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Accessibility of Social Constructs: Information-Processing Consequences of Individual and Contextual Variability

E. Tory Higgins
Gillian King
University of Western Ontario

Given a sensory input with equally good fit to two nonoverlapping categories, the more accessible of the two categories would "capture" the input.

—Bruner (1957, p. 132)

Once upon a time, Michael and Minnie, a happily married couple, went on vacation to a large island resort. There they met another couple, Donald and Daisy, and the two couples spent most of their vacation together. Michael and Minnie noticed that Donald spent a great amount of his time in search of what he liked to call excitement. During the vacation he climbed a steep mountain, drove in a demolition derby, and piloted a jet-powered boat—without knowing very much about boats. They watched him risk injury and even death a number of times. Michael and Minnie also noticed that once Daisy made up her mind to do something it was as good as done no matter how long it might take or how difficult the going might be. Only rarely did she change her mind, even when it might well have been better if she had. After Michael and Minnie arrived home from their vacation they got into a terrible fight. Minnie said she didn't like Donald because "he acts without thinking of the consequences," but Michael argued that "he has a great sense of fun." On the other hand, Michael didn't like Daisy because "she is never willing to admit when she is wrong," but Minnie liked Daisy because "she is there when you need her." Michael and Minnie now take separate vacations.

—Anonymous

INTRODUCTION

It is widely believed that our judgments and memory of others are based on whatever information about them has been available to us. Thus, reasonable people who are exposed to the same information about someone else should form the same judgments and remember the same facts. As exemplified in the preceding story about Michael and Minnie, however, people often form different judgments and recollect different facts, even when exposed to the same information. Why is this? What factors determine how people categorize and remember each other? What are the personal and interpersonal consequences of this, and what cognitive processes are involved?

These issues have a long history (Bartlett, 1932; Brown, 1958; Bruner, 1957; Kelley, 1950) and, under the influence of recent information processing approaches, are once again receiving increasing attention. A number of major directions have emerged concerning these general issues. One approach has been to consider the effects on memory of encoding stimulus information for different purposes or goals (Cohen & Ebbesen, 1979; Hamilton, Katz, & Leirer, 1980; Higgins, 1980; Jeffery & Mischel, in press). Another approach has been to consider the information-processing effects of drawing attention to different attributes of the stimulus information (McArthur, 1980; Taylor & Fiske, 1978). A third approach has been to consider the effects of the match between the attributes of the stimulus information and the content of particular constructs or schemata (Cantor & Mischel, 1977; Hastie, 1980; Snyder & Uranowitz, 1978; Tsujimoto, 1978). A fourth approach, and the major concern of this chapter, is to consider the effects of the relative accessibility of different categories that could be used to characterize the stimulus information (Higgins, Rholes, & Jones, 1977; Wyer & Srull, 1980). The effect of category accessibility, and individual differences in category accessibility, on judgments and memory of others is exemplified in the story of Michael and Minnie: Michael's accessible categories were "adventurous" and "stubborn" whereas Minnie's accessible categories were "reckless" and "persistent."

In this chapter, we propose a preliminary model of the role of construct accessibility in information processing. We first describe some basic concepts in the model and distinguish among different kinds of encoding processes. We then describe various factors that influence the accessibility of social constructs. Next, we discuss some consequences of construct accessibility for the general information-processing stages of input, consolidation, and output. Evidence supporting this model is presented throughout, including some recent studies by the authors and collaborators that have examined the information-processing effects of contextual and individual variability in construct accessibility. Finally, we consider the implications of such variability for a number of topics, such as cognitive therapy, interpersonal conflict and attraction, impression management, first impressions, and similarity in judgments of self and others. We also con-

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A PRELIMINARY MODEL OF CONSTRUCT ACCESSIBILITY

In this section, we describe the basic concepts, determining factors, and processing consequences of construct accessibility. To begin, let us define *construct accessibility* as the readiness with which a stored construct is utilized in information processing; that is, *construct accessibility* is concerned with stored constructs, their utilization in information processing, and the likelihood of such utilization.

Recently, there has been an increasing tendency to use the terms *accessibility* and *availability* interchangeably. These terms, have traditionally been distinguished in the literature, however. Accessibility has referred to the readiness with which a stored construct is retrieved from memory and/or is utilized in stimulus encoding, whereas availability has referred to whether or not a construct is stored in memory (Bruner, 1957; Tulving & Pearlstone, 1966). Some overlap in the application of these terms was introduced in Tversky and Kahneman's (1973) description of the availability heuristic, where availability referred to the ease of retrieving construct instances. In the availability heuristic, however, availability also referred to the ease of constructing instances of novel classes and events, which is distinct from the traditional meaning of accessibility. Most recently, Nisbett and Ross (1980) have used availability as if it were a synonym for accessibility. The traditional distinction between availability and accessibility is useful, however, for considering various memory phenomena (for example, differences between free recall and cued recall). For our concerns in this chapter, then, accessibility is the appropriate term.

Basic Concepts

Psychological Constructs. The most general concept in the model is *construct*, which refers to coherent information about some entity typically derived from specific instances or occurrences. The two major types of constructs discussed in this chapter are *categories* and *proper constructs*. A *category* consists of information about a class of objects, events, or properties. A *proper construct* consists of information about a specific, individual object or event.¹ Social and personal categories include information about social groups (e.g., Protestants,

¹The term *proper construct* was selected because of the conventional use of *proper name* to refer to labels designating some definite, individual entity without a limiting modifier.

Italians, and Blacks), social roles and occupations (e.g., mother, policeman, and friend), physical characteristics (e.g., attractive, skinny), traits and behaviors (e.g., intelligent, artistic, aggressive, and helpful), social types (e.g., introvert, social activist, neurotic, and redneck), and social events (e.g., making breakfast, going to a party, taking an examination, and meeting new people). Proper social constructs include information about individual people (e.g., Pierre Trudeau, your mother, Johnny Carson, and your kindergarten teacher), and individual places and events (e.g., the assassination of President Kennedy, your wedding day, Paris, and your hometown). In some cases, a proper construct may become a category, especially when communication and the media create a socially shared or conventional concept from a particular person or event. For example, actual persons (e.g., Florence Nightingale, Hitler) or fictional characters (e.g., Archie Bunker, Lolita) may become personality types (e.g., an Archie Bunker type). Actual places and events (e.g., Devil's Island) and fictional places and events (e.g., Utopia) may also become types that are used to categorize other places and events.

There is substantial agreement at present that the content of categories includes information about the essential and characteristic attributes of category members, the range of category attributes, and typical or prototypic exemplars of the category (Posner, 1978; Reed, 1972; Rosch, 1978; Rosch & Mervis, 1975; Smith, Shoben, & Rips, 1974). There is also general agreement that category attributes vary in their predictive validity (the probability that a target is a member of a category given that it possesses the attribute) and that category members may vary in their family resemblance (the number of attributes in common with other category members relative to the number of attributes in common with noncategory members) (Reed, 1972, Rosch & Mervis, 1975; Smith et al., 1974). There is less current agreement concerning the long-term representation of categorical information. Because the issues of concern in this chapter do not require subscribing to any particular model of representation, however, this is not a problem.

Both categories and proper constructs may be *structured* or *unstructured*. Structured constructs involve co-occurrence or redundancy of attributes (Neisser, 1967; Rosch, 1978). For example, the category *surgeon* or the proper construct *Johnny Carson* involves clusters of co-occurring behaviors, skills, appearance, and background. Trait categories, such as "happy," also involve the co-occurrence of particular behaviors, appearance, and state. However, some categories (e.g., skin textures) and proper constructs (e.g., an individual's voice quality) are unstructured because they involve, at least phenomenologically, a single attribute. The social constructs of concern in the present chapter are generally structured.

Identification as and Identification with. The process of identifying a stimulus is central to this chapter. In general, identification involves an assess-

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ment of the similarity between the properties of a stimulus and the content of alternative constructs (Rosch, 1978; Tversky & Gati, 1978). The identification process that has received most attention in the psychological literature consists of recognizing a stimulus to be an instance of a proper construct and especially, classifying a stimulus as being a member of some category. The process in both these cases has usually been called *categorization*, even though only the latter process strictly involves categories. We continue this use of categorization in this chapter. Categorization consists of identifying a stimulus *as* an instance of some construct. Relatively little attention has been paid to an alternative process of identification—identifying a stimulus *with* some construct.

A stimulus may be *identified with* some construct when its properties are sufficiently similar to the construct to evoke the construct but not similar enough to be accepted as an instance of the construct. *Identification with* rather than *identification as* is especially likely when a stimulus has attributes that are characteristic of the construct but lacks at least some of the essential attributes of the construct. For example, one may meet a person who possesses many of the characteristic attributes of one's father but who lacks the essential attributes to be one's father. This person, therefore, would not be identified as one's father but may be identified with one's father. Similarly, a target person may be a psychology professor who displays some attributes thought to be characteristic of businessmen and thus may be identified with businessmen even though identified as a psychology professor. Abelson's (1976) description of the use of episodic scripts versus categorical scripts in decision-making also reflects this distinction between identification with versus identification as. When a stimulus is identified as belonging to a construct, the stimulus will be called an *instance* of the construct.² When a stimulus does not belong to a construct but is identified with the construct, the stimulus will be called an *analogue* of the construct. As discussed later, identifying a stimulus with a construct, as well as identifying a stimulus as a construct instance, has important implications for a person's memory and judgments of the stimulus. In fact, interesting judgmental errors can occur when people treat analogues of constructs as if they were instances of the constructs.

Active and Passive Processing. In Kelley's (1950) classic study of labeling effects on impression formation, students' ratings of a new instructor were more favorable when the instructor was described as a "warm" person by the experimenter prior to the instructor's arrival to class than when the instructor was described as a "cold" person. There are a number of possible interpretations of these results. One possibility is that exposure to a particular label (e.g., "warm") activated the construct designated by the label (i.e., "warm" disposition) as well as other constructs such as "friendly" and "helpful" that are closely associated with this construct. This prior activation in turn could have

²The term *instance* is preferred to *member* because it makes little sense to speak of an instance of an individual as being a member of the personal construct for the individual.

increased the likelihood that the instructor's behavior would be categorized in terms of these constructs (a *passive* priming effect). Another possibility is that the experimenter's prior description may have given the students a set to expect instances of the construct designated by the label as well as instances of other constructs assumed to be highly related to that construct (an *active* set effect). Given the design of the study, Kelley's set interpretation is the simplest explanation, although the findings are likely to have been multiply determined.³

In general, the social psychological literature has not distinguished between active and passive processing. In the cognitive literature, a detailed analysis of the active-passive distinction has been provided by Posner and Warren (Posner, 1978; Posner & Warren, 1972; Warren, 1972). They distinguish between active, conscious processes involving deliberate strategies and control versus passive, unconscious processes that occur automatically and are uncontrolled. (See also Shiffrin & Schneider, 1977.) According to Posner (1978), a critical feature of conscious attention is its limited capacity, such that its utilization for processing one type of stimulus reduces the efficiency with which a different type of stimulus can be processed. For this reason, when conscious attention is directed to a construct, subjects' processing of stimulus information matching the construct is facilitated but their processing of stimulus information not matching the construct is inhibited or impaired (i.e., benefits with costs). In contrast, when a construct is primed or activated without conscious attention being directed to the activated construct, subjects' processing of stimulus information matching the construct will be facilitated without inhibiting the processing of stimulus information that does not match the construct (i.e., benefits without costs). Posner (1978, p. 91) proposes three criteria for whether a process is automatic: The process may occur without intention, without giving rise to conscious awareness, and without producing interference with other ongoing mental activity. In fact, an automatic process may take place despite an intention to prevent it. *Set* is an active process in which conscious attention is deliberately directed toward the expected event (Posner, 1978), whereas *priming* through verbal exposure can involve passive, automatic activation of constructs (Higgins, Rholes & Jones, 1977; Warren, 1972).

Strong support for both Posner's (1978) analysis of active and passive processing and distinction between active set and passive priming is provided in a study by Neely (1977). In a word-nonword classification task, each visually presented target letter string was preceded by a signal word. In one condition, the signal word *body* was usually followed by the name of a building part as target (*door*). Thus, the signal word *body* should arouse the *set* to expect a member of the building category. On the other hand, the word *body* should also *prime* or activate members of the body category. In the condition where the target word

was unexpectedly a nonword, there was an inhibiting effect on the response to the target word (20 msec) (250 msec). These findings suggest that conscious attention interferes with processing that occurs automatically.

In Kelley's (1957) study, the processing of those aspects of the stimulus construct regardless of whether it was involved. If an act should also have a behavior that did not have occurred if a particular data bearing on future research were passive processing.

Determinants of

In Bruner's (1957) study, are proposed as influential determinants of the likelihood of a response by one's needs, task expectations and the recency of activation. *Set* and *priming* are both *momentary*, whereas *active* and *controlled* factors are interrelated and cause a change in operationally manipulated.

Expectations. The estimate of the likelihood (1957) points out produced either by expectation. In fact, there are

³It is also possible that the students were conforming to the experimenter's personal judgment of the target (Higgins, et al., 1977; Higgins, in press).

⁴It is also not possible that the stimulus information presented

was unexpectedly a member of the body category (leg), the signal body had an inhibiting effect on responding when there was a long delay between signal word and target word (2000 msec) but a facilitating effect when there was a short delay (250 msec). These results implicate a set mechanism where it takes time for conscious attention to be directed toward the expected event and, once active, interferes with processing unexpected stimuli, as well as a rapid priming process that occurs automatically and facilitates processing stimuli associated with the prime.

In Kelley's (1950) study, the experimenter's label would facilitate the processing of those aspects of the instructor's behavior that matched the designated construct regardless of whether an active set or passive automatic process was involved. If an active set was involved, however, then the instructor's label should also have inhibited the processing of those aspects of the instructor's behavior that did not match the designated construct. No such inhibition should have occurred if a passive automatic process was involved. Unfortunately, critical data bearing on these alternatives are not available.⁴ It would be very useful if future research were designed and analyzed to distinguish between active and passive processing.

Determinants of Construct Accessibility

In Bruner's (1957) seminal paper on construct accessibility, two general factors are proposed as influencing construct accessibility: (1) the subjective probability estimates of the likelihood of a given event; and (2) search requirements imposed by one's needs, task goals, etc. In the present model, the first factor is called *expectations* and the second is called *motivation*. In addition to these factors, *recency of activation*, *frequency of activation*, *salience*, and *relation to accessible constructs* will be considered. In some cases the influence on accessibility is *momentary*, whereas in other cases it is *prolonged*. In some cases the influence is active and controlled, whereas in other cases it is passive and uncontrolled. The factors are interrelated in that a change in one factor (e.g., motivation) may often cause a change in one or more other factors (e.g., expectations), but the factors are operationally independent with respect to the methods by which they can be manipulated.

Expectations. The accessibility of a construct will increase when the estimate of the likelihood of occurrence of a construct instance increases. Bruner (1957) points out that expectations, and changes in expectations, may be produced either by gradual learning from sequential observations or by instruction. In fact, there are a variety of ways to acquire expectations, and the impact

⁴It is also not possible to test these alternatives in the Higgins et al. (1977) study because all the stimulus information presented was related to the primed constructs.

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likely to have arisen from the manipulation of expectations in Carmichael, Hogan, and Walter's (1932) classic study where the experimenter provided different subjects with alternative labels for an ambiguous drawing (e.g., eyeglasses versus dumbbell) prior to its presentation. In contrast, the processing effects of prolonged social expectations on the reconstruction of past events are likely to be relatively passive.

Motivation. Another factor that can increase a construct's accessibility is motivation (goals, needs, values, affective state), which can affect people's preparedness for construct instances without necessarily affecting their estimate of the likelihood of construct instances. As Jones and Gerard (1967) point out, if instances of certain objects or events are comforting or satisfying, then it is to our advantage to be prepared to see them so they are not missed. If instances of other objects or events are disturbing or harmful and recognition is instrumental for effective action, then it is also to our advantage to be prepared to see them. Bruner (1957) suggests that a construct's accessibility may be increased when a person's needs or ongoing activities require construct-related information. In pursuit of specific goals (e.g., to satisfy one's hunger), instances of particular constructs (e.g., restaurants, grocery stores) are actively sought out, thus increasing the accessibility of those constructs. The goals may be short term or long term, causing momentary or prolonged increases, respectively, in construct accessibility. Such increased accessibility imposed by goals would lead to relatively active processing. For example, active information processing is likely to be involved when subjects are instructed that their task goal in watching or reading about a target's behavior is to form an impression of the target or to remember the details of the information provided (Cohen & Ebbesen, 1979; Hamilton, 1980; Jeffery & Mischel, 1979).

The influence of motivation on construct accessibility can also result in relatively passive information processing. In fact, such passive or "unconscious" processing was a major focus of the "new look" in perception (Allport, 1955). There is some evidence, for example, that moderate increases in hunger will increase the accessibility of food-related constructs such that food responses to food analogues (ambiguous drawings of food) or food labels are enhanced (Levine, Chein, & Murphy, 1942; Wispe & Drambarean, 1953). There is also evidence that inducing a positive or negative mood in subjects by manipulating their success or failure on a task will affect their recall of items presented in a previous task, with subjects' recalling more pleasant stimulus words when in a positive mood and more unpleasant stimulus words when in a negative mood (Isen, Shalker, Clark, & Karp, 1978). Similarly, Postman and Brown (1952) found that prior success (performing above one's level of aspiration) increased the ease of identifying success-related words (e.g., winner) and prior failure increased the ease of identifying failure-related words (e.g., unable). The increased accessibility of the stimulus words in those studies, however, could also be

due in part to the activation of evaluative judgments during the success or failure experience causing closely related constructs to be activated—the “relation to accessible constructs” determinant described later. Prolonged passive effects of motivation can also occur. For example, in a study concerning long-held values, Postman, Bruner, and McGinnies (1948) found that the higher the value to a subject of the value construct to which a word was related, the more readily the word was identified. It is possible, however, that constructs of higher value to a person are also activated more frequently, which, as noted later, would also increase their accessibility.

Recency of Activation. Recent activation of a construct can also temporarily increase its accessibility (Forbach, Stanners, & Hochhaus, 1974; Higgins et al., 1977; Huttenlocher & Higgins, 1971; Warren, 1972; Wyer & Srull, 1980). In the Higgins et al. (1977) study, for example, subjects were first unobtrusively exposed to either positive or negative personality trait terms (e.g., adventurous versus reckless) as part of a perception study (the priming task) and then participated in a supposedly unrelated reading comprehension study where they read evaluatively ambiguous descriptions of a stimulus person (the "impression formation" task). Exposure to the personality trait terms in the priming task increased the accessibility of the constructs designated by these terms, as indicated by subjects' tendency to use the primed constructs later to characterize the stimulus person in the impression formation task. Other methods of priming or activating constructs will also increase their subsequent accessibility, such as exposure to behavioral instances of a trait construct (Wyer & Srull, 1980).

Increased construct accessibility from recent activation can have both active and passive information-processing effects. With respect to active processes, for example, Salancik and Conway (1975) have shown that students' evaluations of a college course will vary depending on whether instances of procourse behaviors versus anticourse behaviors have been recently activated. According to Salancik and Conway's (1975) and Bem's (1972) account of such processes, subjects answer the attitude question by actively searching for relevant behavioral information and then responding so as to be consistent with the implications of the information retrieved. Recent activation can also yield passive processing effects. In the Higgins et al. (1977) study, for example, subjects were not attending to the previously primed constructs when they encoded the stimulus information in the second "unrelated" task. The passive nature of the processing was indicated both by subject's inability to guess the true purpose of the study and by the fact that the percentage recall of the experimental trait labels presented in the priming task was, if anything, slightly less than the percentage recall of some irrelevant filler labels. Additional evidence against an active, experimental demand interpretation of recent activation effects is provided in a recent study by Wyer and Srull (1980). They found that exposure to construct instances had no effect on judgments of the target when it occurred after the presentation of the

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The increase in momentary effects (Warren, 1972), although discussed later) can be explained (1980). A metaphor for construct accessibility is that whenever the cell is active, the more energy is available.⁶ This contrasts with the bin in which the construct is not active, recent activated construct is present over time because, when it is and then deposited (utilization of alternative over time. In Wye momentary, whereas prolonged effects.

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⁶It should also be noted that the *activation* model of semantic spreading (Warrat, 1975), where activation is a spreading process (Warren, 1975), where energy cell is wholly adequate. The metaphor is not suitable (Warren, 1975).

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stimulus information. Priming after stimulus presentation necessarily eliminates any construct accessibility effects on stimulus encoding, but should, if anything, increase demand effects. Finally, evidence that priming effects increase over time (Higgins et al., 1977; Wyer & Srull, 1980) is consistent with a passive-processing interpretation but not a demand-effects interpretation.

The increase in construct accessibility from recent activation generally has momentary effects that dissipate within 15 minutes or so (Forbach et al., 1974; Warren, 1972), although contextual support and frequent activation (to be discussed later) can cause the effects to persist for as much as a day (Wyer & Srull, 1980). A metaphor for the influence of recent (and frequent) activation on construct accessibility is an energy cell whose energy or action potential is increased whenever the cell is activated or excited and whose energy slowly dissipates with time. The more energy a cell contains, the greater is the likelihood of its utilization.⁶ This contrasts with Wyer and Srull’s (1980) metaphor of a layered storage bin in which the construct on top is utilized in processing. In Wyer and Srull’s model, recent activation affects subsequent processing because a recently activated construct is placed on top of the bin. Recent activation effects decrease over time because, with the passage of time, other constructs are likely to be used and then deposited on top of the bin; therefore, in the absence of any intervening utilization of alternative constructs, the effects of recent activation should persist over time. In Wyer and Srull’s model, recent activation effects need not be momentary, whereas we would predict that frequent activation is necessary for prolonged effects.

Frequency of Activation. The more frequently a construct is activated, the more accessible it will become. If the repeated activation is massed over a short period, then the accessibility effects will be relatively momentary. If the repeated activation is dispersed over a long period, then the accessibility effects will be relatively prolonged (Higgins et al., 1980).

One conspicuous example of the relation between activation frequency and construct accessibility is the correspondence between a concrete word’s frequency of occurrence in a language and the readiness with which the word is recalled (Paivio, 1971) or an instance of the word is labeled or identified (Howes, 1954). The labeling effect, however, could also be due to expectations, because words that have occurred frequently in the past also have a high likelihood of occurrence in the present. Fortunately, Wyer and Srull’s (1980) study provides

⁶It should also be noted that the metaphor of an energy cell fits nicely with the *spreading activation* model of semantic processing discussed later (Collins & Quillian, 1969; Collins & Loftus, 1975), where activation of one construct excites other closely related constructs through a passive spreading process (Warren, 1972). We do not wish to suggest, however, that the metaphor of an energy cell is wholly adequate to capture all the features of construct accessibility. For example, this metaphor is not suitable with regard to the influence of salience on construct accessibility (discussed later).

evidence of the relation between activation frequency and construct accessibility that is not confounded with expectations. Using the *unrelated-studies* paradigm, they presented subjects in the initial priming study with 6, 12, 24, or 48 behavioral instances of a trait construct and found a positive, generally monotonic relation between the number of instances presented (the frequency of construct activation) and the extent to which a target person in the subsequent impression-formation study was characterized in terms of this construct.

According to Wyer and Srull's (1980) storage bin notion, frequency of activation increases the likelihood that, at any point in time, the construct will have been recently used and thus stored on top of the bin. According to our energy cell notion, the action potential of a construct increases as a function of frequency of activation. These notions make different predictions when frequency and recency of activation involve different constructs. Consider, for example, a study using the Higgins et al. (1977) paradigm where four of the priming labels presented in the first study designate one construct and its close synonyms (e.g., "reckless," "foolhardy," "rash") but the final priming label designates an evaluatively opposite construct (e.g., adventurous), and subjects in the subsequent impression formation study must characterize an ambiguous reckless/adventurous stimulus person. Presumably, the storage bin model would predict that the stimulus person would be characterized as "adventurous," whereas the energy cell notion would predict that the stimulus person would be characterized as "reckless."

Salience. The accessibility of a construct is also affected by its salience in memory, where the salience of a construct depends upon both its *prominence* and *distinctiveness*. The prominence of a construct is determined by the quality of its attributes. Just as the attributes of an external stimulus can be more striking or attention grabbing than the attributes of other external stimuli because of their greater intensity, complexity, or vividness (McArthur, 1980; Nisbett & Ross, 1980), the attributes of a stored construct (and its instances) could be more striking than the attributes of other stored constructs because of their greater intensity, complexity, or vividness. Among Muppet proper constructs, for example, the relative accessibility of the Big Bird and Cookie Monster constructs are enhanced by the prominence of Big Bird's physical attributes (e.g., huge size, bright yellow and orange color) and Cookie Monster's behavioral attributes (e.g., intense eating behavior). Such inherent, prominent attributes or instances of a construct should yield relatively prolonged and passive accessibility effects. There has been very little experimental research concerned with the accessibility of stored constructs deriving from the prominence of their inherent attributes or instances. Instead, most research on salience has been concerned with the momentary salience of external, novel stimuli deriving from manipulations of subjects' viewpoint or attention, such as manipulations of visual access to target persons (McArthur, 1980; Taylor & Fiske, 1978).

The distinctiveness of a construct depends on both the uniqueness of its attributes and the degree to which it monopolizes its taxonomic level of inclu-

siveness.⁷ As the overlap of other constructs decreases, uniqueness increases and confusability with other constructs decreases. The number of coordinate or alternative constructs that a construct should also yield is affected.⁸ The instances of a construct should be easier to retrieve, and this should increase the number of construct instances (Tversky & Gifford (1976) presented studies showing that the number of similar or undesirable behavior instances in subsequent estimates of the frequency of behavior were significantly inflated when the frequency of behavior with less instances was higher.

Some recent research by Wyer and Srull suggests that momentary salience affects the accessibility of a person. Subjects were shown a target person either a solitary black target or a target in a racially balanced group. When the target was sole black, he was perceived as more distinctive than his coparticipants when he was not distinctive. This effect was general construct for black and white targets by the visual prominence of the target which could have affected the accessibility of black. The influence of momentary salience on judgments and decisions (Shomer & Centers for Disease Control, 1980).

There is also evidence that the accessibility of different aspects of a construct is affected by the distinctiveness of the attributes (e.g., Fujioka, 1978; McGuire & Padawer-Singer found that the distinctiveness of attributes included in their spontaneous judgments within the classroom, with the target person (e.g., green eyes, foxy eyes, distinctiveness should be high because the attribute is like the target person's attributes, such as a per-

⁷For a discussion of levels of accessibility, see Higgins et al. (1977).

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siveness.⁷ As the overlap between a construct's attributes and the attributes of other constructs decreases, ease of identifying construct instances should increase and confusability with other constructs should decrease. Similarly, as the number of coordinate or alternative class members of a construct decrease, recall interference and confusability should decrease. The inherent distinctiveness of a construct should also yield relatively prolonged- and passive-accessibility effects.⁸ The instances of a construct with relatively distinct episodes should be easier to retrieve, and this in turn should increase the frequency estimate of construct instances (Tversky & Kahneman, 1973). For example, Hamilton and Gifford (1976) presented subjects with a set of statements describing the desirable or undesirable behaviors of different group members, where either the desirable or undesirable behaviors occurred more often. As predicted, subjects' subsequent estimates of the frequency of the desirable and undesirable behaviors were significantly inflated for the relatively distinct types of behavior (the type of behavior with less instances).

Some recent research by Taylor, Fiske, Close, Anderson, & Ruderman (1977) suggests that momentary distinctiveness can also affect judgments of a target person. Subjects were shown videotaped discussions of groups that consisted of either a solitary black target in an otherwise white group or the same black target in a racially balanced group of blacks and whites. When the black target was the sole black, he was perceived as having been more influential in the group discussion than his coparticipants. The same target was not perceived as more influential when he was not distinctive. It is also possible that the accessibility of the general construct for blacks was temporarily increased in the imbalanced group by the visual prominence of the black-attribute instances embodied in the target, which could have affected the processing of information about this particular black. The influence of momentary distinctiveness (e.g., the sex composition of a group) on judgments and attitudinal responses has also been shown in other studies (Shomer & Centers, 1970).

There is also evidence that distinctiveness can cause increases in the accessibility of different aspects of a person's self-construct (McGuire, McGuire, Child, & Fujioka, 1978; McGuire & Padawer-Singer, 1976). For example, McGuire and Padawer-Singer found that the attributes elementary-school children included in their spontaneous self-descriptions depended on their distinctiveness within the classroom, with distinctive attributes being more likely to be mentioned (e.g., green eyes, foreign birthplace). For some attributes, such as green eyes, distinctiveness should have relatively prolonged effects on accessibility because the attribute is likely to be distinctive across many contexts. For other attributes, such as a person's sex, distinctiveness should have relatively

⁷For a discussion of levels of abstractions, see Rosch (1978) and Cantor and Mischel (in press).

⁸With increasing knowledge, the distinctiveness of most constructs is likely to decrease because both a construct's uniqueness and a construct's monopolization of its taxonomic level is likely to decrease.

momentary effects on accessibility because the distinctiveness of the attribute is likely to vary continually across different contexts. A recent study by McGuire, McGuire, and Winton (1979), however, suggests that multiple exposure to situations in which particular self-attributes are salient can yield persistent and relatively context-free increases in the accessibility of these attributes, presumably because the multiple exposure has caused frequent activation of these self-attributes. McGuire et al. (1979) found that school children were more likely to mention their gender in their spontaneous self-descriptions if they came from households where their gender was in the minority. Thus, household composition can yield prolonged individual differences in the accessibility of certain constructs.

Relation to Accessible Constructs. The accessibility of a construct will also increase if the accessibility of a closely related construct is increased. The increase in accessibility can be momentary or prolonged, depending on whether the increased accessibility of the related construct is momentary or prolonged. With respect to momentary effects, the spreading-activation theory assumes that when a stored item is processed or activated, other items will be automatically (i.e., passively) activated to the extent that they are closely related to that item (Collins & Loftus, 1975). Evidence of this passive spreading-activation effect for conceptually related or semantically similar items is provided by a number of studies in the cognitive literature. For example, Loftus (1973) has shown that the latency to name an instance of a category (e.g., a fruit) decreases if another instance of the category has been named on a previous trial.⁹ In a study by Warren (1972), subjects found it more difficult to ignore the meaning of a target word (e.g., tree) while quickly trying to name its ink color (the Stroop interference task), if they had been previously exposed to words closely related in meaning to the target (e.g., elm, oak) than words unrelated to the target, indicating that the accessibility of the target word's meaning was increased when closely related constructs were activated. It has also been shown that the time it takes to classify letter strings as words or nonwords is faster when the letter string (e.g., butter) is preceded by an associated word (bread) than an unassociated word (e.g., nurse) (Meyer, Schvaneveldt, & Ruddy, 1975).

One would expect the same spreading-activation effects for closely related social constructs (Higgins et al., 1977; Wyer & Carlston, 1979). In fact, there is evidence from the Higgins et al. (1977) study that exposure to a particular trait construct (e.g., reckless) increases the likelihood that an ambiguous behavioral description (a reckless/adventurous description) will be characterized in terms of closely related trait constructs (rash, crazy). Kelley's (1955) classic study on the

effects of membership suggest that activating one social construct can increase the accessibility of other constructs (e.g., Catholic Church). More recently, the salience of a person's self-concept can lead them to look at themselves in a particular way, which can increase the accessibility of related constructs measured by the Stroop interference task.

Because there is evidence that closely related constructs can increase the accessibility of other constructs (e.g., gangster, mugging). Other implicit personality theories suggest that, for example, the constructs fall in the minds of many people are evaluatively similar. The constructs may become relatedness among constructs subsumed within a person's self-concept (Ross, 1980), other constructs increase accessibility, as evident, subsequent stimulus information is conscious and uncontrolled (Higgins et al., 1977).

Relatedness to accessibility of a construct accessibility as a function of there is a prolonged increase in activation), prolonged increase could occur. A more interesting possibility could be increased for a person creating an association, to that someone you know or could cause a prolonged increase in person.

CONSEQUENCES IN CONTEXT

Contextual variability refers to factors that tend to cause differences in a person in the situation (i.e., situations, events, and circumstances) described earlier. Such

⁹This is true even when there has been an intervening trial where an instance from a different category is named, a result consistent with our energy cell notion.

effects of membership salience on resistance to attitude change also suggests that activating one social construct (reading about the life of Pope Pius XII) will increase the accessibility of closely related social constructs (the principles of the Catholic Church). More recently, Geller and Shaver (1976) found that increasing the salience of a person's physical self and current behaviors (by having subjects look at themselves in a mirror and telling them that they were being observed) increased the accessibility of self-relevant and self-evaluative words, as measured by the Stroop interference task.

Because there is evidence that constructs with similar evaluative tone are closely related (Wickens, 1972), an activated social construct (e.g., ugly) should also increase the accessibility of evaluatively similar social constructs (e.g., evil, gangster, mugging). Other constructs become closely related as part of people's implicit personality theories (Rosenberg & Sedlak, 1972; Schneider, 1973). For example, the constructs fat and jolly (or glamorous and dumb) are closely related in the minds of many people, even though they are neither semantically nor evaluatively similar. The learning of social scripts is yet another way that social constructs may become related (Abelson, 1975; Berne, 1964). Such interrelatedness among constructs suggests that by activating one construct (e.g., fat) included within a person's implicit personality theory or "personae" (Nisbett & Ross, 1980), other constructs related to this construct (e.g., jolly) will increase in accessibility, as evident, for example, in their increased use to encode subsequent stimulus information. Moreover, these effects are likely to be unconscious and uncontrolled (i.e., passive).

Relatedness to accessible constructs could result in long-term increases in construct accessibility as well as the short-term increases described previously. If there is a prolonged increase in a construct's accessibility (e.g., from frequent activation), prolonged increases in the accessibility of closely related constructs could occur. A more intriguing possibility is that a construct's accessibility could be increased for a prolonged period by increasing its association, or creating an association, to a highly accessible construct. For example, being told that someone you know only slightly at work is a lot like Archie Bunker at home could cause a prolonged increase in the accessibility of your construct for that person.

CONSEQUENCES OF CONTEXTUAL VARIABILITY IN CONSTRUCT ACCESSIBILITY

Contextual variability refers to differences in physical and social circumstances that tend to cause differences in the accessibility of particular constructs for any person in the situation (i.e., acute, context-dependent variability). Different situations, events, and circumstances vary with respect to the accessibility determinants described earlier. Some situations involve characteristic goals, expecta-

tions, or salient actions and objects (e.g., small talk, drinking, and meeting new people at cocktail parties). For these situations, there would be relatively prolonged accessibility of the associated constructs (Rosch, 1978). In other contexts, there may be momentary increases in a construct's accessibility due to the temporary salience of associated actions and objects or to the direct activation of the construct or associated constructs. Of course, even a momentary increase in a construct's accessibility can have long-term consequences for subsequent information processing. For example, a momentary increase in construct accessibility from recent activation (i.e., priming) has been shown to affect subjects' judgments of a stimulus person over a week later; in fact, the consequences increased over time (Higgins et al., 1977; Wyer & Srull, 1980).

This section considers the information-processing consequences of contextual variability in construct accessibility. The short-term and long-term consequences have been examined in a number of studies by the senior author and collaborators and are presented here. The implications of these and related studies are discussed in terms of the consequences of increased accessibility for the input, consolidation, and output stages of information processing.

Input

For most stimulus information, there are more aspects of the input to be noticed than one can possibly attend to and encode. Selectivity is forced upon us by our information-processing limitations (Bruner, 1958). One determinant of selectivity is whether or not a schema (or construct) is available to encode the information. Neisser (1976), for example, states that perceivers will "pick up only what they have schemas for and willy-nilly ignore the rest [p. 80]." Another determinant of selectivity is construct accessibility; that is, among stored constructs, some constructs are more accessible than others, and perceivers are more likely to pick up what they have accessible constructs for.

Selectivity effects of increased construct accessibility appear to be involved in a number of studies where role expectations have been manipulated. Zadny and Gerard (1974) found that subjects' recall of items in a live skit varied depending on the role that was attributed to the target actor. Items were better recalled when they were related to the target's role (e.g., chemistry items when the target was a chemistry major) than when they were unrelated to the target's role (e.g., chemistry items when the target was a music major). These results could also be due to retrieval effects of role expectations, but it is likely that subjects selectively noticed and encoded items related to the target's role. Selectivity effects of manipulating the role of the target actor have also been found by Cohen (1977) and may be involved in Langer and Abelson's (1974) finding that therapists evaluate a target as more disturbed if previously told that the target is a "patient" versus a "job applicant."

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Selectivity effects could construct accessibility. For example, gender should be the minority than for a group, the salience of gender should be associated with male and female, and influence the processing outcomes. For people with traditional attitudes, salient group sex of a stimulus person (whether traditional, stereotypic, sex-independent for males; sensitive with nontraditional or modern for females, salient group sex of a stimulus person that includes attributes (e.g., sensitive, traditional) and independent for females).

Most recent undergraduates hold both traditional and modern views while growing up and, in addition, most recent undergraduates hold both views with regard to people possessing both views (Kravetz, 1976; Pleck, 1981). The relationship between these related constructs is increas-

¹⁰In this study, as well as in the study by Smith and Brown (1996), the gender of the person in a group whose gender is in the majority is not the proposal is that gender is relatively more salient (and more accessible) for those students in the majority. This does not mean that being in a group where one's gender is in the majority means that gender is more salient. In fact, a person's gender is equally salient whether alone or in a group with an equal number of people of the same gender.

¹¹For a discussion of tradition and Pleck (1976).

Using a different paradigm, Anderson and Pichert (1978) manipulated subjects' own role expectations by having them read a story containing information about a particular house from the perspective of either a burglar or a prospective home buyer. For the home buyer role, at least, the manipulation of role expectations appeared to have selectivity effects (as well as retrieval effects to be discussed later). Controlling for perspective at recall, a much higher proportion of home buyer-related items were recalled when subjects had been initially assigned the home buyer role than when subjects had been initially assigned the burglar role.

Selectivity effects could also arise from the influence of group composition on construct accessibility. With respect to the sex composition of a group, for example, gender should be more salient for a group member whose gender is in the minority than for a group member whose gender is in the majority. Increasing the salience of gender should, in turn, increase the accessibility of attributes associated with male and female gender.¹⁰ Such increased accessibility should influence the processing of stimulus information exemplifying sex-linked attributes. For people with traditional views concerning the attributes of males and females, salient group sex composition should cause selective attention to aspects of a stimulus person (whether self or other) that are consistent with the conventional, stereotypic, sex-linked attributes (e.g., ambitious, scientific, and independent for males; sensitive, artistic, and nurturant, for females). For people with nontraditional or modern views concerning the attributes of males and females, salient group sex composition should cause selective attention to aspects of a stimulus person that in many cases are opposite to the stereotypic, sex-linked attributes (e.g., sensitive, artistic, and nurturant for males; ambitious, scientific, and independent for females).¹¹

Most recent undergraduates at major universities are likely to have both the traditional and modern views available to them, having acquired the traditional view while growing up and the modern view while attending the university. In addition, most recent undergraduates subscribe to the modern view, especially in regard to people possessing the positive stereotypic traits of the opposite sex (Kravetz, 1976; Pleck, 1976). Therefore, when the accessibility of gender-related constructs is increased, undergraduates should selectively attend to in-

¹⁰In this study, as well as in the studies described later, the comparison is between those students in a group whose gender is in the minority versus those students whose gender is in the majority. The proposal is that gender is relatively more salient (and gender-related constructs are relatively more accessible) for those students in the group whose gender is in the minority. This does not necessarily mean that being in a group where one's gender is in the majority has no effect on the salience of one's gender. In fact, a person's gender under such conditions may be more salient than when the person is alone or in a group with an equal number of males and females.

¹¹For a discussion of traditional and modern views of sex-linked attributes, see Kravetz (1976) and Pleck (1976).

formation about a stimulus person that is consistent with the modern view of sex-linked attributes because their sex-linked processing is under active control. Otherwise, undergraduates should selectively attend to information about a stimulus person that is consistent with the traditional view of sex-linked attributes because this view is likely to be more accessible during passive, uncontrolled processing due to its much longer history of activation. This hypothesis was examined in the following study by Higgins and Petty.¹²

Study 1: Group Sex Composition Effects on Encoding the Sex-Linked Characteristics of a Target Person

Method. One hundred and forty-six Princeton University undergraduates agreed to help serve as an adult comparison group for a future developmental study on the relation between object and person perception. The study involved two major experimental manipulations—sex composition of the groups and sex of target person. Three or four subjects were run at a time and were seated around a large table such that no subject could see another's responses. No talking was permitted. A female undergraduate experimenter conducted 20 groups of subjects each composed of two or three other females and one solitary male; a male undergraduate experimenter conducted 20 groups of subjects each composed of two or three other males and one solitary female. For each of these two types of groups, subjects in half of the groups read a paragraph supposedly describing a female undergraduate at Princeton (Barbara) and subjects in the other half of the groups read the same paragraph supposedly describing a male undergraduate (Bob). Following the procedure for constructing unambiguous descriptions outlined in Higgins and Rholes (1978), the paragraph contained descriptions exemplifying the following eight traits, selected to be neither redundant nor contradictory: two evaluatively positive, stereotypically male traits, (active, ambitious) and two evaluatively negative, stereotypically male traits, (aggressive, selfish); two evaluatively positive, stereotypically female traits, (polite, sensitive) and two evaluatively negative, stereotypically female traits, (emotional, dependent). The male and female traits were selected on the basis of previous reports concerning common sex-role stereotypes (Rosenkrantz, Vogel, Bee, Broverman & Broverman, 1968). In order to check whether the behavioral descriptions did exemplify these traits, 16 pilot subjects read each description separately and characterized the type of person described. On the average, the descriptions elicited the intended traits, or denotative and evaluative synonyms (e.g., moody instead of emotional), 76% of the time.

¹²This study was conducted as a Princeton University Senior Thesis by Cornelia J. Petty (1977) under the direction of the senior author.

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The subjects were told that the information about Bob (Barbara) contained in the paragraph had been obtained from a variety of sources, including Bob's (Barbara's) application and interview for a summer job, and evaluations from some of Bob's (Barbara's) instructors or acquaintances. After reading the paragraph, the subjects were given a 20-minute "Hidden Pictures" filler task, ostensibly to compare object perception with person perception. They were then asked to reproduce the paragraph about Bob (Barbara) as best they could, word for word.

Results. The reproductions were scored by a coder blind to experimental condition for the number of positive male stereotypes, the number of negative male stereotypes, the number of positive female stereotypes, and the number of negative female stereotypes included in each reproduction. A sex of subject $\times$ sex of target $\times$ distinctiveness of gender $\times$ sex of stereotype $\times$ desirability of stereotype analysis of variance yielded, as predicted, a significant sex of target $\times$ distinctiveness of gender $\times$ sex of stereotype interaction, $F(1, 135) = 9.62, p < .01$. As shown in Table 4.1, when the target was ostensibly a male, the subjects recalled less stereotypically male and more stereotypically female stimulus information when their gender was in the minority (i.e., high gender distinctiveness) than when their gender was in the majority (i.e., low gender distinctiveness); whereas when the target was ostensibly a female, the subjects recalled less stereotypically female stimulus information when their gender was in the minority than when it was in the majority. There was also greater recall of female stereotypes than male stereotypes, $F(1, 135) = 26.06, p < .001$. There was no sex of subject effect on memory for the stereotypically male and female descriptions.

The analysis of variance also yielded a significant sex of subject $\times$ sex of target $\times$ desirability of stereotype interaction, $F(1, 135) = 4.29, p < .05$,

TABLE 4.1
Mean Number of Male Stereotypes and Female Stereotypes
Reproduced as a Function of Sex of Target and Distinctiveness
of Gender

Sex of Target	Distinctiveness of Gender	
	High (minority)	Low (majority)
Male target		
Male stereotypes	.9	1.6
Female stereotypes	2.5	2.1
Female target		
Male stereotypes	1.9	1.9
Female stereotypes	2.0	2.4

reflecting the fact that female subjects recalled more positive stereotypes and slightly less negative stereotypes for the supposed female target than the supposed male target, whereas male subjects' did not evaluatively differentiate between the male and female targets.

The results of this study are consistent with our hypothesis that, for undergraduates, increasing the distinctiveness of gender increases the accessibility of the modern view of sex-linked attributes, leading to relatively greater attention to information about a stimulus person that is less traditionally sex linked.

Consolidation

At the input stage, the selectivity resulting from construct assessability causes people to notice some aspects of the stimulus information while not noticing other aspects. At the consolidation stage, only those aspects of the stimulus information that have been noticed are encoded and stored. When the attributes of the stimulus are similar to the content of more than one construct and the match to these alternative constructs is approximately the same, the stimulus is likely to be identified with whichever construct is most accessible (Bruner, 1957). Consider, for example, the story at the beginning of the chapter. The ambiguous stimulus information about Donald and Daisy was identified differently by Michael and Minnie. Donald was identified as "adventurous" by Michael but as "reckless" by Minnie, and Daisy was identified as "stubborn" by Michael but as "persistent" by Minnie.

Similar behavioral information was used in the Higgins et al. (1977) study, and subjects' spontaneous characterizations of the stimulus person in the impression formation task varied as a function of whichever trait constructs had been made more accessible through recent activation in the previous priming task. These effects of recent activation on identification can, in turn, have rather dramatic consequences for subsequent information processing. In the Higgins et al. (1977) study, for example, subjects' attitudes toward the stimulus person were significantly affected by the trait priming, as discussed in the Output section later. Can even creative problem solving be influenced by such priming effects on identification? This question was addressed in the following study by Higgins and Chaires (1980).¹³

Study 2: Priming, Identification, and Creative Problem Solving

One of the classic insight problems is Duncker's (1945) "candle problem." Subjects are seated at a table on which there is a cardboard wall, and, under a cover, a candle, a full book of matches, and a box filled with thumbtacks. They

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¹³This study was conducted as a Princeton University Senior Thesis by William M. Chaires (1976) under the direction of the senior author.

are told that when the cover is removed their task is to affix the candle to the cardboard wall, as quickly as possible, so that the candle burns properly and does not drip wax on the table or floor. In order to solve the problem, subjects must tack the box on to the cardboard wall, place the candle on top of the box, and then light the candle. The difficult part of the problem is to think of using the box as a platform for the candle, rather than just as a container for the tacks. Most adults have great difficulty with this problem as many do not solve it at all within the 10- or 15-minute allotted time.

The results of an initial study indicated that labeling the box facilitated problem solving only when it clearly differentiated the box from the tacks (i.e., for the label "box and tacks" but not for the label "box of tacks"). The facilitating effects of labeling have previously been explained as being due either to the label calling attention to the key object (Glucksberg & Weisberg, 1966) or to the label directing subjects to the solution desired by the experimenter (Weisberg & Suls, 1973). These factors require that the box be labeled by the experimenter when the candle problem is presented. We reasoned, however, that if the facilitating effects were due to the label activating a differentiated categorization of the box, then it should be possible to obtain the same results by activating a general mode of categorization through verbal exposure in an extraneous task.

Method. Three groups of 10 undergraduates each (the "of" description, "and" description, and "no" description groups) were shown the same series of slides depicting 15 objects as part of a study on "long-term memory." Subjects were told they would be shown slides of common household objects to be recalled later after completing a problem-solving task designed to prevent rehearsal of the objects. Of the 15 items, 5 were objects that would normally be designated by a single word (comb, eyeglasses, scissors, football, and banana), and 10 were objects that would normally be designated by a phrase (e.g., tray containing tomatoes, bowl containing cereal, jar containing cherries, carton containing eggs, and bag containing vegetables). All subjects received the same random order of the slides. None of the objects used in the candle task was present in the slides. In the *of* condition, the phrase slides were all described by the experimenter with an *of* linguistic construction (e.g., a carton of eggs, a tray of tomatoes, a bag of vegetables) when they appeared on the screen. In the *and* condition, the slides were described with an *and* construction (e.g., a carton and eggs). In both conditions the "single-name" objects were described by their appropriate names. In the *no description* condition none of the slides was described by the experimenter.

In order to check whether exposure to differentiated labels would be effective in increasing the frequency with which subjects labeled the box of tacks in a manner differentiating the box from the tacks, 16 pilot subjects were asked to describe all the objects on the table before beginning the candle problem after exposure to either the *and* or the *of* descriptions. As predicted, a greater number of subjects in the *and* condition (5 out of 8) than in the *of* condition (0 out of 8)

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labeled the box of tacks in a manner differentiating the box (e.g., tacks, box; thumbtacks and box; small box, tacks in box), Fisher Exact Test, $p < .025$, one tailed. These results indicated that exposure to differentiated labels did increase the frequency of the subjects' labeling the box of tacks in a manner differentiating the box.

In the actual experiment, the subjects were not asked to describe the objects in the candle problem before beginning the problem, and thus the box of tacks was never overtly labeled by either the experimenter or the subjects. After subjects were shown the slides, they were given the candle problem ostensibly to prevent them from rehearsing the slide objects. They were told they would be timed and should try to solve the problem as quickly as possible. While a subject worked on the problem, the experimenter sat out of sight behind the subject and recorded the subjects' solution times (from the moment the cover was removed to the moment the box was tacked to the cardboard wall). There was a time limit of 10 minutes.

Results. As shown in Table 4.2, the primed mode of categorization in the *and* condition greatly facilitated problem solution. With respect to solution time, subjects in the *and* condition solved the candle problem faster than subjects in both the *of* condition, Mann-Whitney $U = 13$, $p < .01$ one-tailed, and the *no description* condition, $u = 11$, $p < .01$ one-tailed. Moreover, a greater number of subjects in the *and* condition solved the problem within the allotted time period than subjects in both the *of* condition, Fisher Exact Test, $p < .025$ one-tailed, and the *no description* condition, Fisher Exact Test, $p < .025$ one-tailed. There were no significant differences between the *of* and *no description* conditions, suggesting that subjects in the *no description* condition spontaneously categorized the box in an undifferentiated manner.

In order to check whether subjects were aware that the experimenter's description of the slides was related to the candle task, subjects were asked at the end of

TABLE 4.2
Median Solution-Time Scores (in minutes)
and Percentage of Solvers
in Each Verbal Exposure Condition

Verbal Exposure Condition	N	Median Solution Time	Percentage of Solvers
And	10	4.1	80
Of	10	10.0	20
None	10	10.0	20

Note: The allotted time period for solving the problem was 10 minutes. Subjects who did not solve the problem were given a solution-time score of 10 minutes.

the study whether their behavior in procedure to be any relation between memory for the learned a model.

These findings have substantial consequences for these consequences. The implications (dominance) and Chaires, 1980).

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the study whether anything about the memory task interfered with or affected their behavior in the problem-solving task, because it was still easy for the procedure to be changed to avoid such problems. None of the subjects reported any relation between the tasks other than the candle task interfering with their memory for the slide objects. Thus, subjects expressed no awareness of having learned a mode of categorization that affected their performance.

These findings indicate that priming effects on mode of categorization can have substantial consequences even for creative problem solving. Moreover, these consequences arise from passive, unconscious processing effects of priming. The implications of these results for interrelational constructs (e.g., liking, dominance) and social problem-solving need to be explored (cf. Higgins & Chaires, 1980).

Levels of Going Beyond the Information Given

Construct accessibility not only increases the likelihood that the accessible construct will be used to encode a stimulus rather than an equally applicable alternative construct. As Bruner (1957) suggests, construct accessibility also reduces the amount of similarity between input and construct necessary for the input to be accepted as fitting the construct. Wyer and Srull (1980), for example, presented subjects with behavioral descriptions that were ambiguous instances of trait constructs and found that subjects were more likely to judge a description as being a clear instance of a trait if the trait's accessibility had previously been increased through recent activation.

Construct accessibility has still further consequences for the encoding and storage of stimulus information that derive from its influence on the identification process; specifically, the tendency for people to "go beyond the information given" once a stimulus is confidently identified (Bruner, 1958). There are basically three levels of going beyond the information given: inferring identifying attributes of the stimulus beyond those actually present in the stimulus; inferring nonidentifying attributes of the stimulus that constitute part of the activated construct but are not observable in the stimulus; and inferring additional attributes that are thought to co-occur with the attributes of the activated construct but are not part of the activated construct.

Identifying a stimulus as an instance of a construct does not require that all the construct's identifying attributes be present in the stimulus; a subset of identifying attributes is often sufficient to make an equivalence judgment or match. Once the stimulus is accepted as an instance, however, the remaining identifying attributes of the construct are usually assumed to be present in the stimulus. For example, if a person sees a woman dressed in a nurse's uniform and on this basis identifies her as a nurse, then the person is likely to infer that she also possesses the skills and training of a nurse; that is, functional attributes are inferred following identification from perceptual attributes. Similarly, if a person has been told

Percentage of
Solvers

80
20
20

10 minutes.
me score of

that a woman is a nurse and sees, from a distance, the woman wearing white clothes, then the person may encode and store the fact that the woman was wearing a nurse's uniform even though she was actually wearing a spring outfit for a garden party. The process of identification not only leads to filling in missing identifying attributes but also to ignoring, omitting, or distorting attributes that do not match the construct's identifying attributes in order to create a better fit between the stimulus and the construct. In the opening story, once Minnie has categorized Daisy as "persistent," she is likely to delete or distort any evidence that is incongruent with this construct, such as those aspects of Daisy's behavior that suggest stubbornness more than persistence.

Once a stimulus has been identified as an instance of a construct, other nonidentifying properties of the construct are likely to be attributed to the stimulus. Miller (1978) distinguishes between lexical knowledge, required for linguistic communication, and practical knowledge. The identifying attributes of a construct are part of the lexical knowledge, because linguistic production and comprehension require the ability to identify instances of a construct. Constructs, however, also contain practical knowledge that is not necessary for identification; for example, the fact that a shoe can be used to hammer in tacks may be part of one's practical knowledge about shoes but would not typically be considered an identifying attribute of shoes. The processing of stimulus information may be affected by the application of such practical knowledge. For example, one's practical knowledge about headwaiters may include the fact that they treat a guest better if given a generous tip, and, thus, after giving a generous tip to a man identified as a headwaiter, one may encode and store his behavior as being more courteous and helpful than it actually is.

The third level of going beyond the information given is to assign those attributes to a stimulus that are thought to co-occur with the attributes comprising the identified construct. Social scripts (Abelson, 1975) are one source of naïve knowledge about the co-occurrence of social attributes. The source that has received most attention in the literature is people's implicit personality theories; that is, people's assumptions about the associations among traits (Bruner & Tagiuri, 1954; Schneider, 1973). In the opening story, for example, Minnie's opinion that Daisy "is there when you need her" derives from Minnie's belief that reliability co-occurs with persistence. In Wyer and Srull's (1980) study, subjects' ratings of the target person along some additional trait dimensions evaluatively related to the primed trait were consistent with their ratings of the target person along the primed trait dimension, perhaps reflecting inferences from subjects' implicit personality theories.

Thus far, the discussion of the effects of identification has focused on the consequences of identifying a stimulus *as* an instance of a construct. People also go beyond the information given, however, when identifying a stimulus *with* a construct. For example, a person may identify a stranger with his father because

of the stranger's striking resemblance, then, because of this identification, the stranger that are characteristic of interpreting an individual in terms of the stimulus evoked by the individual is a father (1980; Sarbin, Taft, & Bailey). Identification with significant others. It is also one of the reasons (Kelman, 1958).¹⁴

An important difference between identifying a stimulus as a construct and assigning the missing essential or nonessential attributes when identifying a stimulus with a construct is that an actual instance of the construct is not necessarily a person's tendency to infer missing attributes of the construct.

The consequences of an actual instance of a construct on subsequent inferences about a stimulus are different from identification. When a stimulus is identified, inferences will be made concerning whether the identification process (e.g., priming). When a stimulus is identified, it is possible that missing construct attributes of a construct to a stimulus is *not* an instance of

Output

Construct accessibility can have consequences for information processing. The identification stage can increase the accessibility of a construct from the identification (i.e., the consequences for remembering and subsequent judgments about the stimulus over time. The accessibility of a construct for memory and judgments that

¹⁴In fact, one could conceptualize identifying a stimulus as adopting others' values as involving a person's own values as equivalent to the

of the stranger's striking resemblance to his father's physical appearance, and then, because of this identification, the person may assign dispositional traits to the stranger that are characteristic of his father. This process of judging and interpreting an individual in terms of the salient attributes of a significant other evoked by the individual is a major type of inferential process (Nisbett & Ross, 1980; Sarbin, Taft, & Bailey, 1960) but one that has rarely been investigated. Identification with significant others affects self-judgments as well as judgments of others. It is also one of the major processes involved in interpersonal influence (Kelman, 1958).¹⁴

An important difference between identifying a stimulus with a construct versus identifying a stimulus as a construct instance is that people are less likely to assign the missing essential or defining attributes of the construct to the stimulus when identifying a stimulus with a construct, because the stimulus is, in fact, not an actual instance of the construct. There may be less difference, however, in people's tendency to infer missing characteristic attributes and practical knowledge attributes of the construct.

The consequences of an active versus passive process of identification for subsequent inferences about a stimulus may also vary for these two kinds of identification. When a stimulus is identified as an instance of a construct, inferences will be made concerning missing construct attributes regardless of whether the identification process was conscious (e.g., a set) or unconscious (e.g., priming). When a stimulus is identified with a construct, however, it is possible that missing construct attributes will be inferred *only* if the identification process is unconscious. People, after all, are unlikely to assign the missing attributes of a construct to a stimulus when they are conscious of the fact that the stimulus is *not* an instance of the construct.

Output

Construct accessibility can have various consequences at the output stage of information processing. The identification of a stimulus during the consolidation stage can increase the accessibility at the output stage of those constructs arising from the identification (i.e., both perceived and inferred attributes). This has consequences for remembering the stimulus information, as well as for subsequent judgments about the stimulus, and these consequences tend to increase over time. The accessibility of a construct during retrieval also has consequences for memory and judgments that can be independent of any previous identification

¹⁴In fact, one could conceptualize a change from identification to internalization with respect to adopting others' values as involving a change from *identifying with* another's values to *identifying* one's own values as equivalent to these values.

of the stimulus material. Both of these kinds of output consequences of construct accessibility are considered in this section.

Consequences Arising from Prior Identification

During the consolidation stage of information processing, both details of the stimulus information as well as judgments of the stimulus will be stored. Memory and judgments of the stimulus information at the output stage are influenced by both the stored representation of the stimulus details and the prior judgments. There is a tendency for the original stimulus to be subsequently remembered and judged in a manner consistent with the denotative and evaluative implications of the prior judgments, especially if the representation of the input is incomplete or decayed (Bartlett, 1932; Higgins et al., 1977; Neisser, 1967; Spiro, 1977).¹⁵ In addition, because the representation of the stimulus tends to decay rapidly over time, the delayed influence of accessible constructs on memory and judgments is often greater than the immediate influence (Bartlett, 1932; Higgins et al., 1977; Higgins & Rholes, 1978). These conclusions are supported by a number of studies.

Evidence is presented in the Higgins et al. (1977) study that subjects' later evaluation of the stimulus person was influenced by their prior judgments of the stimulus person and that this influence increased over a two-week period. First, evaluations of the stimulus person in the first session did not differ significantly as a function of their priming condition, but in the second session two weeks later, subjects who had been in the positive-priming condition rated the stimulus person as significantly more desirable than those who had been in the negative-priming condition. Second, in the first session, there was little relation between subjects' prior judgments of the stimulus person and their evaluations of the stimulus person ($r = .13$), but by the second session two weeks later, there was a significant positive relation between the positivity of subjects' prior judgments and the positivity of their evaluations ($r = .46$).

Wyer and Srull (1980) and Carlston (in press) have also found that the influence of subjects' previous ratings of a target person on their subsequent ratings of the target increases over time. Other studies provide evidence that prior judgments affect later evaluations, predictions, inferences, and behavior (e.g., Higgins & Rholes, 1978; Lingle & Ostrom, 1979; Ross, Lepper, Strack, & Steinmetz, 1977; Sherman, Ahlm, Berman, & Lynn, 1978). For example, Lingle and Ostrom (1979) found that judgments of the suitability of a target person for a particular occupation (e.g., judge) was based more on their prior judgment of the target's suitability for a similar or dissimilar occupation (e.g., lawyer versus

¹⁵It must be emphasized that the stored representation of the stimulus details is not necessarily an accurate reflection of the stimulus information because it can be, and often is, substantially altered by the processing involved in the input and consolidation stages.

store clerk) than on the prior judgment.

There is also evidence of an increasing impact over time, as reported by Higgins and Rholes (1981). Subjects who received unambiguous information about the stimulus (i.e., they either liked or disliked the stimulus) showed a greater reduction of the stimulus than recipients who liked the stimulus (i.e., they liked the stimulus). The results of the stimulus reduction of the stimulus (*sage condition*) were also significant for recipients who purported to like the stimulus (i.e., they liked the stimulus), either because they liked the person to suit the recipient (i.e., they liked the person) or because they did not have been o-

The Higgins and R prior judgments on r (especially for reproduction) showed a large amount of distortion in the direction toward the recipient. The judgments obtained 2 weeks after the initial judgments. There was also a tendency for the judgments to become increasingly distorted. Second, the correlation between the judgments of messages and the evaluation of messages increased significantly from the initial message encoding to the final message encoding.

The effects of stim have been examined

Mean Number of
Function of Mes

*Message Recipient's
Opinion of
Stimulus Person*

Like
Dislike

store clerk) than on the input description of the target that was the basis for their prior judgment.

There is also evidence that prior judgments of stimulus information have an increasing impact over time on memory for the stimulus information. In a study by Higgins and Rholes (1978), subjects were asked to summarize ambiguous and unambiguous information about a stimulus person for a recipient who purportedly either liked or disliked the stimulus person. Subjects' labeling or categorization of the stimulus person was more positive when they thought the message recipient liked the stimulus person. As shown in Table 4.3, the subsequent reproductions of the stimulus information by subjects who wrote a message (the *message condition*) were more positive when subjects had written a message for a recipient who purportedly liked the stimulus person. In contrast, there was little effect for subjects who did not actually write a message (the *no-message condition*), either because they did not modify their categorizations of the stimulus person to suit the recipient or because their categorizations were less accessible by not having been overtly expressed.

The Higgins and Rholes (1978) study also provides evidence that the effect of prior judgments on memory for stimulus information can increase over time (especially for reproductions of unambiguous stimulus information). First, the amount of distortion in the reproductions of the unambiguous stimulus information toward the recipient's attitude was significantly greater for reproductions obtained 2 weeks after input than for reproductions obtained shortly after input. There was also a tendency for the overall evaluative tone of the reproductions to become increasingly consistent over time with the overall tone of the messages. Second, the correlation between the evaluative tone of the distortions in subjects' messages and the evaluative tone of the distortions in subjects' reproductions increased significantly from $r = .18$ (ns) for reproductions obtained shortly after message encoding to $r = .74$, $p < .001$, for reproductions obtained 2 weeks after message encoding.

The effects of stimulus identification on subsequent memory and judgments have been examined mostly with regard to trait and role constructs. However,

TABLE 4.3
Mean Number of Positive and Negative Distortions in Reproduction as a
Function of Message Recipient Opinion and Communication Condition

Message Recipient's Opinion of Stimulus Person	Message		No Message	
	Positive Distortions	Negative Distortions	Positive Distortions	Negative Distortions
Like	2.4	0	0.8	0.6
Dislike	0.3	1.9	0.8	0.5

(superstitious, ostentatious). These black and white stereotypic traits were selected on the basis of their having been found in several past studies to be commonly associated with blacks and whites, respectively (Bayton & McAllister, 1964; Brigham, 1973; Sigal & Page, 1971), as well as their being neither redundant nor contradictory. A pretest of the traits with another sample of subjects indicated that the assumed likability of the traits did, indeed, match the high school students' basic judgments of the positivity or negativity of the traits. The format of the character sketch was similar to an institutional record, as follows:

NAME: Michael Smith
 DATE OF BIRTH: May 9, 1959 AGE: 17
 SEX: Male X Female _____
 CITIZENSHIP: U.S.A. X Foreign _____
 ETHNIC BACKGROUND: White _____ Black _____ Asian _____
 Other _____
 MARITAL STATUS: Single X Married _____
 EDUCATIONAL LEVEL: High School X College _____

The between-subject experimental manipulation of Race of Target consisted of placing either an X in the white blank or an X in the black blank. This demographic information was followed by the randomly ordered behavioral descriptions. The other two between-subject experimental manipulations were Overt Characterization and Temporal Delay. After reading the paragraph, half of the subjects in both the black target and white target conditions were asked to give their personal impression of the target person; the remaining subjects were not asked to characterize the target person. Because this manipulation of overt characterization had no effect on subjects' memory of the stimulus person, it will not be considered further. For the manipulation of temporal delay, half the subjects in each Race of Target condition received the reproduction measure a few minutes after reading the paragraph, and the other half received the reproduction measure a week later when they returned, supposedly for some additional visual perception tasks. Either before or after the reproduction measure, subjects were also asked to state how much they liked the target person on an 11-point scale ranging from +5 (extremely like) to -5 (extremely dislike). (There were no significant order effects of the dependent measures.)

Results. The reproductions were scored by two independent judges, blind to experimental condition, for deletions and for evaluatively positive or negative distortions (Higgins & Rholes, 1978). The interjudge agreement was 100% for deletions and over 80% for the distortions. In cases of disagreement, a third judge chose between the alternatives. If a stimulus description was neither deleted nor evaluatively distorted in reproduction, it was coded as correctly re-

called. Separate race of target $\times$ race of stereotype $\times$ desirability of stereotype $\times$ communication $\times$ temporal delay analyses of variance were performed for the deletion, distortion, and correct recall measures of reproduction.

On the deletion measure, there was a significant target race $\times$ race of stereotype $\times$ temporal delay interaction, $F(1, 70) = 4.61$, $p < .05$, indicating that for brief-delay reproductions but not for long-delay reproductions, subjects tended to delete more stereotypic white traits for the black target ($M = .5$) than the white target ($M = .2$), but more stereotypic black traits for the white target ($M = 1.8$) than the black target ($M = 1.0$). Thus, as least immediately, the stimulus information was reproduced in a manner that confirmed black and white stereotypes. On the correct recall measure, there was a significant target race $\times$ desirability of stereotype interaction, $F(1, 70) = 4.98$, $p < .05$, reflecting the fact that more positive stereotypes were correctly recalled for the white target ($M = 1.1$) than the black target ($M = .7$), and slightly more negative stereotypes were correctly recalled for the black target ($M = .7$) than the white target ($M = .6$). On the distortion measure, there was a significant target race $\times$ temporal delay $\times$ valence of distortion (positive versus negative) interaction, $F(1, 70) = 5.87$, $p < .02$. As shown in Table 4.4, for the black target, subjects' reproductions over time contained fewer positive distortions and many more negative distortions, whereas there was relatively little change over time for the white target.

A target race $\times$ communication $\times$ temporal delay analysis of variance on the liking measure revealed a main effect for race of target, $F(1, 70) = 4.34$, $p < .05$, reflecting the fact that subjects expressed greater liking for the white target ($M = 1.1$) than the black target ($M = 0.1$).

The results of this study indicate that prior activation of a group construct (i.e., black versus white) can affect people's memory and judgments of stimulus information about a target person, presumably by increasing the accessibility of

the beliefs associated with that the consequences of subjects thought the target negative distortion of the decreasing amount of

Consequences of Activation

In addition to the influence that derives from prior constructs at the time of our accessible a construct, construct will be retrieved judge the frequency or ease with which related of this judgmental strategy decision making has been & Chapman, 1969; Hain Sicol, 1979; Rothbart, Kahneman (1973), for the likelihood that a particular accessible analogue pattern use the analogue's behavior describe various ways in others. It is also possible when making predictions, Feldman, and Ruff of preschoolers, people preschooler most readily young movie or television predict the behavior of particular black who re-

Just as activation of stimulus information, also influence the reconstruction stimulus judgments having subjects with a construct affect how the material Miller, & Burns, 1978; role perspective and reconstruction perspective on the second they had taken on the first subjects recalled significant

TABLE 4.4
Mean Number of Positive and Negative Distortions
in Reproduction as a Function of
Race of Target and Temporal Delay

Race of Target	Temporal Delay	
	Brief Delay (5 minutes)	Long Delay (1 week)
Black target		
Positive distortions	1.3	.4
Negative distortions	1.2	3.0
White target		
Positive distortions	1.6	1.2
Negative distortions	2.3	2.2

the beliefs associated with each group. Moreover, the study provides evidence that the consequences of such construct activation can increase over time; when subjects thought the target person was black, there was an increasing amount of negative distortion of the stimulus information over a 1-week period, as well as a decreasing amount of positive distortion.

Consequences of Accessibility at Time of Output

In addition to the influence of construct accessibility on subsequent processing that derives from prior judgments during consolidation, the accessibility of constructs at the time of output can directly affect memory and judgment. The more accessible a construct, the more likely it is that information relating to the construct will be retrieved. According to Tversky and Kahneman (1973), people judge the frequency or probability of classes, events, and co-occurrences by the ease with which related instances or associations come to mind. The importance of this judgmental strategy, the *availability heuristic*, for social judgment and decision making has been demonstrated in a number of recent studies (Chapman & Chapman, 1969; Hamilton & Gifford, 1976; Nisbett & Ross, 1980; Ross & Sicoly, 1979; Rothbart, Fulero, Jensen, Howard, & Birrell, 1978). Tversky and Kahneman (1973), for example, suggest that when clinicians attempt to predict the likelihood that a particular patient will commit suicide, they retrieve the most accessible analogue patient with whom the present patient can be identified and use the analogue's behavior as the basis for prediction. Sarbin et al. (1960) describe various ways in which people use analogues to predict the attributes of others. It is also possible that highly accessible instances of a construct are used when making predictions about the construct as a whole (Higgins, 1980b; Higgins, Feldman, and Ruble, 1980). For example, when predicting the attitudes of preschoolers, people may base their predictions on the attitudes of whichever preschooler most readily comes to mind (e.g., their own son or daughter, a young movie or television star, themselves at that age). Similarly, people may predict the behavior of blacks in general on the basis of information about a particular black who readily comes to mind.

Just as activation of constructs during input can influence the construction of stimulus information, activation of constructs during output can independently influence the reconstruction of stored stimulus information, especially if no prior stimulus judgments have been made. A number of studies have found that providing subjects with a construct after the presentation of stimulus material will affect how the material is remembered (Hanawalt & Demarest, 1939; Loftus, Miller, & Burns, 1978; Spiro, 1977). In Anderson and Pichert's (1978) study on role perspective and recall discussed earlier, half of the subjects took a different perspective on the second recall of the stimulus information (e.g., a burglar) than they had taken on the first recall (e.g., a home buyer). On the second recall, these subjects recalled significantly more information relevant to their new role than

they had recalled in their previous role (for which the information had been irrelevant) and recalled significantly less information irrelevant to their new role than they had recalled in their previous role (for which the information had been relevant). Finally, Snyder and Uranowitz (1978) found that subjects' recognition memory for factual events in the life of a woman were affected by being told after reading about her life that she was currently living either a heterosexual or lesbian life-style, with subjects' recognition responses tending to support their beliefs about these different life-styles.

In many of these studies (Hanawalt & Demarest, 1939; Loftus et al., 1978), the method of activating the constructs could inject additional persuasive or interpersonal influence factors into the situation because the construct is provided by the experimenter as a fact about the stimulus that directly or indirectly relates to the factual material used in the memory task (Higgins, 1980a). For example, subjects in the Loftus et al. (1978) studies were shown slides of an accident and were then asked a question in which the presence of either a stop sign or a yield sign in the slides was presupposed (e.g., "Did another car pass the red Datsun while it was stopped at the stop sign?"). This "fact" about the accident was true for half the subjects and false for the remaining subjects. On a yes-no recognition test administered later, the misled subjects tended to recognize falsely the slide with the presupposed sign. If a subject could not confidently remember which sign had appeared, however, it would make sense to conform to the facts stated in the questionnaire because it was presumably written by an expert on the slide series.

An alternative method of activating constructs after the storage of stimulus information is to provide subjects with judgment scales that allow subjects to *decide themselves* whether or not a particular construct applies to the stimulus person. With this method, any effects of construct accessibility on reconstructive memory are unlikely to be due to interpersonal influence factors. In addition, if interpersonal influence were a determining factor, then the immediate effects of construct activation on memory should be at least as strong as the delayed effects. In contrast, if the determining factor is construct accessibility, the effects on memory should increase over time because the impact of an accessible construct increases as the representation of the stimulus details decays. The following study by Higgins and Rholes was designed to examine the effects of construct accessibility over time on reconstructive memory.

Study 4: Reconstructing Trait Information: Retroactive Effects of Current Construct Accessibility

Method. Sixty-one Princeton University undergraduates were asked to read a paragraph ostensibly describing another student, Donald K., as part of a study on impression formation. They were told that the paragraph was based on infor-

mation collected from interpersonal tests. The subject in which they rated Donald were allowed to look back

All subjects were given descriptions of Donald taken from Higgins & Rholes, (1978). exemplifying "adventurous conceited," and "independent ambiguous descriptions exclusively negative unambiguous "messy."

The independent variable (ambiguous/positive labels delay between filling out the delay, 20 minute, or 1 week conditions in this 2 x 3 between eight 4-point scales from personality trait label. (Les: The labels for the third, four were honest, athletic, irritable naires had the same scales tions. The questionnaires on ous scales. In the ambiguous persistent, adventurous, and naire, the labels were aloof naire conditions, subjects w accurately as possible, wrote the questionnaire, 20 minutes posedly for a different study

Results. Subjects' reputational condition using the procedure study, however, only the retroactive direct concern because only questionnaires. As shown in the ambiguous stimulus information, with there being the material when subjects negative than positive distortions negative scales, especially a distortion in each reproduction obtain a measure of the overall

mation collected from interviews with Donald and from his responses to some personality tests. The subjects read the paragraph and then filled out a questionnaire in which they rated Donald on a variety of personality trait scales. Subjects were allowed to look back at the paragraph when answering the questionnaire.

All subjects were given the same paragraph, which contained eight behavioral descriptions of Donald taken from our previous studies (Higgins et al., 1977; Higgins & Rholes, 1978). There were four evaluatively ambiguous descriptions exemplifying "adventurous/reckless," "persistent/stubborn," "self-confident/conceited," and "independent/alooof," as well as two evaluatively positive unambiguous descriptions exemplifying "honest" and "athletic," and two evaluatively negative unambiguous descriptions exemplifying "irritable" and "messy."

The independent variables of the study were the type of questionnaire received (ambiguous/positive labels or ambiguous/negative labels) and the amount of delay between filling out the questionnaire and reproducing the paragraph (no delay, 20 minute, or 1 week). Ten or 11 subjects were assigned to each of the six conditions in this 2×3 between-subject design. The questionnaires contained eight 4-point scales from "not at all x " to "extremely x ," where x was a personality trait label. (Less than 5% of subjects' responses were "not at all x .") The labels for the third, fourth, sixth, and eighth scales in both questionnaires were honest, athletic, irritable, and messy, respectively. Thus, both questionnaires had the same scales for the positive and negative unambiguous descriptions. The questionnaires only differed with respect to the labels for the ambiguous scales. In the ambiguous/positive questionnaire, the labels were independent, persistent, adventurous, and self-confident. In the ambiguous/negative questionnaire, the labels were alooof, stubborn, reckless, and conceited. In both questionnaire conditions, subjects were asked to reproduce the paragraph about Donald as accurately as possible, word for word, immediately after they finished filling out the questionnaire, 20 minutes later, or 1 week later when they returned supposedly for a different study.

Results. Subjects' reproductions were scored by a judge blind to experimental condition using the procedure reported in Higgins and Rholes (1978). In this study, however, only the reproductions of the ambiguous descriptions were of direct concern because only the labels applied to them were manipulated in the questionnaires. As shown in Table 4.5, exposure to different labels for the ambiguous stimulus information had substantial effects on subjects' recall of this information, with there being relatively more positive than negative distortions of the material when subjects responded on positive scales and relatively more negative than positive distortions of the material when subjects responded on negative scales, especially after a week delay. In order to measure the amount of distortion in each reproduction unconfounded with the amount of deletion and obtain a measure of the overall evaluative tone of the reproduction, the difference

TABLE 4.5
Mean Number of Positive and Negative Distortions of
Ambiguous Descriptions in Reproduction as a Function of
Labeling Condition and Temporal Delay

Temporal Delay	Positive Labeling		Negative Labeling	
	Positive Distortions	Negative Distortions	Positive Distortions	Negative Distortions
No delay	1.3	.4	.6	.6
Twenty minute	.9	.3	.7	.6
One week	.8	.4	0	1.3

Note: Scores could range from 0 to 4.

between the total number of positively distorted descriptions and the total number of negatively distorted descriptions was divided by the total number of descriptions included in the reproduction (both distorted and undistorted). The arcsine transformations of these proportions were then analyzed as a function of type of questionnaire labels and delay of reproduction. This analysis yielded a main effect of delay of reproduction, $F(2, 55) = 5.10$, $p < .01$, reflecting the fact that the reproduction distortions became significantly more negative over time. In addition, as predicted, there was a significant main effect of type of questionnaire labels, $F(1, 55) = 5.93$, $p < .02$, indicating that the reproduction distortions were significantly more positive when subjects responded on scales with positive labels than when they responded on scales with negative labels. There was also a nonsignificant tendency for this effect of scale labels to increase over time, with the difference in distortions being twice as great after a 1-week delay as after no delay or a 20-minute delay. There were no significant effects for the unambiguous descriptions.

The results of this study clearly indicate that manipulating people's characterizations of a stimulus person *after* exposure to information about the person can affect their memory of the person even when interpersonal influence factors are unlikely to be involved. Moreover, the effect of the labeling on memory is greater a week later than it is a few minutes later, which is consistent with a construct-accessibility interpretation but not with a demand-effect interpretation. The absence of any significant reproduction effects for the unambiguous descriptions is also more consistent with a construct-accessibility interpretation than a demand-effect or "halo effect" interpretation.

The accessibility of constructs at output could also be influenced by unobtrusive, nonverbal means. The results of Study 1, previously discussed, demonstrated that group sex composition can affect the accessibility of attributes associated with male and female gender. Increasing the accessibility of gender-related constructs through group sex composition should affect subjects' judg-

ments of any targeting at any stage of analysis of group formation, when increased (i.e., descriptions shown are consistent with linked processing) descriptions shown because this view its longer history composition on and Smith.¹⁷

Study 5: Group Retrieval Session

Method. Fifty needed more adult others. The experience of the groups. Under experimenter control other females are conducted eight and one solitary female subject (male or female). Because subjects representative of the minority and majority salience of sexual orientation given McGuire and of spontaneous social could not see each

Results. Subjects blind to experimenter and the total number (either as a label or

¹⁷This study was conducted under the direction of research may be found

s of
ion of

Negative Labeling	
ns	Negative Distortions
	.6
	.6
	1.3

ments of any target, whether self or other, and should affect information processing at any stage, whether input or output. Thus, consistent with our previous analysis of group sex composition effects on undergraduates' processing of information, when the accessibility of undergraduates' gender-related constructs is increased (i.e., in the high gender salience condition), their spontaneous self-descriptions should generally reflect selective retrieval of aspects of their self that are consistent with the modern view of sex-linked attributes because their sex-linked processing is under active control. Otherwise, their spontaneous self-descriptions should generally reflect the traditional view of sex-linked attributes because this view would be more accessible during passive processing due to its longer history of activation. This hypothesized output effect of group sex composition on self-judgments was examined in the following study by Higgins and Smith.¹⁷

Study 5: Group Sex Composition Effects on Retrieving Sex-Linked Characteristics of Self

Method. Fifty-eight Princeton University undergraduates were told that we needed more adult norms for a developmental study on the perception of self and others. The experimental manipulation involved the prearranged sex composition of the groups. Using the same procedure as in Study 1, a female undergraduate experimenter conducted eight groups of subjects each composed of two or three other females and one solitary male, and a male undergraduate experimenter conducted eight groups of subjects each composed of two or three other males and one solitary female. Thus, the independent variables of the study were *sex of subject* (male or female) and *distinctiveness of gender* (minority or majority). Because subjects' gender is more distinctive in groups where they are the only representative of their gender than in groups where their gender predominates, the minority and majority conditions were again used to manipulate high and low salience of sexual identity, respectively. After all subjects had arrived, they were given McGuire and Padawer-Singer's (1976) "Tell us about yourself" measure of spontaneous self-concept. Subjects were separated at the table so that they could not see each other's responses to this question.

Results. Subjects' spontaneous self-descriptions were scored by judges blind to experimental condition in terms of the total number of male stereotypes and the total number of female stereotypes included in a subject's self-description (either as a label or as a descriptive statement). The male and female stereotypes

¹⁷This study was conducted as a Princeton University Junior Thesis by Julia C. Smith (1974) under the direction of the senior author. A discussion of the social implications of this and related research may be found in Ruble and Higgins (1976).

considered were those consistently reported in the literature (McKee & Sherriffs, 1959; Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968). The inter-coder correlations were .95 for female stereotypes and .84 for male stereotypes.

As evident in Table 4.6, the distinctiveness of subjects' gender had significant effects on whether male or female stereotypes were included in subjects' spontaneous self-descriptions. A subject sex $\times$ distinctiveness of gender $\times$ sex of stereotype analysis of variance yielded a significant three-way interaction, $F(1, 54) = 8.34, p < .01$; that is, males in the minority described themselves as more stereotypically female and less stereotypically male than males in the majority, whereas females in the minority described themselves as more stereotypically male and less stereotypically female than females in the majority. Thus, when subjects' gender was relatively distinctive, they were more likely to describe themselves in terms of traits stereotypically associated with the opposite sex than when their gender was not distinctive. The analysis also yielded a significant main effect for sex of stereotype, $F(1, 54) = 6.07, p < .02$, indicating that the subjects were more likely to describe themselves in terms of female stereotypes than in terms of male stereotypes. It was also clear from the self-descriptions that when subjects described themselves in terms of traits stereotypically associated with the opposite sex, the traits included were almost always positive (e.g., males describing themselves as sensitive and females describing themselves as independent). In general, there was an overwhelming tendency for subjects to describe themselves in terms of desirable traits, $F(1, 54) = 21.33, p < .001$.

The results of this study are strikingly similar to the results of Study 1. Once again, high gender distinctiveness led to relatively greater recall of information about a target person that was less traditionally sex linked. Otherwise, undergraduates' spontaneous self-descriptions reflect the traditional view of sex-linked attributes. In this study, however, subjects recalled information about themselves rather than another person.

TABLE 4.6
Mean Number of Male Stereotypes and Female Stereotypes
in the Spontaneous Self-Descriptions as a Function of
Sex of Subject and Distinctiveness of Gender

Subject Sex (self as target)	Distinctiveness of Gender	
	High (minority)	Low (majority)
Male Subjects		
Male stereotypes	1.1	1.7
Female stereotypes	2.4	1.5
Female Subjects		
Male stereotypes	2.4	1.2
Female stereotypes	2.3	2.5

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McKee & Sherriffs, 1968). The interaction of male stereotypes and gender had significant effects in subjects' spontaneous appraisals of gender $\times$ sex of experimenter interaction, $F(1, 11) = 21.33, p < .001$. Subjects appraised themselves as more stereotypically masculine in the majority, and more stereotypically feminine in the minority. Thus, when asked to describe the opposite sex than themselves, they yielded a significant gender $\times$ sex of stereotype interaction, indicating that the subjects' female stereotypes of self-descriptions that were typically associated with males was positive (e.g., appraising themselves as masculine) for subjects in the majority.

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gender

Low
(majority)

1.7

1.5

1.2

2.5

The effect of manipulating gender distinctiveness has been interpreted as resulting from an increase in the accessibility of the modern view of sex-linked attributes, the view to which recent undergraduates at major universities subscribe (Kravetz, 1976; Pleck, 1976). The results of this study permit an alternative interpretation. It is possible that gender distinctiveness increased the accessibility of traits stereotypically associated with the dominant, majority gender in the group (or the experimenter's gender that was the same as the majority), with these traits being opposite to the traits stereotypically associated with the minority subjects' own gender. In Study 1, however, this interpretation would predict that minority members of groups with a male majority and a male experimenter (i.e., minority females) would recall stereotypically male behaviors, whereas minority members of groups with a female majority and a female experimenter (i.e., minority males) would recall stereotypically female behaviors. This would be reflected in a sex of subject $\times$ distinctiveness of gender $\times$ sex of stereotype interaction. Instead, it was the sex of target $\times$ distinctiveness of gender $\times$ sex of stereotype interaction that was significant, as predicted, where sex of target was manipulated independently of majority gender and sex of experimenter.

CONSEQUENCES OF INDIVIDUAL VARIABILITY IN CONSTRUCT ACCESSIBILITY

Individual variability refers to individual differences in the accessibility of particular constructs that are independent of any differences in the individuals' immediate circumstances and that persist across different circumstances (i.e., chronic, context-independent variability). The scarcity of research on the consequences of individual variability on construct accessibility precludes an analysis in terms of different stages of information processing. Instead, the literature concerned with individual differences in construct accessibility is briefly reviewed to provide some background for our own research on the consequences of such differences.

Because people differ in their experiences, expectations, goals, and so on, one would expect there to be individual differences in the accessibility of social constructs. Kelly (1955) suggests that individual differences in personal constructs might arise from differences in personal experiences of events and outcomes. Variation among people in verbal exposure should also lead to individual differences in construct accessibility. For example, the construct *attractive* is likely to become highly accessible for a child whose parents frequently comment on others' attractiveness. Moreover, individual differences in construct accessibility should be relatively prolonged and have passive effects on information processing.

There is, in fact, evidence from a number of studies that the accessibility of social constructs varies among people (Beach & Wertheimer, 1961; Dornbusch,

Hastorf, Richardson, Muzzy & Vreeland, 1965; Markus, 1977; Yarrow & Campbell, 1963). There is also evidence of considerable consistency over time in individuals' accessible constructs (Dornbusch et al., 1965; Fjeld & Landfield, 1961; Mitsos, 1961; Yarrow & Campbell, 1963). There is little evidence, however, that individual differences in construct accessibility affect the processing of social information. Dornbusch et al. (1965) and Yarrow and Campbell (1963) had children describe other children they knew and found more construct overlap in descriptions having a common perceiver but different targets than in descriptions having a common target but different perceivers. These results have often been taken as evidence of the judgmental consequences of individual differences in construct accessibility. Because the measure of individual differences in target judgments was based on the same data as the measure of individual differences in construct accessibility, however, it is inappropriate to draw any conclusion about the relation between these variables. In addition, because there was no control of the input information, it is possible that the individual differences in target judgments reflected differences in the actual behavior of the target persons revealed to different perceivers rather than individual differences in processing the same stimulus information; that is, the targets may have behaved differently in the presence of different perceivers because they were observed in different situations or different behaviors were elicited by the different attributes or interaction styles of the perceivers themselves. Moreover, a particular perceiver may observe the same behaviors from different targets because the targets were observed in the same situations or the perceiver's attributes or interaction style elicited the same behaviors from different targets.

In order to examine whether individual differences have information-processing consequences, it is necessary to have independent measures of construct-accessibility differences and target judgments. In a recent study by O'Keefe, Delia, and O'Keefe (1977), such independent measures were obtained. All subjects were given six traits, supposedly characterizing a college student. In one condition, the three positive and three negative traits were normatively determined; in another condition, the three positive traits were self-generated (i.e., relatively accessible) and the three negative traits were normatively determined (positive-own); and in the third condition, the three negative traits were self-generated and the three positive traits were normatively determined (negative-own). Subjects' evaluations of the target person were most positive in the positive-own condition and most negative in the negative-own condition, with this significant difference persisting for 8 weeks (although diminished in magnitude). Although suggestive, this study did not control the target information available to judges. It is possible that the traits used as subjects' own positive or own negative constructs were simply more evaluatively extreme than the normative traits. In studies of personal constructs, the following traits frequently occur: warm, intelligent, friendly, humorous, selfish, boring, conceited. These traits are much more evaluatively extreme than the relatively moderate

normative traits use conforming, sarcastic. al. (1977) study that stimulus information all judges, with only among judges. A st some of these metho information-processi cessibility.¹⁸

Study 6: Individ on Person Memoi

Method. Sixteen in two supposedly u given a modified for were asked to write friends, and themse appeared in the subj his/her friends or if it Approximately 2 wee "person perception" subjects were given t sity of Western Onta moderately exemplify were those found to l first session (e.g., int being accessible for d performed a nonvert exactly, word for wo could, the sort of per subjects returned sup to reproduce the para

Results. Each sul tion were scored for exemplifying the subj behavioral descriptor reliability for scoring

¹⁸This study was condu Mavin (1978) under the di

normative traits used by O'Keefe et al. (1977): confident, idealistic, polite/conforming, sarcastic, nosy. There is also no direct evidence in the O'Keefe et al. (1977) study that construct accessibility affected the actual processing of the stimulus information. The target traits could be encoded in a similar manner by all judges, with only the importance or weight assigned to different traits varying among judges. A study by Higgins, Mavin, and King attempted to overcome some of these methodological problems as well as to examine more directly the information-processing consequences of individual differences in construct accessibility.¹⁸

Study 6: Individual Construct Accessibility Effects on Person Memory and Impressions Over Time

Method. Sixteen University of Western Ontario undergraduates participated in two supposedly unrelated studies. In the first *personality* study, they were given a modified form of Zajonc's (1960) card-sorting technique in which they were asked to write down the characteristics of two male friends, two female friends, and themselves. A trait was considered accessible for a subject if it appeared in the subject's description of both himself/herself and at least one of his/her friends or if it appeared in the subject's descriptions of 3 or more friends. Approximately 2 weeks later, the subjects were tested individually in a study on "person perception" ostensibly being conducted for a different researcher. All subjects were given the same paragraph supposedly describing another University of Western Ontario undergraduate, which contained behavioral descriptions moderately exemplifying five positive and five negative traits. The traits selected were those found to be accessible for several, but not all, of the subjects in the first session (e.g., intelligent, happy, thoughtless, and lazy), with different traits being accessible for different subjects. After a 10-minute delay in which subjects performed a nonverbal task, subjects were asked to reproduce the paragraph exactly, word for word. They were also asked to write down, as fully as they could, the sort of person they thought the target person was. Two weeks later, subjects returned supposedly for another part of the study and again were asked to reproduce the paragraph and give their impression of the target person.

Results. Each subject's reproductions and impressions of the target information were scored for the number of deletions of those behavioral descriptions exemplifying the subject's accessible traits and the number of deletions of those behavioral descriptions exemplifying the subject's inaccessible traits. Interrater reliability for scoring 10 randomly selected reproductions was above 90%. Each

¹⁸This study was conducted as a University of Western Ontario Honors Thesis by Gregory H. Mavin (1978) under the direction of the senior author.

of a subject's reproductions and impressions was scored for the percentage of the subject's accessible essay descriptions that were deleted in output and the percentage of the subject's inaccessible essay descriptions that were deleted in output. In subjects' immediate reproductions, there was, as predicted, a higher percentage of deletions of inaccessible trait descriptions ($M = 35.3\%$) than accessible trait descriptions ($M = 17.7\%$), Wilcoxon test, $p < .05$ two-tailed, and within-subjects analysis of variance (with an arcsine transformation of the percentages), $F(1, 15) = 2.74$, $p < .12$. In subjects' immediate impressions, there was also significantly greater deletion of inaccessible trait descriptions ($M = 69.4\%$) than accessible trait descriptions ($M = 45.1\%$), Wilcoxon test, $p < .02$ two-tailed, and $F(1, 15) = 6.74$, $p < .02$. These differences in the percentage recall of accessible and inaccessible trait descriptions persisted over the 2-week delay period. In subjects' delayed reproductions, there was greater deletion of inaccessible trait descriptions ($M = 52.7\%$) than accessible trait descriptions ($M = 26.7\%$), Wilcoxon test, $p < .01$ two-tailed, and $F(1, 15) = 8.70$, $p < .01$. Finally, in subjects' delayed impressions, there was also greater deletion of inaccessible trait descriptions ($M = 75.2\%$) than accessible trait descriptions ($M = 53.9\%$), Wilcoxon test, $p < .05$ two-tailed, and $F(1, 15) = 3.51$, $p < .08$.

The results of this study suggest that individual variability in construct accessibility can cause differences in people's memory and impressions of a target person. Moreover, the results indicate that these consequences of individual construct accessibility persist for at least a 2-week period.

The procedure used in Study 6 to examine the consequences of individual variability in construct accessibility has some limitations. First, it does not ensure that the essay contains the same proportion of accessible and inaccessible traits for all subjects nor that it contains an equal number of accessible and inaccessible traits. Second, any particular trait description in the essay can, at least to some extent, be overrepresented as either an accessible trait or an inaccessible trait across subjects, which potentially confounds accessibility with content memorability. Third, the accessibility measure itself is based upon the frequency of a trait's occurrence across a subject's descriptions of friends and self rather than being based on a trait's order of appearance (i.e., the first trait that comes to mind), with primacy of output being, perhaps, a better operational definition of accessibility. The next study by Higgins and King was designed to overcome these limitations.

Study 7: Individual Construct Accessibility Effects on Social Information Processing

Method. Thirty-two undergraduates at the University of Western Ontario participated in two supposedly unrelated studies conducted by two different experimenters. The first study was ostensibly concerned with the relation among different measures of personality and cognitive style, and the second study, held

a week later, was ostensibly concerned with the relation among different measures of personality and cognitive style. In each study, subjects were asked to list the traits that they dislike and the traits that they avoid. In the first study, subjects were asked to list the traits that they dislike in a modified form (i.e., like, seek, avoid, etc.). In the second study, subjects were asked to list the traits that they dislike in a modified form (i.e., like, seek, avoid, etc.). In each study, subjects were given a 10-minute period to write their responses on slips of paper placed in an envelope, one for each study. The results of the two studies were then compared (i.e., like, seek, avoid, etc.). In each study, subjects were asked to list the traits that they dislike in a modified form (i.e., like, seek, avoid, etc.). In each study, subjects were given a 10-minute period to write their responses on slips of paper placed in an envelope, one for each study. The results of the two studies were then compared (i.e., like, seek, avoid, etc.).

A second experiment was conducted to examine the consequences of individual variability in construct accessibility on social information processing. In this experiment, subjects were given a one-page essay to read and then asked to list the traits that they dislike and the traits that they avoid. The procedure was the same as in the first study, except that the essay was designed to contain 12 traits, 6 of which were relatively accessible and 6 of which were relatively inaccessible. The results of the experiment showed that subjects' accessibility to the traits affected their responses to the questions. Specifically, subjects who were high on accessibility to the traits listed in the essay were more likely to list those traits as traits that they dislike and traits that they avoid. This effect was observed for both the accessible and inaccessible traits. The results of the experiment suggest that individual variability in construct accessibility can affect social information processing.

After subjects were given a 10-minute period to write their responses on slips of paper placed in an envelope, one for each study. The results of the two studies were then compared (i.e., like, seek, avoid, etc.).

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a week later, was ostensibly concerned with psycholinguistics. In the first session, each individual's accessible trait categories were elicited. Subjects were asked to list the traits of: (1) a type of person that they liked; (2) a type of person that they disliked; (3) a type of person that they sought out; (4) a type of person that they avoided; and (5) a type of person that they frequently encountered. A modified form of Zajonc's (1960) card sorting technique was used that required subjects to write the traits that came to mind for a particular type of person on slips of paper lettered from A to J. These slips of paper were then placed in an envelope, one for each of the five persons. The order of the four affect questions (i.e., like, seek, dislike, and avoid) was counterbalanced across subjects, and half of the subjects received the frequency question (i.e., frequently encounter) before and half after the four affect questions. After writing each list of traits, subjects performed a 4-minute nonverbal task to reduce the possibility of prior responses affecting later responses.

A second experimenter conducted the second session, where each subject read a one-page essay describing various behaviors of a stimulus person. Following the procedure outlined in Higgins and Rholes (1978), each essay was constructed to contain 12 behavioral descriptions moderately exemplifying 6 traits that were relatively accessible for a subject and 6 traits that were relatively inaccessible. A subject's accessible traits were selected on the basis of the traits he/she listed in response to the questions in the first session, with an accessible trait defined as the *first* characteristic listed by a subject. One trait came from each of the four affect questions and two traits came from the frequency question. Because of occasional synonyms and antonyms, a method was used to ensure the distinctiveness of a person's six accessible traits. A subject's inaccessible traits were traits that did not appear in his/her responses to the questions in the first session. The inaccessible traits of one subject were selected from among the accessible traits of the other subjects. Again, one trait came from responses to each of the four affect questions and two came from responses to the frequency question. The 6 inaccessible traits were selected so that none of the 12 traits in a subject's essay would be either synonyms or antonyms. In addition, the inaccessible traits were selected to ensure that across all subjects one subject's accessible traits were another subject's inaccessible traits and vice versa. Thus, both the inherent accessibility, importance, or extremity of particular traits and the inherent memorability of the essay descriptions exemplifying particular traits were controlled with respect to the accessible versus inaccessible comparison. The order of the different types of trait descriptions (i.e., accessible-positive affect; accessible-negative affect; accessible frequently encounter; inaccessible-positive affect; inaccessible-negative affect; inaccessible frequently encounter) were also counterbalanced across subjects.

After subjects finished reading the essay about the target person, they were given a 10-minute nonverbal interference task and were then asked to reproduce exactly, word for word, the essay describing the stimulus person. They were also

asked to write down, as fully as they could, the sort of person they thought the target person was.

Results. Each subject's reproduction and impression of the target information were scored for the number of deletions of those behavioral descriptions exemplifying the subject's accessible traits and the number of deletions of those behavioral descriptions exemplifying the subject's inaccessible traits. A second rater scored 10 randomly selected reproductions to check for scoring reliability. The interrater correlation was .93. In subjects' reproductions, there was, as predicted, significantly more deletions of inaccessible trait descriptions ($M = 2.9$) than accessible trait descriptions ($M = 2.4$), as analyzed both by a Wilcoxon test ($p < .05$ two-tailed) and an analysis of variance, $F(1, 31) = 4.62$, $p < .05$. In subjects' impressions, there was also significantly more deletions of inaccessible trait descriptions ($M = 4.7$) than accessible trait descriptions ($M = 3.9$), as analyzed both by a Wilcoxon test ($p < .03$ two-tailed) and an analysis of variance, $F(1, 30) = 6.38$, $p < .02$. In this study, therefore, there was approximately 20% greater omission of stimulus information related to a subject's inaccessible constructs than omission of stimulus information related to a subject's accessible constructs for both subjects' reproductions and impressions. Thus, two subjects with different accessible constructs could have quite disparate recollections and impressions of the target person.

The anonymous story at the beginning of the chapter exemplifies how individual differences in construct accessibility can lead to individual differences in memory and judgments of a target person. One would expect the effects of individual differences in construct accessibility to be especially evident for ambiguous stimulus information, such as that in the story, because ambiguous information is especially susceptible to change (Higgins & Rholes, 1978). The results of Studies 6 and 7, however, demonstrate that individual differences in construct accessibility can affect memory for even unambiguous information. In both studies, stimulus information about a target person was better remembered if it was related to a person's accessible constructs than if it was related to a person's relatively inaccessible constructs. The results of both studies also indicate that individual variability in construct accessibility has consequences for people's impressions of a target person. Finally, the results show that differences among people in construct accessibility can be chronic and context independent, and that the consequences of these differences can persist over a long period (Study 6).

GENERAL DISCUSSION

People's judgments about others' behaviors are affected by various factors. The attribution literature describes a number of factors that influence whether a dispositional or situational attribution will be made for another's behavior (Bem, 1972;

Jones & Davis, 1965; situational attribution, if a judge decides to make alternative ones that a chapter has been concerned among alternative disposability of the alternative.

We have attempted of construct accessibility evidence concerning processing. Thus, 'recency' and 'relation to accessibility', construct accessibility, determinants described by ability on the output stage in addition to Bruner's (1957) (i.e., selective attention) have been introduced in areas of research—distinctions between construct and identifying passive-processing effects dependent, momentary construct accessibility. Distinctions of construct accessibility, consequences, and accessibility of nonsocial information.

There are various features and implications for other issues. It precludes a detailed or examples may suggest that there are a number of factors. Awareness of this multiplicity of a person's accessible constructs, for example, a person who is increasing the likelihood of his/her own behavior and becoming more accessible to history and family background and negative traits, however, a person's background or problem; that is, an accessibility of positive-trait constructs used to change the relationship of whether the technique

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Jones & Davis, 1965; Kelley, 1967). The choice between a dispositional or situational attribution, however, is not the only choice a judge must make. Even if a judge decides to make a dispositional attribution, for example, there are often alternative ones that could be made (e.g., adventurous versus reckless). This chapter has been concerned with one factor that influences people's choices among alternative dispositional (or situational) attributions—the relative accessibility of the alternative constructs that could be used to characterize the behavior.

We have attempted to elaborate and extend Bruner's (1957) original account of construct accessibility in a manner that captures the full range of recent evidence concerning construct-accessibility effects on social information processing. Thus, "recency of activation," "frequency of activation," "salience," and "relation to accessible constructs" have been included as determinants of construct accessibility, in addition to the "expectations" and "motivation" determinants described by Bruner (1957). As well, the effects of construct accessibility on the output stage of information processing has been considered, in addition to Bruner's (1957) concern with the effects on input and consolidation (i.e., selective attention and categorization). Finally, a number of distinctions have been introduced into the model to highlight different issues and potential areas of research—distinctions between identifying a stimulus *as* an instance of a construct and identifying a stimulus *with* a construct, between active- and passive-processing effects of construct accessibility, and between context-dependent, momentary variation and context-independent, chronic variation in construct accessibility. Although the chapter has focused mainly on the implications of construct accessibility for processing social information, the determinants, consequences, and intervening processes have clear implications for processing nonsocial information as well (cf. Higgins & Chaires, 1980).

There are various features of our account of construct accessibility that have implications for other issues in personality and social psychology. Limited space precludes a detailed or exhaustive discussion of these implications, but some examples may suggest the potential importance of this variable. One feature is that there are a number of different determinants of a construct's accessibility. Awareness of this multiple determinism could be useful when trying to modify a person's accessible constructs in order to reduce their negative impact. Consider, for example, a person whose most accessible constructs are negative traits, thus increasing the likelihood that the person will negatively judge and remember both his/her own behavior and the behavior of others. These negative traits may have become more accessible for a number of reasons relating to the person's personal history and family background. The relative accessibility of the person's positive and negative traits, however, could be modified without having to probe into the person's background or intervene with respect to the original source of the problem; that is, an accessibility-modification technique, such as frequent activation of positive-trait constructs through unobtrusive verbal exposure, could be used to change the relative accessibility of positive and negative traits regardless of whether the technique matches the original source of the accessibility.

Whichever accessibility-modification technique is most economical and efficient could be used. Similarly, negative judgments of other people or groups that are mediated by construct accessibility (e.g., social stereotypes) could be changed by applying accessibility-modification techniques without any need to know the source of the accessibility. In some cases, of course, knowing the source of the accessibility could facilitate the modification process, because mode of acquisition can have additional implications for information processing (Higgins et al., 1980).

Another feature of our account of construct accessibility is the distinction between context-dependent, momentary variation in construct accessibility and context-independent, chronic variation in construct accessibility. Surprisingly, the implications and consequences of the latter type of variability have received little attention in the literature. Construct-independent, chronic variation is reflected in individual differences in construct accessibility. We have shown that individual differences in construct accessibility are related to individual differences in processing information about a target person. They are also likely to be related to individual differences in processing information about the self. Moreover, individual variation in construct accessibility could underlie some of the phenomena associated with various personality dimensions, such as repression-sensitization, depression, self-esteem, authoritarianism, locus of control. The difference between repressors' and sensitizers' response to emotional words, for example, could reflect active versus passive processing of the stimuli. One would expect emotional words to be highly accessible because of their affective quality and salience, which should increase their identifiability. Repressors, however, have a set to avoid negatively arousing stimuli (Bell & Byrne, 1977), and, as discussed previously, an active set can inhibit passive-accessibility effects (Posner, 1978). Thus, sensitizers should show the expected facilitation effect of increased construct accessibility (i.e., perceptual vigilance), whereas repressors should show the interference effect of the active, inhibitory set (i.e., perceptual defense), an analysis that is consistent with the evidence (Erdelyi, 1974). To take another example, the negative frame of mind associated with depressives has recently been interpreted in terms of the inaccessibility of positive constructs (Isen et al., 1978) and the accessibility of negative constructs (Kuiper & Derry, 1980).

Consideration of personality differences in terms of differences in construct accessibility could also help explain behavioral phenomena associated with personality differences that are not easily interpreted as resulting from the hypothesized source of the personality difference. If the source of a personality type tends to increase the accessibility of certain constructs, the increased construct accessibility itself could have effects on processing information about events and people (both self and others) that is functionally autonomous of the source; that is, increased construct accessibility can have implications for subsequent behavior that are independent of the original source of the increased accessibility. If so, then modifying the source of the personality type without

modifying the increased behaviors influenced increased accessibility type even though the

Individual differences effect on interpersonal Minnie, individual judgments and memories well-known that agree like or dislike each other. It is the accessibility of accessible constructs as well as the fact, interpersonal correlations agree about the facts the classic relation between personal attraction literature mediated, at least in part by activities, demographic similarity of accessible constructs of similarity of accessibility test the importance similarity-attraction relationship.

The aforementioned response to emotional accessibility model—the distinction also suggested in terms of active processes, involve passive judgments of self and others (1958; Kuiper & Rogers) been interpreted in terms of appraisal, social comparison (1980; Kuiper & Rogers) however, need not involve comparison or reference could simply be a tendency utilized in processing the active process is likely judgments for similarity others matching the judgment.

The potential for passive methodological implications as a mediating variable

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modifying the increased accessibility could be ineffective in changing those behaviors influenced by the increased accessibility, whereas modifying the increased accessibility could change the behaviors associated with the personality type even though the original source of the increased accessibility was not modified.

Individual differences in construct accessibility may also have an important effect on interpersonal relations. As exemplified in the story of Michael and Minnie, individual differences in accessible constructs can lead to different judgments and memory of other people, which, in turn, can lead to conflict. It is well-known that agreement or disagreement in judging others can cause people to like or dislike each other, respectively (Heider, 1958; Newcomb, 1961). Similarity of accessible constructs could be an important determinant of agreement in judgment as well as an important determinant of agreement in recollection. In fact, interpersonal conflict may be especially acute when two people cannot even agree about the facts of an event they observed together. It is also possible that the classic relation between similarity and attraction described in the interpersonal attraction literature (Berscheid & Walster, 1978; Byrne, 1971) could be mediated, at least in part, by similarity of accessible constructs. After all, similar activities, demographic characteristics, opinions, and so on should lead to similarity of accessible constructs. It would be interesting to obtain separate measures of similarity of accessible constructs and similarity of opinions or activities and test the importance of similarity of accessible constructs for the classic similarity-attraction relation.

The aforementioned interpretation of repressors' and sensitizers' differential response to emotional words reflects another important feature of our construct accessibility model—the distinction between active and passive processing. This distinction also suggests that certain judgmental phenomena that have been interpreted in terms of active processing may instead, at least under certain circumstances, involve passive processing. For example, the tendency for a person's judgments of self and others to be similar (Hastorf, Richardson, & Dornbusch, 1958; Kuiper & Rogers, 1979; Shrauger & Patterson, 1974; Tagiuri, 1969) has been interpreted in terms of relatively active processes, such as *comparative appraisal*, *social comparison*, *assumed similarity*, and *self-reference* (Higgins, 1980; Kuiper & Rogers, 1979; Shrauger & Patterson, 1974). This phenomenon, however, need not involve an inferential process, nor even the use of the self as a comparison or reference point (as in *projection* or *egocentrism*). Instead, there could simply be a tendency for a person's accessible constructs to be passively utilized in processing his/her own behavior as well as the behavior of others. An active process is likely to be involved, however, when a person makes different judgments for similar and dissimilar others, with only the judgments of similar others matching the judgments of self (Higgins, in press).

The potential for passive processing effects of construct accessibility also has methodological implications. If a theoretical model proposes construct utilization as a mediating variable, then the model could be tested by observing the effects

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comforting implication that a person's chronic tendency to characterize his/her own behavior or the behavior of others in a distorted, negative manner can be reduced through a variety of accessibility-modification techniques that would not require specific knowledge or intervention with respect to the original source of the tendency. These and other implications of construct accessibility need to be examined in future research.

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