, such as effort (Wong & Weiner, 1981).

Results of the second scenario suggest that priming effects persisted at least for several minutes. It is noteworthy that effects were obtained for Scenario 2 for perceived cause measures, but not for controllability, affective, and help measures. A possible explanation for this finding is that the cause of a stigma may be inferred upon reading the stimulus information, with judgments about the controllability of the cause being made on the basis of those attributions. Questions that specifically assessed perceptions of the cause may therefore have been more sensitive to priming. This interpretation is consistent with Smith and Miller's (1983) results which indicate that traits are inferred first from target sentences, and attributions about situational or dispositional causes, and affective reactions occur later. It is important to note, however, that these interpretations are speculative since subjects were exposed to stimulus information before responding to Scenario 2. Priming effects may therefore have been affected by prior exposure to causal information. This previous experience may also account for the inconsistencies in findings for the first and second scenario.

Although the present results are promising, it is important to keep limitations of the study in mind, which may qualify any interpretations. First, it is possible that priming interacted with the other variables because of the priming task used. Priming stimuli, although rated in terms of their controllability by independent judges, had been generated by the experimenter on an intuitive basis. It is therefore possible that some stimuli were not perceived as relevant or applicable to the target information, thereby reducing the magnitude of priming effects. As a result, priming may not have been strong enough to produce main effects. Wyer and Srull (1979), for example, demonstrated that the magnitude of priming effects increased as a function of the number of priming stimuli included. It should also be noted that priming stimuli, particularly controllable and uncontrollable trait adjectives, may vary along different dimensions of controllability. While "daydreaming" and "daredevil" seem to reflect characteristics that are under personal control, "unlucky" and "doomed" appear to capture the lack of control resulting from being at the mercy of an external force, such as fate. Future research should further investigate this issue and attempt to match the priming stimuli more closely.

Moreover, priming effects were tested with a liberal significance level, thereby increasing the probability of committing a Type I error and incorrectly declaring findings as significant. However, the fact that there was some consistency across dependent variables and that effects are consistent with Weiner's model instills some measure of confidence in the results. In addition, results concerning information and stigma type effects, which replicate previous research, indicate

that subjects' responses were reliable, at least with respect to these variables. Furthermore, the information and stigma type manipulations affected perceived cause measures in the expected direction, suggesting that these questions were reliable. Nevertheless, interpretation of priming effects are quite speculative and findings are in need of replication.

Information and Stigma Type Effects

Based on previous research (Menec et al, 1990; Weiner et al., 1988), it was predicted that uncontrollable information would produce more positive affective responses and greater willingness to help than controllable information. Moreover, physical stigmas were expected to elicit more positive reactions than behavioral stigmas. These hypotheses were generally supported, although information also interacted with stigma type for most measures. Stigmas described as controllable were generally rated as more controllable, eliciting more anger, less sympathy, and less willingness to help than uncontrollable stigmas. The same pattern was obtained for behavioral stigmas which were rated as more controllable than physical stigmas, and also led to more anger, and less sympathy and reduced help judgments.

The finding that these differences did not occur at all levels of information and stigma type may be due to the fact that the wording of the scenarios was slightly different from that in previous research. For example, Weiner et al. (1988) used the phrase "Through personal negligence, X. collided with the rear of a car ..." which clearly identifies the stimulus person as being responsible for the accident. In contrast, attributions of responsibility were less explicitly stated in the present

study. For example, subjects were required to infer a cause from the sentence "X collided with the rear of a car... ". It is also interesting that information did not affect help measures for the second stigma, indicating that reading the first scenario may have interfered with responses.

Theoretical Considerations

Findings of the present study suggest that priming influenced judgments about a stimulus person only when the priming stimuli corresponded to information about the target. These results are similar to those by Bargh et al., (1986) who found that priming and chronic activation of constructs combined in an additive fashion. Bargh et al. interpreted their findings in terms of the "synapse" model proposed by Higgins and associates (Higgins, 1989; Higgins et al., 1985). According to this view, activation of a construct occurs if features of the construct match features of the stimulus information (Higgins, 1989). In other words, only applicable priming stimuli are expected to influence subsequent judgments. In the present study, judgments should therefore have been affected only in the controllable priming-controllable stigma, and uncontrollable priming-uncontrollable stigma, which is consistent with findings.

The problem with this explanation is that the synapse model is based on the assumption that priming activates abstract knowledge representations. For example, an abstract construct reflecting "unlucky" might have been activated in the uncontrollable priming condition. When subjects were exposed to an uncontrollable stigma in the person perception phase, this construct would have received further

excitation and would have been more likely to be used for interpreting the information. Research indicates, however, that models involving abstract knowledge structures cannot account for all priming effects (e.g., Smith & Branscombe, 1987; 1988).

An alternative theory which may explain the present results, but does not rely on schemas, is the episodic knowledge model (e.g., Jacoby et al., 1990). According to this view, specific experiences are remembered, and priming should occur only to the extent that cues in the person perception phase match information in the priming phase. This model would predict, then, that when asked to respond to the stimulus person, subjects retrieved information provided in the priming phase, with controllable stigmas providing retrieval cues for information exposed to in the controllable priming condition, and uncontrollable stigmas serving as cues for uncontrollable primes.

Although this account seems to imply that subjects consciously retrieved information, this is not the case, since priming effects occur without subjects' conscious awareness of priming effects (Jacoby & Kelley, 1990). In the present study, responses to the postexperimental questionnaire indicated that subjects were not aware of the relation between the two phases. In addition, subjects were asked to list those words presented on the sentence construction task, if any, that seemed to "stick out". Inspection of the words reported showed that filler words were equally likely to be listed than priming words, which seems to suggest that priming stimuli were not particularly salient.

Thus, both the synapse and the episodic knowledge model can account for the present findings. However, the latter interpretation is

particularly appealing since the model is supported by a considerable amount of research in social and non-social contexts (e.g, Jacoby, 1983; Jacoby, Allan, Collins, & Larwill, 1988; Lupfer, Clark & Hutchison, 1990). Moreover, the model draws on research on episodic memory. In contrast, the synapse model has received less attention. Thus, as Jacoby et al. (1990) note, the primary advantage of the episodic memory account is its heuristic value.

Implications for Stigmatization

Discrimination against stigmatized individuals has frequently been explained in motivational terms. One such explanation is the just-world hypothesis (e.g., Lerner, 1971), which holds that people need to believe that individuals deserve what they get and get what they deserve. Other researchers propose that people derogate others in order to enhance their own self-esteem (e.g., Graham & Perry, 1976; Wills, 1981; Wylie, 1979). Results of the present study indicate that cognitive factors play a role in stigmatization, in that even brief exposure to stimuli can affect subsequent emotional responses and help judgments.

The context-specificity of priming effects suggests, however, that previous experiences will affect reactions only if details of that experience fit cues associated with an individual encountered. For example, reading an article describing genetic causes of obesity might be particularly likely to affect subsequent judgments about an obese person if the cause of that condition is already perceived as uncontrollable. A contextual model of priming effects leads to several predictions that warrant future research. For example, stigmas may

evoke different causal attributions depending on the context in which an individual is encountered. Seeing an obese person in a restaurant, for example, may lead to more controllable attributions than encountering the same individual on a tennis court. Since the restaurant is linked with eating, a behavior that is presumably under an individual's control, the cause of the obesity may be more likely to be attributed to this factor. Furthermore, attributions may be influenced by memory for specific individuals who have the same stigma. Such a prediction is consistent with work by Tversky and Kahneman (1973), which shows that frequency judgments are affected by the ease with which people can generate examples.

Conclusion

Weiner's (1986) attributional theory of motivation focuses on the consequences of attributions, rather than their determinants. As such, Weiner's model can be applied once one particular attribution has been selected. Since Weiner postulates that attributions are the determinants of motivated behavior and emotions, it is important to investigate which attributions are likely to be used in a given situation, in order to be able to make predictions about behavioral and emotional responses. Typically, researchers have focused on internal causal antecedents, such as hedonic bias or mood (e.g., Forgas et al., 1990). Alternatively, attributions have been influenced by explicitly telling subjects to attribute an event to a particular cause (e.g., Anderson, 1983). The present research suggests that the causal search can be influenced by brief exposure to situational cues. Interpreted in terms of an episodic knowledge model (e.g., Jacoby & Kelley, 1990), results

seem to indicate that environmental stimuli may affect interpretation of new information to the extent that contextual factors allow their retrieval. Future research applying such a retrieval model would be useful for a better understanding of the attributional process.

References

Anderson, C. A. (1983). Motivational and performance deficits in interpersonal settings. Journal of Personality and Social Psychology, 45, 1136-1147.

Anderson, J. R. (1983). The architecture of cognition. Cambridge, MA: Harvard University Press.

Anderson, N. H. (1968). Likableness ratings of 555 personality-trait words. Journal of Personality and Social Psychology, 9, 272-279.

Bargh, J. A., Bond, R. N., Lombardi, W. J., & Tota, M. E. (1986). The additive nature of chronic and temporary sources of construct accessibility. Journal of Personality and Social Psychology, 50, 869-878.

Bargh, J. A., Lombardi, W. J., & Higgins, E. T. (1988). Automaticity of chronically accessible constructs in person x situation effects on person perception: It's just a matter of time. Journal of Personality and Social Psychology, 55, 599-605.

Bargh, J. A., & Pietromonaco, P. (1982). Automatic information processing and social perception: The influence of trait information presented outside of conscious awareness on impression formation. Journal of Personality and Social Psychology, 43, 437-449.

Bargh, J. A., & Pratto, F. (1986). Individual construct accessibility and perceptual selection. Journal of Experimental Social Psychology, 22, 293-311.

Bargh, J. A., & Thein, R. D. (1985). Individual construct accessibility, person memory, and the recall-judgment link: The case of

information overload. Journal of Personality and Social Psychology, 49, 1129-1146.

Bassili, J. N. (1990). Cognitive signatures and their forgery. In T. K. Srull & R. S. Wyer (Eds.), Advances in social cognition (Vol 3, pp. 89-97). Hillsdale, N. J.: Lawrence Erlbaum.

Betancourt, H. (1990). An attribution-empathy model of helping behavior: Behavioral intentions and judgments of help-giving. Personality and Social Psychology Bulletin, 16, 573-591.

Costin, F. (1975). Measuring hostility with the scrambled sentence test. In G. K. Verma, & C. Bagley (Eds.), Race and education across cultures. (pp. 100-116). London: Heinemann.

Covington, M. V. & Omelich, C. L. (1979). Effort: The double-edged sword in school achievement. Journal of Educational Psychology, 71, 169-182.

Erdley, C. A., & D'Agostino, P. R. (1988). Cognitive and affective components of automatic priming effects. Journal of Personality and Social Psychology, 54, 741-747.

Fiske, S. T., & Taylor, S. E. (1984). Social cognition. Reading: Addison-Wesley.

Forgas, J. P., Bower, G. H., & Moylan, S J. (1990). Praise or blame? Affective influences on attributions for achievement. Journal of Personality and Social Psychology, 59, 809-819.

Goffman, E. (1963). Stigma: Notes on the management of spoiled identity. Englewood Cliffs, N.J.: Prentice-Hall.

Graham, D., & Perry, R. P. (1976). Limitations in generalizability of the physical attractiveness stereotype: The self-esteem exception. Canadian Journal of Behavioral Science, 8, 263-274.

Harvey, J. H., & Weary, G. (1981). Perspectives on attributional processes. Dubuque, I.A.: Brown.

Herr, P. M. (1986). Consequences of priming: Judgment and behavior. Journal of Personality and Social Psychology, 51, 1106-1115.

Higgins, E. T. (1989). Knowledge accessibility and activation: Subjectivity and suffering from unconscious sources. In J. S. Uleman & J. A. Bargh (Eds.), Unintended thought. (pp. 75-123). New York: Guilford Press.

Higgins, E. T., Bargh, J. A., & Lombardi, W. (1985). Nature of priming effects on categorization. Journal of Experimental Psychology: Learning, Memory, and Cognition, 11, 59-69.

Higgins, E. T., & King. G. (1981). Accessibility of social constructs: Information-processing consequences of individual and contextual variability. In N. Cantor, & J. F. Kihlstrom (Eds.), Personality, cognition and social interaction (pp. 69-121). Hillsdale, N. J.: Erlbaum.

Higgins, E. T., King, G. A., & Mavin, G. H. (1982). Individual construct accessibility and subjective impressions and recall. Journal of Personality and Social Psychology, 43, 35-47.

Higgins, E. T., Rholes, W. S., & Jones, C. R. (1977). Category accessibility and impression formation. Journal of Experimental Social Psychology, 13, 141-154.

Jacoby, L. L. (1983). Perceptual enhancement: Persistent effects of an experience. Journal of Experimental Psychology: Learning, Memory, and Cognition, 9, 21-38.

Jacoby, L. L., Allan, L. G., Collins, J. C., & Larwill, L. K. (1988). Memory influences subjective experiences: Noise judgments. Journal of Experimental Psychology: Learning, Memory and Cognition, 14, 240-247.

Jacoby, L. L., & Kelley, C. M. (1990). An episodic view of motivation: Unconscious influences of memory. In E. T. Higgins, & R. M. Sorrentino (Eds.). Handbook of motivation and cognition: Foundations of social behavior. (Vol 2, pp. 451-481). New York: Guilford Press.

Jacoby, L. L., Marriott, M. J., & Collins, J. G. (1990). The specifics of memory and cognition. In T. K. Srull & R. S. Wyer (Eds.), Advances in social cognition (Vol 3, pp. 111-121). Hillsdale, N. J.: Lawrence Erlbaum.

Jacoby, L. L., & Witherspoon, D. (1982). Remembering without awareness. Canadian Journal of Psychology, 36, 300-324.

Kelly, G. A. (1955). The psychology of personal constructs. New York: Norton.

Kolers, P. A. (1976). Reading a year later. Journal of Experimental Psychology: Human Learning and Memory, 2, 554-565.

Langer, E. J., Fiske, S., Taylor, S E., & Chanowitz, B. (1976). Stigma, staring, and discomfort: A novel-stimulus hypothesis. Journal of Experimental Social Psychology, 12, 451-463.

Lerner, M. J. (1971). Observer's evaluation of a victim: Justice, guilt, and veridical perception. Journal of Personality and Social Psychology, 20, 127-135

Lupfer, M. B., Clark, L. F., & Hutcherson, H. W. (1990). Impact of context on spontaneous trait and situational attributions. Journal of Personality and Social Psychology, 58, 239-249.

Maxwell, S. E., & Delaney, H. D. (1990). Designing experiments and analyzing data. Belmont: Wadsworth.

McArthur, L., & Post, D. (1977). Figural emphasis and person perception. Journal of Experimental Social Psychology, XX.

Menec, V. H., Perry, R. P., & Perry, C. J. (1990). Reactions to controllable versus uncontrollable social stigmas: The role of perceived control and gender. (Unpublished manuscript).

Meyer, J. P., & Mulherin, A. (1980). From attribution to helping: An analysis of mediating effects of affect and expectancy. Journal of Personality and Social Psychology, 39, 201-210.

Meyer, D. E., & Schvanefeldt, R. W. (1971). Facilitation in recognizing pairs of words: Evidence of a dependence between retrieval operations. Journal of Experimental Psychology, 90, 227-234.

Mitchell, D. B., & Brown, A. S. (1988). Persistent repetition priming in picture naming and its dissociation from recognition memory, Journal of Experimental Psychology: Learning, Memory, and Cognition, 14, 213-222.

Newman, L. S., & Uleman, J. S. (1990). Assimilation and contrast effects in spontaneous trait inference. Personality and Social Psychology Bulletin, 16, 224-240.

Page, M. M. (1973). On detecting demand awareness by postexperimental questionnaire. The Journal of Social Psychology, 91, 305-323.

Pryor, J. B., & Kriss, M. (1977). The cognitive dynamics of salience in the attributional process. Journal of Personality and Social Psychology, 35, 49-55.

Ratcliff, R, & McKoon, G. (1988). A retrieval theory of priming in memory. Psychological Review, 95, 385-408.

Reisenzein, R. (1986). A structural equation analysis of Weiner's attribution-affect model of helping behavior. Journal of Personality and Social Psychology, 50, 1123-1133.

Rholes, W. S., & Pryor, J. B. (1982). Cognitive accessibility and causal attributions. Personality and Social Psychology Bulletin, 8, 719-727.

Rumelhart, D. E. (1984). Schemata and the cognitive system. In R. S. Wyer & T. K. Srull (Eds.), Handbook of social cognition (Vol. 1, pp. 161-188). Hillsdale, N.J.: Lawrence Erlbaum.

Satterthwaite, F. E. (1946). An approximate distribution of estimates of variance components. Biometrics Bulletin, 86, 37-46.

Schacter, D. L. (1987). Implicit memory: History and current status. Journal of Experimental Psychology: Learning, Memory, and Cognition, 13, 501-518.

Schmidt, G., & Weiner. B. (1988). An attribution-affect-action theory of behavior: Replication of judgments of help-giving. Personality and Social Psychology Bulletin, 14, 610-621.

Sedikides, C. (1990). Effects of fortuitously activated constructs versus activated communication goals on person impressions. Journal of Personality and Social Psychology, 58, 397-408.

Sherman, S. J., Mackie, D. M., & Driscoll, D. M. (1990). Priming and the differential use of dimensions in evaluation. Personality and Social Psychology Bulletin, 16, 405-418.

Sinclair, R. C., Mark, M. M., & Shotland, R. L. (1987). Construct accessibility and generalizability across response categories. Personality and Social Psychology Bulletin, 13, 239-252.

Sloman, S. A., Hayman, C. A. G., Ohta, N., Law, J., & Tulving, E. (1988). Forgetting in primed fragment completion. Journal of Experimental Psychology: Learning, Memory, and Cognition, 14, 223-239.

Smith, E. R. (1990). Content and process specificity in the effects of prior experiences. In T. K. Srull & R. S. Wyer (Eds.), Advances in social cognition (Vol 3, pp. 1-59). Hillsdale, N. J.: Lawrence Erlbaum.

Smith, E. R. (1984). Model of social inference processes. Psychological Bulletin, 13, 239-252.

Smith, E. R., & Branscombe, N. R. (1987). Procedurally mediated social inferences: The case of category accessibility effects. Journal of Experimental Social Psychology, 23, 361-382.

Smith, E. R., & Branscombe, N. R. (1988). Category accessibility as implicit memory. Journal of Experimental Psychology, 24, 490-504.

Smith, E. R., & Miller, F. D. (1979). Salience and the cognitive mediation of attribution. Journal of Personality and Social Psychology, 37, 2240-2252.

Smith, E. R., & Miller, F. D. (1983). Mediation among attributional inferences and comprehension processes: Initial findings and a general method. Journal of Personality and Social Psychology, 44, 492-505.

Southwick, L., Steele, C., & Lindell, M. (1986). The roles of historical experience and construct accessibility in judgments about alcoholism. Cognitive Therapy and Research, 10, 167-186.

Srull, T. K., & Wyer, R. S. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. Journal of Personality and Social Psychology, 37, 1660-1672.

Srull, T. K., & Wyer, R. S. (1980). Category accessibility and social perception: Some implications for the study of person memory and interpersonal judgments. Journal of Personality and Social Psychology, 38, 841-856.

Srull, T. K., & Wyer, R. S. (1989). Person memory and judgment. Psychological Review, 96, 58-83.

Tabachnik, B. G., & Fidell, L. S. (1983). Using multivariate statistics. New York: Harper & Row.

Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. Cognitive Psychology, 5, 207-232.

Weiner, B. (1972). Theories of motivation. Chicago: Rand McNally.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. Psychological Review, 92, 548-573.

Weiner, B. (1986). An attributional theory of motivation and emotion. New York: Springer.

Weiner, B., Perry, R. P., & Magnusson, J.-L. (1988). An attributional analysis of reactions to stigmas. Journal of Personality and Social Psychology, 55, 738-748.

Wills, T. A. (1981). Downward comparison principles in social psychology. Psychological Bulletin, 90, 245-271.

Wong, P. T. P., & Weiner, B. (1981). When people ask "why" questions, and the heuristics of attributional search. Journal of Personality and Social Psychology, 40, 650-663.

Wyer, R. S., Bodenhausen, G. V., & Gorman, T. F. (1985). Cognitive mediators of reactions to rape. Journal of Personality and Social Psychology, 48, 324-338.

Wyer, R. S., & Carlston, D. E. (1979). Social cognition, inference, and attribution. Hillsdale, N.J.: Lawrence Erlbaum.

Wyer, R. S., & Srull, T. K. (1980). The processing of social stimulus information: A conceptual integration. In R. Hastie, T. M. Ostrom, E. B. Ebbeson, R. S. Wyer, D. L. Hamilton, & D. E. Carlston (Eds.), Person memory: The cognitive basis of social perception. Hillsdale, N.J.: Erlbaum.

Wyer, R. S., & Srull, T. K. (1981). Category accessibility: Some theoretical and empirical issues concerning the processing of social stimulus information. In E. T. Higgins, C. P. Herman, & M. P. Zanna (Eds.), Social cognition: The Ontario Symposium (Vol. 1). Hillsdale, N.J.: Erlbaum.

Wylie, R. (1979). The self-concept (Vol. 2). Lincoln: University of Nebraska Press.

Appendix A

Means and Standard Deviations for Priming Stimuli

Trait Adjectives

	Measures		
	Control	Emotion	Meaning
Stimuli			
unconcerned	7.11 (2.18)	3.32 (2.16)	8.63 (0.68)
unhandy	5.26 (1.94)	4.95 (1.54)	7.26 (2.10)
unpredictable	5.63 (2.97)	6.05 (2.17)	8.37 (1.46)
unlucky	1.95 (1.35)	4.89 (2.16)	8.68 (0.95)
luckless	2.79 (1.65)	4.79 (1.84)	7.47 (1.54)
hasty	7.00 (2.21)	4.21 (2.01)	8.05 (1.58)
unprotected	5.67 (2.76)	5.50 (2.15)	7.79 (1.99)
irresponsible	8.21 (1.32)	2.58 (2.14)	8.84 (0.50)
preoccupied	6.84 (1.74)	4.63 (1.61)	8.63 (0.68)
foolish	6.95 (2.01)	3.53 (2.01)	8.74 (0.45)
powerless	4.95 (2.61)	4.37 (1.57)	8.47 (1.21)
reckless	7.63 (1.86)	4.00 (2.13)	8.16 (1.89)
awkward	4.68 (1.92)	4.79 (1.93)	8.68 (0.75)
forgetful	5.26 (2.00)	4.42 (1.77)	8.89 (0.32)
incompetent	5.42 (2.41)	3.37 (2.11)	8.11 (2.05)
weak	5.89 (2.18)	4.63 (2.14)	8.58 (0.61)
untalented	4.37 (2.81)	5.37 (1.89)	8.74 (0.56)
undependable	8.26 (1.19)	2.84 (2.39)	8.79 (0.42)

	Control	Emotion	Meaning
scatterbrained	5.21 (2.15)	3.73 (1.48)	7.31 (2.81)
unfortunate	2.42 (1.46)	5.68 (2.21)	8.58 (0.69)
doomed	2.94 (1.93)	4.79 (2.32)	8.26 (0.81)
susceptible	4.95 (1.90)	5.37 (1.57)	7.32 (2.38)
thoughtless	6.56 (1.82)	2.56 (1.50)	8.38 (1.02)
absorbed	6.53 (1.92)	5.33 (2.09)	6.19 (2.61)
neglectful	7.06 (1.69)	3.38 (1.54)	7.63 (1.89)
vulnerable	4.56 (2.39)	4.25 (1.65)	7.69 (1.89)
untidy	8.38 (1.31)	3.50 (1.46)	8.75 (0.45)
clumsy	4.31 (2.33)	4.88 (1.41)	8.44 (0.73)
unskillful	5.69 (1.92)	4.69 (1.58)	8.56 (0.63)
all-thumbs	4.75 (2.27)	4.94 (1.39)	7.38 (2.43)
sloppy	7.94 (1.53)	3.50 (1.59)	8.31 (1.74)
distracted	5.81 (2.59)	4.13 (1.54)	7.63 (2.13)
unreliable	8.25 (1.34)	1.94 (1.84)	8.81 (0.40)
unobservant	7.13 (1.67)	3.63 (1.50)	8.63 (0.72)
careless	7.19 (2.14)	3.38 (1.59)	8.75 (0.58)
daydreaming	7.06 (2.29)	4.88 (1.89)	8.88 (0.50)
unattentive	7.50 (1.51)	3.44 (1.41)	8.81 (0.40)
helpless	4.56 (2.48)	4.53 (1.64)	8. 38 (0.81)
absent-minded	6.50 (1.51)	3.69 (1..82)	8.56 (0.51)
daredevil	7.38 (1.82)	4.38 (1.71)	7.69 (2.52)
slovenly	5.67 (1.94)	3.83 (1.79)	4.05 (3.37)
injudicious	5.81 (2.01)	4.25 (1.95)	5.32 (2.96)

	Control	Emotion	Meaning
ill-starred	4.71 (1.90)	4.76 (1.35)	3.95 (2.55)
fumbling	5.32 (1.73)	4.47 (1.58)	7.32 (2.31)
ill-fated	3.47 (2.17)	5.53 (1.58)	6.21 (2.35)
unheeding	6.00 (1.84)	4.29 (1.61)	4.47 (3.27)
ill-considered	5.53 (2.32)	4.05 (2.09)	6.79 (2.32)
devil-may-care	6.28 (2.11)	4.44 (2.01)	5.58 (3.20)
disregardful	6.63 (1.63)	3.19 (1.22)	6.56 (1.82)
negligent	6.56 (1.55)	3.38 (1.50)	5.88 (2.90)
rash	5.88 (2.19)	4.38 (1.93)	6.56 (2.92)
gauche	5.60 (1.55)	4.53 (0.83)	3.94 (3.04)
bungling	4.92 (1.85)	4.69 (1.03)	4.56 (3.65)
fickle	6.53 (1.68)	3.87 (1.41)	5.38 (3.01)
hapless	5.07 (1.54)	4.21 (1.25)	3.94 (2.72)
imprudent	6.31 (1.66)	4.00 (1.10)	6.13 (2.42)
ill-omened	4.00 (1.36)	4.40 (1.18)	4.25 (2.14)
ill-favored	4.60 (1.68)	4.73 (1.28)	6.38 (2.45)
inept	5.00 (2.00)	4.00 (1.25)	5.88 (2.82)
maladroit	5.08 (1.16)	4.75 (0.75)	3.38 (2.80)

Behavioral Examples

	Measures		
	Control	Emotion	Meaning
Stimuli			
he fell	4.32 (2.28)	5.05 (1.70)	8.23 (1.15)
she stood him up	7.18 (2.30)	3.05 (1.81)	8.32 (1.29)
he was let go	3.14 (1.98)	4.45 (1.90)	8.14 (1.25)
he was excluded	2.72 (1.52)	4.86 (2.14)	8.23 (1.31)
he tripped	4.41 (2.04)	4.68 (1.76)	8.23 (1.54)
she dropped the books	6.00 (1.93)	5.05 (1.46)	8.50 (1.06)
he misplaced it	7.41 (1.56)	4.00 (1.35)	8.64 (0.79)
she maltreated them	7.27 (2.60)	2.14 (1.58)	7.91 (1.60)
he jumped	8.18 (1.59)	6.09 (1.34)	8.73 (0.70)
she slipped	3.82 (2.11)	5.14 (1.42)	8.50 (1.14)
he spilled coffee	5.91 (2.14)	4.36 (1.40)	8.59 (1.05)
her books fell	3.82 (2.28)	4.59 (1.18)	8.55 (0.96)
he pushed him	6.91 (3.08)	2.23 (1.31)	8.59 (1.30)
she was neglected	2.82 (2.54)	4.32 (3.01)	8.64 (1.09)
he broke the glass	6.14 (2.03)	3.95 (1.53)	8.77 (0.69)
her coffee was spilled	3.27 (2.25)	4.59 (1.65)	8.73 (0.88)
he was misled	2.77 (1.72)	4.77 (1.82)	8.50 (1.06)
she shoved her	6.73 (2.85)	2.23 (1.48)	8.68 (0.79)
he was abandoned	1.73 (1.61)	4.64 (2.87)	8.68 (0.89)
she missed the train	6.27 (1.91)	4.32 (1.55)	8.73 (0.88)
he leaped	7.77 (1.88)	5.86 (1.17)	8.59 (0.91)

	Control	Emotion	Meaning
he confused them	6.05 (2.08)	4.41 (1.47)	8.50 (1.14)
she neglected them	6.86 (2.44)	2.23 (1.19)	8.41 (1.22)
he overturned it	7.14 (1.82)	4.82 (1.22)	7.95 (1.59)
his glass broke	4.04 (1.94)	4.82 (1.01)	8.64 (0.90)
she was pushed	2.18 (1.74)	5.27 (2.33)	8.64 (0.90)
he abandoned them	7.00 (2.98)	1.64 (1.14)	8.64 (1.09)
she was late	6.91 (1.60)	3.68 (1.17)	8.55 (0.96)
he dirtied it	6.77 (1.85)	4.32 (.113)	8.41 (1.22)
she helped them	8.59 (0.67)	8.59 (0.59)	8.68 (0.57)
they were confused	4.45 (1.41)	5.41 (1.50)	8.59 (0.91)
she was stood up	2.86 (2.27)	5.73 (2.03)	8.59 (1.10)
he was shoved	2.41 (1.94)	5.09 (2.39)	8.32 (1.36)
he was forgotten	2.27 (1.80)	4.95 (2.38)	8.50 (1.14)
he left her	5.64 (3.23)	3.14 (2.42)	8.59 (1.10)
his car was dirtied	3.86 (2.08)	4.82 (1.22)	8.50 (1.14)
she was failed	5.82 (1.87)	4.18 (1.87)	8.36 (1.33)
he hindered her	5.63 (2.34)	3.59 (1.43)	7.32 (2.17)
his bus was late	1.50 (1.22)	4.82 (1.94)	8.68 (1.09)
she was helped	3.59 (2.06)	7.45 (1.22)	8.64 (0.90)
he misled them	6.05 (2.82)	2.86 (2.01)	8.09 (1.95)
his wife left him	4.64 (2.54)	3.23 (1.82)	8.55 (1.10)
she was mistaken	5.32 (1.91)	4.55 (1.22)	8.45 (1.06)
he lost it	6.14 (2.19)	3.91 (1.34)	8.59 (0.91)
her book was misplaced	5.41 (2.09)	4.82 (1.33)	8.59 (0.96)
he failed it	6.82 (2.32)	3.86 (1.96)	8.59 (0.91)

	Control	Emotion	Meaning
she excluded them	6.86 (2.62)	2.41 (1.18)	8.50 (1.10)
his cup overturned	4.09 (1.85)	4.86 (1.21)	8.32 (1.76)
he was assisted	3.95 (2.55)	7.18 (1.37)	8.50 (1.19)
he resigned	7.55 (1.90)	5.55 (1.34)	8.41 (1.33)
she assisted them	7.82 (1.56)	7.41 (2.02)	8.59 (0.67)
he stumbled	4.91 (2.20)	5.00 (1.31)	8.73 (0.63)
she cut it	7.68 (1.70)	5.41 (1.47)	8.64 (0.79)
he slouched	7.73 (1.55)	3.59 (1.65)	8.82 (0.39)
she was maltreated	2.32 (2.08)	5.41 (5.41)	8.27 (1.45)
he was lost	4.36 (2.22)	5.05 (2.21)	8.68 (0.95)
he was hindered	3.14 (1.36)	4.50 (1.90)	7.23 (2.43)
she mistrusts them	6.45 (2.02)	4.41 (2.11)	8.23 (1.51)
she was sliding	4.95 (2.21)	5.18 (1.37)	8.23 (1.69)
he was cut	4.00 (1.88)	5.04 (1.89)	8.50 (0.96)
he bungled it	5.95 (2.17)	4.59 (1.50)	6.09 (2.54)
she forgot it	7.00 (1.69)	3.95 (1.25)	8.59 (1.10)

Appendix B

Priming Task

The following appendix contains instructions used for the priming task, followed by the sentence construction material in the no priming, uncontrollable priming, and controllable priming conditions.

This is a test of how people perceive word relationships according to their first immediate impression. It consists of sets of words which are in a "scrambled" order. By underlining three words in a set, you can make a complete sentence. Here is an example:

your hand head raise

You can make a complete sentence from these scrambled words by underlining three words as follows: your hand head raise (that is, raise your hand) or
your hand head raise (that is, raise your head)

Simply underline three words which make a complete sentence. DO THIS ACCORDING TO YOUR FIRST IMPRESSION. YOU MAY CHOOSE ANY COMBINATION OF 3 WORDS YOU WISH, AS LONG AS YOU MAKE A COMPLETE SENTENCE. You will be given approximately 3 seconds for each sentence.

Here are two more sets of scrambled words for practice. Underline the three words in each set which make a complete sentence:

you know see I

close swing door the

Now turn the page and begin on the other side. WORK RAPIDLY. UNDERLINE WORDS ACCORDING TO YOUR FIRST IMPRESSION.

1) earns wages she respect
2) the door open fix
3) eggs some buy fry
4) missed I her met
5) saves time she money
6) find key use the
7) the taste make tea
8) cards again play it
9) a read recite poem
10) me him knows he
11) the rake repair leaves
12) introduce mother his knows
13) find money keep the
14) him go me let
15) watch grow eat it
16) mend the sort clothes
17) winter has he gone
18) pick the eat peaches
19) see the hear bee
20) grow the choose apples
21) some drink buy coffee
22) the work soil finish
23) find mother his left
24) a write read story
25) cake the bake take
26) feed the train dog
27) her go him let
28) the book close read
29) songs again it sing
30) spring is he here

1) earns wages she respect
2) she doomed was has
3) the girl slipped was
4) missed I her met
5) forgotten them she was
6) find key use the
7) the taste make tea
8) cards again play it
9) a read recite poem
10) me him knows he
11) she shoved show was
12) introduce mother his knows
13) find money keep the
14) him go me let
15) watch grow eat it
16) mend the sort clothes
17) winter has he gone
18) pick the eat peaches
19) let-go she was her
20) she pushed have was
21) them she those excluded
22) the work soil finish
23) keep misled was she
24) she has unlucky is
25) cake the bake take
26) his she was abandoned
27) her go him let
28) the book close read
29) songs again it sing
30) spring is he here

1) earns wages she respect
2) she daredevil was is
3) it work cut she
4) missed I her met
5) it think failed she
6) find key use the
7) the taste make tea
8) cards again play it
9) a read recite poem
10) me him knows he
11) are late she was
12) introduce mother his knows
13) find money keep the
14) him go me let
15) watch grow eat it
16) mend the sort clothes
17) winter has he gone
18) pick the eat peaches
19) it she them misplaced
20) she it overturned the
21) them she those confused
22) the work soil finish
23) place it dirtied she
24) she has daydreaming was
25) cake the bake take
26) she the slouched woman
27) her go him let
28) the book close read
29) songs again it sing
30) spring is he here

Appendix C

Person Perception Questionnaire

The following section contains the Person Perception Questionnaire used in the uncontrollable information - physical stigma condition.

Questionnaire 10

PERSON PERCEPTION QUESTIONNAIRE

This questionnaire concerns your impressions and opinions about some characteristics and states of people. The information that you provide here is confidential and will not be released to any other person.

This questionnaire is not a test, so there are no right or wrong answers. The validity of the questionnaire depends on your honesty, so please try to give your true thoughts and feelings. Work quickly and do not omit any questions. Thank you for your cooperation.

A number of questions regarding your thoughts and feelings about two individuals will follow. Some will be difficult to answer and you will feel the need for more information or feel uncertain about your answer. Try to give the most accurate answer you can, even though we recognize that this may at times be difficult.

On the following pages are several descriptions of persons. Read each description carefully, and answer the questions that follow it. Please do not omit any questions. Record your answers in section 4 on your IBM sheet.

Linda B.(31 years old) recently suffered extensive spinal cord injuries in a traffic accident and is expected to remain paralyzed. A car collided with the rear of Linda's car stopped at a red light.

1. I would think that it was the person's own fault that she developed the present condition.

No, not not all									Yes, absolutely so
0	1	2	3	4	5	6	7	8	9

2. How controllable, do you think, is the cause of this person's present condition?

Not at all under personal control									Completely under control
0	1	2	3	4	5	6	7	8	9

3. I would feel pity for this person.

None at all									Very much
0	1	2	3	4	5	6	7	8	9

4. I would feel aggravated by this person.

Not at all									Very much so
0	1	2	3	4	5	6	7	8	9

5. How likely is it that you would help this person with a small problem?

Definitely would help									Definitely would not help
0	1	2	3	4	5	6	7	8	9

6. How much sympathy would you feel for this person?

Very much									None at all
0	1	2	3	4	5	6	7	8	9

7. How angry would you feel at this person?

Not at all									Very much
0	1	2	3	4	5	6	7	8	9

8. How likely is it that you would give money to this person?

Definitely would									Definitely would not
0	1	2	3	4	5	6	7	8	9

9. I would donate money for research concerning this person's condition.

Definitely would not									Definitely would
0	1	2	3	4	5	6	7	8	9

10. How responsible , do you think, is this person for the cause of the present condition?

Very much responsible									Not at all responsible
0	1	2	3	4	5	6	7	8	9

11. How much concern would you feel for this person?

Very much									None at all
0	1	2	3	4	5	6	7	8	9

12. How irritated would you feel by this person?

Very much									Not at all
0	1	2	3	4	5	6	7	8	9

13. To what extent, do you think, is this condition caused by the person's behavior?

Not at all a factor									Very much a factor
0	1	2	3	4	5	6	7	8	9

14. To what extent, do you think, is this condition caused by situational factors?

Not at all a factor									Very much a factor
0	1	2	3	4	5	6	7	8	9

The following question concerns your impression of Linda.

If you had to describe Linda with one word, what would that word be. We recognize that this is a difficult question, but please try to think of the one word that best describes Linda.

Write down the word on the last page in your experimental booklet (i.e. on the last page of the questionnaire entitled "Postexperimental Questionnaire") in the space indicated. Do not write the word on your IBM sheet.

After you have recorded your word, go on to the next section.

Nancy K., who is 29 years old, has recently been diagnosed as having cancer. The primary cause of the cancer are hereditary factors.

15. How much sympathy would you feel for this person?

Very much									None at all
0	1	2	3	4	5	6	7	8	9

16. How angry would you feel at this person?

Not at all									Very much
0	1	2	3	4	5	6	7	8	9

17. I would think that it was the person's own fault that she developed the present condition.

No, not not all									Yes, absolutely so
0	1	2	3	4	5	6	7	8	9

18. How much concern would you feel for this person?

Very much									None at all
0	1	2	3	4	5	6	7	8	9

19. How likely is it that you would help this person with a small problem?

Definitely would help									Definitely would not help
0	1	2	3	4	5	6	7	8	9

20. How likely is it that you would give money to this person?

Definitely would									Definitely would not
0	1	2	3	4	5	6	7	8	9

21. How irritated would you feel by this person?

Very much									Not at all
0	1	2	3	4	5	6	7	8	9

22. I would feel pity for this person.

None at all									Very much
0	1	2	3	4	5	6	7	8	9

23. How responsible , do you think, is this person for the cause of the present condition?

Very much responsible									Not at all responsible
0	1	2	3	4	5	6	7	8	9

24. I would feel aggravated by this person.

Not at all									Very much so
0	1	2	3	4	5	6	7	8	9

25. I would donate money for research concerning this person's condition.

Definitely would not									Definitely would
0	1	2	3	4	5	6	7	8	9

26. How controllable, do you think, is the cause of this person's present condition?

Not at all under personal control									Completely under control
0	1	2	3	4	5	6	7	8	9

27. To what extent, do you think, is the condition caused by a genetic predisposition or a physiological defect?

Not at all a factor									Very much a factor
0	1	2	3	4	5	6	7	8	9

28. To what extent, do you think, is the condition caused by the person's lifestyle?

Not at all a factor									Very much a factor
0	1	2	3	4	5	6	7	8	9

The next question concerns your impression of Nancy.

We would like you to think of the one word that best describes Nancy. Think of this word now. When you have thought of a word write it down on the last page in your experimental booklet.

After you have done this, continue answering the questions on the next page.

While your name should not be on this form, we would like some general information about you, so please respond to the following questions by indicating the number on the IBM sheet which corresponds to the number of your answer. Please record your answer in section 3 of your IBM sheet.

1. Sex
   1 = male
   2 = female

2. Age
   1 = 19 years of less
   2 = 20 to 29 years
   3 = 30 to 39 years
   4 = 40 to 49 years
   5 = 50 or more years

3. University Faculty
   1 = Arts
   2 = Science
   3 = Education
   4 = Law
   5 = Social Work
   6 = Nursing
   7 = Human Ecology
   8 = Management
   9 = Other

4. Year in program
   1 = first year
   2 = second year
   3 = third year
   4 = fourth year

5. Does one of your familiy members or a friend have one of the conditions (i.e., cancer or paraplegia) described. (If you feel uncomfortable answering this question you are free to leave this question blank. However, we would appreciate your responding)

   1 = yes
   2 = no
   2 = no

6. If your responded "yes" to question 5: How emotionally close are you to this person?

very close — not at all close

0 1 2 3 4 5 6 7 8 9

Appendix D

Significant Univariate Results for Dependent Measures

Scenario 1:

		Dependent Measures			
Effect	df	Control	Anger	Sympathy	Help
Information	2,326	103.44**	24.06**	7.80**	3.26*
Stigma Type	1,326	87.33**	40.90**	75.14**	42.83**
Info x Stigma Type	2,326	23.74**	4.60*	0.48	1.56
Priming x Stigma Type	2,326	1.87	3.49*	0.36	1.51
MSe		2.56	2.85	3.34	2.54

Scenario 2:

		Dependent Measures			
Effect	df	Control	Anger	Sympathy	Help
Information	2,329	106.11**	23.38**	11.89**	2.77
Stigma Type	1,329	88.74**	39.93**	55.70**	52.19**
Info x Stigma Type	2,329	12.39**	3.62*	0.87	0.41
MSe		3.36	3.86	3.68	2.64

Note: * < .05; ** <.01.