

Naive Causal Understanding of Valenced Behaviors and Its Implications for Social Information Processing

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People bring to bear on their understanding of others' behaviors naive theories of the causes of valenced behaviors. Generally, positive behaviors are understood to be caused by social demands, whereas negative behaviors are understood to be caused by people's dispositions. Various research findings are reviewed in support of the idea that people possess such naive theories. The analysis is extended to establish how these sense-making tendencies affect the manner in which people approach and process information about others. A second set of studies is reviewed in support of these implications for person perception. Comparisons to other models of social inference are considered, implications of the framework are examined, and the framework is situated within a general model of the attribution process.

Overview

One of the most fundamental social motives is the need to understand the behavior of others. The ability to effectively understand others, their behavior, and their intentions is basic to human social functioning. Knowing what the behavior of others means is important because it allows people to anticipate what others are likely to do and to smoothly coordinate their actions within the social environment (Asch, 1952; Heider, 1958; Tagiuri, 1958).

In this article, I put forth a framework that integrates causal understanding and person perception processes. I posit that the perception of social behaviors is driven by the goal of inferring underlying causes that reside in the person. In attempting to infer such causes and to form representations of others, people use prior knowledge in the form of naive causal theories. These naive theories relate valenced behaviors (positive, negative) to two basic types of causes (dispositional, situational). The valence of others' behaviors is given careful consideration because valenced behaviors have important consequences for perceivers. Others' positive behaviors can provide perceivers with benefits, or at the least, not produce any costs for them. However, others' negative behaviors carry the potential to create costs for the perceiver. Based on people's socialization experiences, it is understood that positive behavior is encouraged or proscribed by social systems, whereas negative behavior is discouraged and proscribed. Consequently, people's naive theories indicate that positive behaviors tend to be caused predominantly by situational pressures and social demands, whereas negative behaviors tend to be caused by people's dispositions.

This naive understanding of valenced behaviors has implications for how people process information about others. Being

unable to determine the dispositions underlying behavior leads to uncertainty regarding others' dispositions, whereas being able to arrive at such conclusions engenders certainty in people's characterization of others. Greater uncertainty leads to more systematic and careful information processing, whereas certainty results in more shallow and less careful information processing. Thus, people's information processing will tend to be systematic when they process information about others who enact positive behaviors and may thus potentially have positive dispositions, but shallow when they process information about others who enact negative behaviors and may thus potentially have negative dispositions.

In the first half of this article, I discuss the basis of people's naive causal theories of valenced behaviors. I then review research from various domains in social cognition in support of the idea that people possess naive theories of valenced behaviors. Having made the case for the existence of people's naive theories, in the second half of the article, I integrate this naive understanding of positive and negative behaviors with person perception processes. The latter part of the second half of the article I devote to discussing remaining issues dealing with the limitations and implications of the present framework.

Foci of Attribution Research: How, What, and When

The study of causal attribution processes has a long history in social psychology, going back to Heider (1944) and the contributions of Jones and Kelley (Jones & Davis, 1965; Jones, Davis, & Gergen, 1961; Kelley, 1967). Research in attribution has continued steadily since (Smith, 1994) and has given rise to a more complete and complex picture of how it is that perceivers come to understand other people's behaviors.

Causal attribution is determined by many factors, and a useful tool for organizing these various influences is to consider the *how*, *what*, and *when* of causal attribution (for an excellent review, see Trope & Higgins, 1993). *How* factors deal with the nature of the steps people undertake or the cognitive processes that are invoked to arrive at a causal judgment. Some good examples are Jones and Davis's (1965) work on the evaluation of noncommon effects, Kelley's (1967) work on attribution logic, and more recent stage

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models of attribution (e.g., Trope & Liberman, 1993; Gilbert, Pelham, & Krull, 1988).

What factors have to do with the content of causal attribution. People bring many beliefs and conceptions of traits, trait-behavior relations, and person-situation models to bear on their causal judgments (e.g., Gidron, Koehler, & Tversky, 1993; Reeder & Brewer, 1979; Rothbart & Park, 1986; Shoda & Mischel, 1993; Skowronski & Carlston, 1987). According to such perspectives, not only do the processes a person undertakes to arrive at a causal judgment matter, so does the content upon which those processes operate.

Finally, *when* factors have to do with the conditions that are likely to trigger attributional analyses of events. For instance, when perceiving a person's behavior, people may simply classify the behavior as belonging to a specific category and not necessarily relate it to the person who emitted the behavior (e.g., Newman & Uleman, 1993; Trope & Liberman, 1993). The goal the perceiver has at the time helps to determine the nature of the inference. In addition, people may need to encounter sufficiently surprising events to undertake extensive attributional analyses (e.g., Hastie, 1984; Kunda, Miller, & Claire, 1990).

People's naive causal theories of valenced behaviors, the topic of the present article, deal with the *what* of causal attribution. When attempting to causally understand the behavior of others, people rely on prior knowledge in the form of naive theories regarding the typical causes of positive and negative behaviors. The naive theories of valenced behaviors are assumed to be simple, generic rules of thumb (e.g., if such a behavior is observed, then the typical cause is X) that are rooted in social experience. In the following section, I explain the origin of these causal theories and the causal understanding to which they give rise.

The Basis of People's Naive Theories of Valenced Behaviors

People spend much of their lives in groups (Barash, 1986; Triandis, 1995). The groups or social systems that modern humans live in are varied, including kin and peer groups, work groups, school groups, community groups, and the larger society. Most individuals want to be accepted and to belong (Andersen, Reznik, & Chen, 1997; Baumeister & Leary, 1995; Brothers, 1997; Mead, 1934). A preference for being with others is strongly correlated with well-being (Triandis et al., 1986), and without the acceptance and support of others, individuals suffer. For instance, they are more prone to mental illness (Sinha & Verma, 1990), and ostracized human and nonhuman primates have been shown to have compromised immune function and to process information ineffectively (McGuire & Raleigh, 1986; Raleigh & McGuire, 1986). One of the most devastating things that can happen to a person is to be banished from a community or society. Thus, a powerful driving force for most people is to make their behavior fit with the expectations of others.

Social systems are threatened by conflict. Typically, conflict is curbed in social systems by the development of norms that regulate behavior by prescribing positive or socially desirable acts and proscribing negative or socially undesirable acts (Thibaut & Kelley, 1959). Thus, the need to belong, the need to get along, and the need to reduce conflict give rise to the universal social value of conformity to norms (Monane, 1967). As a consequence, behavior

that facilitates coordinated interactions (i.e., positive behavior) tends to be enacted as people seek acceptance and adhere to social norms (Homans, 1961).

Early in their lives, people extract a naive understanding of why others behave as they do. Although very young children appear to believe that others' positive acts are reflective of underlying dispositional qualities (e.g., Heyman & Gelman, 1998; Newman, 1991), within a few years their naive theories reflect adult tendencies (cf. Aloise, 1993). These tendencies indicate that a person who engages in friendly behaviors, helpful behaviors, honest behaviors, and other socially desirable behaviors is likely to be seen as adhering to normative pressures and constraints in addition to potentially displaying his or her genuine dispositional qualities. By the same token, negative behavior is seen as generally deviant, as a break from the social code, and as a representation of a desire not to conform to social prescriptions, or an inability to do so. Compared with positive behavior, which is heavily influenced by social prescriptive forces, the deviancy of negative behavior helps to eliminate normative and situational demands as explanations for these acts. As a result, negative behavior is typically perceived to be more indicative of people's dispositional qualities than is positive behavior (Berard, 1998; Reeder & Coovert, 1986). This acute sensitivity to negative person information is apparent in very young children as well (Nelson, 1980). Furthermore, this naive understanding of negative acts is so potent that it can override the effect of plausible situational constraints on negative behavior, as I describe presently.

Before people apply their naive theories to make sense of behaviors, a behavior's valence must first be identified. *Valence* is defined from the perspective of the perceiver, not the actor, and it refers to the determination that a behavioral act has some degree of positivity or negativity. The identification by the perceiver that a behavior is positive or negative occurs by relating a behavior to the disposition category of which it is a member (Trope, Cohen, & Alfieri, 1991). Although the emphasis in attribution is on the identification of behaviors in terms of traits, for example (Trope, 1986; Trope & Liberman, 1993; Newman & Uleman, 1993), it seems fair to suggest that the process can also provide an identification in terms of valence (Trope et al., 1991). This is reasonable given that the central defining feature of trait categories is their favorability (Levy & Dugan, 1960).¹

People's Naive Theories and a Behavior's Normativeness

A behavior's valence is correlated with how normative a behavior is; positive behaviors tend to be more normative than negative behavior. However, this relationship is not perfect (Gidron et al., 1993) and in some cases can reverse (e.g., in a Nazi prison camp, insidious acts may be normative). Although it could be suggested that what underlies attribution to others' dispositional qualities is

¹ Valence determination differs from assessments of liking and disliking or automatic evaluation responses (e.g., Bargh, Chaiken, Govender, & Pratto, 1992; Zajonc, 1980). The determination can be made that a behavior's valence is positive, as when a rival enacts a positive behavior (e.g., helping out the boss), but the behavior itself can be initially evaluated as negative (e.g., "I do not like that he did that"). According to some theorists, such evaluations can even precede other types of cognitive processing (e.g., Bargh et al., 1992; Zajonc, 1980).

the degree to which a behavior is normative or nonnormative, as earlier researchers have proposed (Jones et al., 1961), valence does play an important role in shaping the attributions people make.

For example, Vonk and Van Knippenberg (1994, Study 1) explicitly manipulated both the valence and the degree to which the behaviors people evaluated were normative (represented in-role or out-of-role behavior). Their findings indicated that people's inferences and impression judgments varied depending on whether a positive behavior was normative. Trait and impression judgments of the target were more positive when the behavior was nonnormative than when the behavior was normative. However, when participants evaluated a target's negative behaviors, the consequent negative judgments did not vary as a function of whether the behavior conformed to norms. A subsequent study (Vonk & Van Knippenberg, 1994, Study 2) showed that even when positive behaviors were performed by a target who had enacted negative behaviors that were normative or nonnormative, people's judgments remained negative and were not affected by role requirements.²

Related findings were obtained by Vonk (1999), who investigated people's judgments of behaviors that were enacted toward superiors or subordinates. Positive behavior enacted toward superiors is more normative than positive behavior enacted toward subordinates, whereas negative behavior enacted toward subordinates is more normative than negative behavior enacted toward superiors. Vonk's findings indicate that the degree to which people regarded a positive behavior favorably depended on whether the behavior was directed toward a superior or a subordinate, with judgments being more positive in the latter than the former condition. However, an extremely negative behavior was regarded equally unfavorably regardless of whether the behavior was directed toward a superior or a subordinate.

The conclusion to draw from these findings is that people's naive theory for positive behavior, which indicates that such behavior tends to arise from situational causes and potentially a person's dispositional qualities, leads them to consider the situation in which positive behaviors are performed. This allows for positive behavior to be attributed to dispositions on occasion (when it is nonnormative). The naive theory for negative behavior, which indicates that such behavior results from people's dispositional qualities, has the effect of reducing the influence of role requirements and the degree to which a behavior is normative on people's inferences and judgments. Thus, although in general a behavior's valence is linked to its normativeness, the degree to which a behavior is positive or negative does impact people's understanding of the causes underlying the enactment of those behaviors (cf. Gidron et al., 1993). A particularly interesting element of Vonk's (1999) findings is that the naive theory for negative acts, once developed, was applied in a seemingly indiscriminate manner, even when the negative behavior that was being considered was known to be normative or supported by a particular set of circumstances.

People's Naive Theories: Relation to Other Person Perception Frameworks

Valence and extremity. Over the past 20 years there have been various theoretical efforts to help account for negativity effects in social perception, a class of social cognitive outcomes that I also

deal with in the present analysis. In general terms, *negativity* refers to the tendency for negative information to receive greater weight than positive information in people's judgments of others (e.g., N. H. Anderson, 1965; Birnbaum, 1972; Hamilton & Zanna, 1972; Wyer, 1970). One early explanation posited for negativity effects is that of the positivity norm, which suggests that people hold positive expectations about events and others (Kanouse & Hanson, 1972). Negative information contrasts with such expectations, attracts more attention, and is thus given more weight in judgment.

Fiske and colleagues (Fiske, 1980; see also Fiske, Kenny, & Taylor, 1982) provided additional support for this characterization. They approached the issue of negativity by examining whether it is the valence or the extremity (salience) of social information that determines people's judgments of others. Their findings indicate that both the valence and the extremity of the social information had independent effects on judgments (but see Ito, Larsen, Smith, & Cacioppo, 1998). Fiske, in line with Kanouse and Hanson (1972), suggested that negative information, because of its low frequency of occurrence, is more informative than positive information. This suggestion is compatible with the present analysis. As I discuss presently, people's expectations of others' positive and negative behaviors are indeed asymmetrical.

Implicational schemata and cue diagnosticity. More recent explanations for negativity effects in person perception, such as the implicational schemata approach (Reeder & Brewer, 1979), propose that people have schemata that relate different behaviors with underlying trait dispositions. For a hierarchically restrictive schema, the schema most relevant to negativity effects, some behaviors can imply various trait dispositions, whereas other behaviors have a more restricted range of trait implications. For example, with regard to the trait *honest*, perceivers expect that honest people tend to only enact honest behaviors, whereas dishonest people can enact both dishonest and honest behaviors. Thus, dishonest behavior is expected only from people with such a disposition, whereas honest behaviors may be enacted by both honest and dishonest people.

A related approach, the cue diagnosticity perspective (Skowronski & Carlston, 1987), suggests that information about others (e.g., their behavior) contains probabilistic information with regard to the categories (trait dispositions) to which they are likely to be assigned. Using the same example above, dishonest behavior would serve as a better cue for dispositional category assignment than would honest behavior because the former behavior has greater diagnosticity than the latter (has more probabilistic information regarding underlying dispositions). The characterization of inference processes by the implicational schemata (Reeder &

² Jones et al. (1961) also examined the manner in which inferences were affected by the degree to which a target's behavior was in-role or out-of-role (e.g., an astronaut who was introverted or extraverted). They found that out-of-role behavior led to stronger dispositional inferences than in-role behavior. However, there are aspects of this research that make the interpretation of the results difficult. First, the investigators assumed that astronauts are more introverted than submariners, but participants' inferences for the two conditions in which the targets behaved consistently with role requirements did not show a difference. Thus, the results did not confirm the investigator's assumptions regarding the types of characteristics associated with the different roles. In addition, it is unclear that extraversion and introversion differ greatly in valence.

Brewer, 1979) and cue diagnosticity approaches (Skowronski & Carlston, 1987) leads to a similar conclusion as the present analysis, for example, that negative behaviors are more likely to be understood in terms of a person's dispositional qualities than are positive behaviors. However, the naive theories analysis differs in important ways from these frameworks, as I discuss presently.

Behavioral adaptive theory. Peeters and Czapinski (1990) proposed a functional approach to negativity effects. They argued that perceivers display approach behavior toward novel objects to expand the benefits they derive from the environment (e.g., locating new sources of nutrition). However, approach behavior that cannot be controlled can result in detrimental interactions with the environment (e.g., consuming poisonous food). Therefore, they proposed that the tendency to expect positive outcomes (Kanouse & Hanson, 1972) is associated with a strong sensitivity to aversive stimuli, which results in negativity effects. This framework should apply to judgments of people as well as other objects in the environment.

The Present Analysis

The naive theories analysis shares some features with the above frameworks. For example, all of the frameworks serve to highlight the influence of negative person information in people's judgments of others. Consistent with the implicational schemata (Reeder & Brewer, 1979) and cue diagnosticity perspectives (Skowronski & Carlston, 1987), the present analysis assumes that negative behavior is more likely than positive behavior to be understood in terms of the dispositional qualities of the target (at least in the social domain; see discussion below).

The present analysis also shares some features with behavioral adaptive theory. First, both approaches are functional frameworks. The naive causal theories analysis, although highlighting the role of people's knowledge of social systems, assumes that this knowledge is used in the service of various motives, including social understanding, self-protection, and self-esteem maintenance.

One important distinction between the present analysis and other available frameworks is in the proposal that positive actions are likely to be explicitly understood in terms of situational information or the circumstances in which those behaviors are performed. The cue diagnosticity and implicational schemata frameworks (Reeder & Brewer, 1979; Skowronski & Carlston, 1987) suggest that positive behaviors are supported by situational constraints, but it is unclear according to these perspectives how much consideration situational information receives in judgment and processing. For example, imagine that perceivers in one condition learn that a person returned the extra change at the supermarket because his or her conscience would not let him or her do any differently. Perceivers in another condition learn that the target returned the extra change because the person behind him or her noticed the mistake. With the cue diagnosticity and implicational schemata approaches, there is no clear basis from which to expect differential memory for the positive behavior as a function of the nature of the underlying cause, but various studies have shown that perceivers are more likely to remember the positive behavior when it is associated with the situational information than dispositional information (e.g., Ybarra, 1999; Ybarra & Stephan, 1996). Such findings suggest an emphasis on situational information when people process positive behavioral information and have implica-

tions for various person perception processes, as I discuss throughout this article.

A second distinction between the present analysis and the other reviewed frameworks is that the other perspectives distinguish inference processes as a function of the domain a behavior is related to (morality vs. competence, or what Peeters & Czapinski, 1990, labeled *other-profitable* and *self-profitable traits*; note that not all self-profitable traits are related to competence). Whereas negativity is posited to dominate the inference processes in the morality domain, positivity (positive person information is more diagnostic) is posited to dominate inference processes in the competence domain. The present analysis holds that in many of the circumstances in which people process information about others, there may be a more limited need for this distinction. For example, when requesting information and processing information about others, the dominant category people use is morality (Peeters & Czapinski, 1990; Wojciszke, 1997; Ybarra, Chan, & Park, 2001). In addition, in many cultures that emphasize relationships and social obligation (which comprise the majority of the cultures in the world), people may not readily distinguish between morality and competence. For example, Stevenson and colleagues (Randel, Stevenson, & Witruk, 2000; Stevenson, Chen, & Uttal, 1990; Stevenson & Lee, 1996) showed that Chinese, Japanese, and Hispanic students conceive of intelligence and achievement as qualities that are shaped by effort, dedication, and other people's expectations. This contrasts with people from individualistic cultures (e.g., White Americans, Germans), who are more likely to conceive of these qualities as dispositions a person is either born with or without (see also Heyman & Gelman, 2000).

Another reason for not underscoring the distinction between morality and competence and for emphasizing negativity in social information processing is that when people process information about others in general, they are likely to be presented with a mix of morality and competence-related information. According to the implicational schemata framework, under such conditions it might be expected that the negativity associated with the inference processes in the morality domain would be balanced out by the positivity associated with the inference processes in the competence domain (Reeder & Coovert, 1986). But this is not borne out by the data. Instead, the inference and evaluation processes characteristic of the morality domain (negativity) dominate judgmental outcomes (e.g., Chan & Ybarra, 2000; De Bruin & Van Lange, 1999; Hamilton & Huffman, 1971; Lingle & Ostrom, 1979; Martijn, Spears, Van der Pligt, & Jakobs, 1992; Pratto & John, 1991; Rothbart & Park, 1986; Wojciszke, Bazinska, & Jaworski, 1998).

Despite the different reasons for not emphasizing the distinction between morality and competence in the present analysis, there will of course be circumstances in which perceivers' attributional processing will be determined by their prior knowledge of competence-related behavior and dispositions (e.g., Westerners). For example, situations in which perceivers are primarily focused on a person's skills are likely to make more accessible and applicable prior knowledge related to competencies (Reeder, 1997; Reeder & Brewer, 1979).

There are other important differences between the naive theories analysis and the other frameworks. For example, with regard to the behavioral adaptive theory, Peeters and Czapinski (1990) suggested that negativity effects in evaluative judgments followed from their analysis, but they had difficulty explaining the results

for other cognitive outcome measures. For example, Czapinski (1988) found that perceivers required less time and less information to infer negative compared with positive dispositional states in a person (the investigators expected the reverse, i.e., approach behavior).

As I discuss in greater length in the second half of this article, the asymmetry in reading times and information search obtained by Czapinski (1988) follows directly from the naive causal theories analysis. This constitutes a central contribution of the present analysis, which is based on the unifying theme that suggests that perceivers attempt to attain a sense of causal certainty regarding others' behaviors and that degree of causal certainty affects the nature of subsequent social information processing. This unifying theme serves to bridge many findings from the causal attribution literature with a variety of findings from the person perception literature.

People's Naive Causal Understanding of Valenced Behaviors: Empirical Evidence

In the next subsections, I review a variety of cognitive outcomes and processes that reflect people's naive theories of valenced behaviors. These cognitive outcomes include people's general expectations for the occurrence of positive and negative behavior, causal attribution, spontaneous trait and situational inferences, people's memory for behavioral information that is associated with attributions, behavior prediction, and negativity in social information processing.

Expectations About Positive and Negative Behavior

The first step in establishing support for the present analysis is to examine the type of behaviors people generally expect from others. Although these findings will appear obvious, they serve as background for the present analysis.

Socially encouraged behavior should be more prevalent than socially discouraged or deviant behavior. Positive compared with negative behavior is encouraged to facilitate coordinated interaction in social systems. If perceivers have a naive understanding of the causes of behavior in social systems, it would be expected that they would estimate that positive behavior is more prevalent than negative behavior (cf. Hamilton & Gifford, 1976).

Numerous studies support this contention. For instance, Reeder, Henderson, and Sullivan (1982) presented participants with a list of 20 attributes and had them answer questions about each of them. One question dealt with the degree to which participants thought the target person would attempt a variety of behaviors. The findings indicate that participants judged the targets as more likely to attempt positive behavior than to attempt negative behavior. On a separate judgment that dealt with the frequency with which individuals would perform various behaviors, a similar pattern of findings was obtained. People were thought to more frequently engage in positive rather than negative behavior.

Other researchers have obtained corresponding results using very different procedures. Rothbart and Park (1986) had participants make different types of judgments for various traits. One judgment concerned the extent to which situations facilitated the occurrence of behaviors that would confirm various traits. It asked, "In the course of normal social interaction, how frequently do

occasions arise that would allow for behaviors that confirm this trait?" The findings showed a very strong positive correlation between responses to this question and the favorability of the trait attribute ($r = .70$). People believed that there were many more occasions for confirming positive than for confirming negative traits, that is, for engaging in positive behaviors rather than negative behaviors. Skowronski and Carlston (1987) had participants indicate the likelihood that a target would enact behaviors consistent with various trait attributes. Their analyses revealed a main effect for trait valence. This effect indicated that actors who were thought to possess positive attributes were judged to be more likely to enact behaviors consistent with those attributes (i.e., positive behaviors) than were actors thought to possess negative attributes.

Ybarra and Stephan (1999) obtained similar findings even when participants were not given any specific trait attributes on which to base their behavior predictions. These researchers provided participants with information intended to manipulate the accessibility of an attributional orientation toward a target (i.e., that the target person tended to be guided by dispositional factors or situational factors). They then asked the participants to predict the extent to which the target would enact various positive and negative behaviors. Overall, the target person was expected to enact more positive than negative behaviors. This general pattern was found for participants from both the United States and East Asia. As a whole, this varied research makes the point that people have a naive understanding concerning the occurrence of positive behavior. They expect others to engage in more positive than negative behaviors, and they believe there are more opportunities to do so. These conclusions make sense given that social systems promote positive interactions and relations (cf. Thibaut & Kelley, 1959).

The Typical Causes of Positive and Negative Behavior

Positive behavior is more prevalent than negative behavior. According to the present analysis, this is the case because positive behavior is normatively prescribed and is induced by social pressures, whereas negative behavior is socially discouraged, thus reflecting a person's characteristics. Consequently, it should be expected that people's causal judgments will reflect this intimate link between valenced behaviors and different causal factors (cf. Jones & Davis, 1965; Kelley, 1967). A considerable number of studies are consistent with this suggestion. For example, research on self-serving biases has shown that when explaining others' positive behaviors, people are more likely to make situational than to make dispositional attributions (see Snyder, Stephan, & Rosenfield, 1978, for a review). Similarly, research on intergroup perception has found that when explaining the positive behavior of out-group members, people are more likely to judge that the causes of such behaviors are situational than judge that they are dispositional in nature (e.g., Hewstone, 1990; Pettigrew, 1979; Stephan, 1977). Cross-cultural research by Miller (1984) has found that both American and Indian adults tend to explain positive behaviors in terms of situational causes.

Research has also shown that people's judgments are influenced to a greater extent by situational information when learning about a person who enacts positive behaviors than when learning about a person who enacts negative behaviors. As discussed earlier, Vonk and Van Knippenberg (1994, Study 1) manipulated whether a target enacted positive or negative behaviors and whether the

behavior conformed to or deviated from situational demands. The findings indicated that when observing a target who enacted positive behavior, impressions of the target varied depending on whether the target's behavior signaled conformity or deviance. However, when observing a target who enacted negative behavior, impressions were unfavorable regardless of the conformity manipulation. Other research, for example that of Reeder and Spores (1983), found that impressions based on negative behavior generalized to other behavioral domains, whereas those based on positive behavior did not. These two sets of findings are consistent with the idea that when learning about others' positive behaviors, people are attuned to the situation in which the behavior occurs, and as a consequence, situational factors play a larger role in determining the dispositional implications of positive behavior than in determining the dispositional implications of negative behavior.

Other studies have shown that when people have formed trait impressions of a target, subsequently processed impression-consistent and impression-inconsistent behaviors elicit different types of attributions. Impression-consistent behaviors tend to elicit dispositional attributions, whereas impression-inconsistent behaviors tend to elicit situational attributions (Crocker, Hannah, & Weber, 1983; Hastie, 1984; Kulik, 1983). These findings suggest that impressions often remain unchanged in the face of contradictory evidence because inconsistencies are explained away to situational factors (e.g., Hewstone, 1989). However, given the proposed relation between positive behaviors and situational causes, the present analysis would suggest that the situational attributions generally elicited by impression-inconsistent behaviors should be stronger for positive than for negative expectancy-inconsistent behaviors. Therefore, it would be anticipated that positive behaviors that disconfirm an expectancy would be less effective at changing impressions than negative disconfirming behaviors, because the former should elicit stronger situational (discounting) attributions. Available research supports this suggestion. On the basis of an initial sample of behaviors, Reeder and Coovert (1986; see also Briscoe, Woodyard, & Shaw, 1967; Ybarra, 2001) led participants to form favorable or unfavorable impressions of a stimulus person. After providing their preliminary impressions, participants received one final behavior that was inconsistent with the initial impression, then they provided their revised impressions. The results of the study showed that impressions changed to a greater degree following the processing of the negative rather than the positive impression-inconsistent behavior.

In contrast to positive behaviors, negative behaviors tend to be understood as being caused by dispositional factors (cf. Jones & Davis, 1965; Kelley, 1967). There is much available research consistent with this proposal (Snyder et al., 1978; see also Miller, 1984). In addition, research on intergroup perception has also found that in explaining the negative behavior of out-group members, people are more likely to attribute the behavior to dispositional than to situational causes (Hewstone, 1990; Pettigrew, 1979; Stephan, 1977).

Other studies have found that in judging how much evidence would be required before ascribing different traits to others, people judged that considerably less evidence was required to ascribe negative rather than positive dispositional characteristics (Rothbart & Park, 1986). This general tendency has been documented in children 9–11 years of age (Aloise, 1993). In addition, studies by

Yzerbyt and Leyens (1991) have shown that in selecting candidates for various positions and roles, people required significantly less information before making a decision for a person who had been described with negative versus positive information. Comparable findings were obtained by Czapinski (1988), who showed that study participants needed less negative information to decide they disliked someone than positive information to decide they liked someone. These findings would be expected if participants more readily inferred the dispositional qualities of the target in the former set of conditions.

Another demonstration of the readiness with which people make dispositional inferences for negative behavior was provided by Wyer and Gordon (1982, Experiment 2). These researchers found that people who were asked to form impressions remembered more behaviors performed by the target than people who were asked to memorize the behavioral information, but only when the behavioral information was negative in valence. The memory difference between impression and memorization conditions resulted from making dispositional inferences for the behaviors and using such inferences to organize and elaborate the behavioral information in memory (Hamilton, Katz, & Leirer, 1980; Klein & Loftus, 1990). Thus, the findings obtained by Wyer and Gordon indicate that people more readily infer dispositional causes from negative behaviors.

The greater tendency to infer dispositional causes from negative as opposed to positive behavior can also be discerned from the extent to which people agree in their evaluations of others in a social system. For example, sociometric studies of secondary and undergraduate classes have shown that people are more unanimous in their negative than in their positive choices (Czapinski, 1982). Other studies have shown that the evaluations provided by teachers of pupils were more agreed on when the evaluations were based on pupils' negative behavior compared with when the evaluations were based on positive behavior (H. H. Anderson & Anderson, 1954). According to the present analysis, negative acts are readily understood in terms of corresponding dispositional qualities in the person, whereas positive acts are understood to a large extent with regard to the context in which those acts are performed. Thus, it follows that different people would arrive at similar conclusions of those who performed negative acts because negative inferences should generalize across situations. It also follows that there would be less agreement in the evaluations of those who performed positive acts because the inferences drawn from such acts tend to be situation-specific and are less likely to generalize across different contexts.

The conclusions derived from the naive causal theories analysis may seem inconsistent with stage models of the attribution process (Gilbert et al., 1988), which propose that perceivers readily draw dispositional inferences from all behavior and that only under specific circumstances do they correct these inferences with situational information. As mentioned earlier and as I discuss at greater length toward the end of this article, stage models emphasize the *how* of the attribution process and rarely consider the manner in which people's prior knowledge (the *what* of attribution) constrains the attribution process (for an exception, see Reeder, 1997). As should be apparent from the research just reviewed, content plays an important role in helping to determine the nature of people's inferences and attributions for others' behaviors.

Spontaneous Trait and Situational Inferences

Some of the findings from the previous section suggest that not only do people make explicit causal judgments that reflect their naive causal theories of valenced behaviors, they also may spontaneously make inferences consistent with those theories. The research described in this section was conducted to examine this possibility.

People can spontaneously make inferences about the behavior of others. For example, Winter and Uleman (1984; see Newman & Uleman, 1989, for a review) asked participants to memorize a list of statements describing a variety of behaviors. The behaviors were associated with different targets. Examples included “The accountant takes the orphans to the circus” and the “The farmer paints a swastika on the synagogue wall.” After processing the behaviors, the participants were given cues to use in recalling the information. Depending on condition, the participants were provided with trait cues that were implied by the behaviors, semantic cues associated with the actor, or no cues. For example, for the behavior about the accountant, the trait cue was *kindhearted*, whereas the semantic cue was *numbers*. The investigators reasoned that if people spontaneously infer the traits implied by the behavioral acts, those trait inferences would be held in working memory simultaneously with the behaviors, thus an association would be forged between the behavior and the trait inference. Therefore, at the time of cued recall, a cue based on the trait inference would serve to activate and help retrieve the associated behavior (see Tulving & Thomson, 1973). This is indeed what the study found. Participants who received the trait cues remembered significantly more of the behavior statements than participants in the semantic cue and no cue conditions.

One element that was not considered in the research by Winter and Uleman (1984) was the context in which the behaviors were performed. These issues served as the basis for research conducted by Lupfer, Clark, and Hutcherson (1990). Lupfer et al. followed the procedure used by Winter and Uleman. However, prior to reading each behavior statement, participants were provided with background information to help establish a context for the behaviors. For some of the participants, the background information facilitated trait (dispositional) inferences. For the other participants, the background information facilitated situational inferences. After reading through the different behaviors and the associated background information, participants were presented with a cued-recall task. During the recall task, participants were given the corresponding trait or situational cues. The findings of the study show that memory performance increased with the use of trait cues when the background information was dispositional in nature. However, memory was increased by the situational cues when the background information was situational in nature. Hence, given a context for behavior, both dispositional and situational inferences can be made spontaneously by people.

The finding that people spontaneously make both dispositional (trait) and situational inferences brings up an interesting possibility with regard to the present analysis. As the research on causal attribution has shown, people appear to process information in a manner that is consistent with their naive causal theories. Thus, it might be expected that positive behaviors would be better learned following the presentation of a situational causal context for those behaviors. For example, a positive behavior describing an account-

ant taking the children to the circus should be better encoded following the context implying that he did it because of job demands than following the context implying he was kindhearted. For negative behaviors, it would be expected that they would be better learned following the presentation of a dispositional causal context. For instance, the behavior “The person left the restaurant without paying” should be better encoded following “. . . after devising a scheme for doing so” (dispositional context) than “. . . after drinking too much and forgetting” (situational context). Ybarra and Stephan (1999, Experiment 4) conducted a study to examine these hypotheses, and the results were consistent with the predictions. Positive behaviors were more likely to be retrieved from memory when people were prompted with situational cues than when they were prompted with dispositional cues. Negative behaviors, on the other hand, were more likely to be retrieved from memory when people were prompted with dispositional cues than when they were prompted with situational cues. These findings indicate that for positive behaviors people were more likely to make spontaneous situational than dispositional inferences, but that they were more likely to make spontaneous dispositional than situational inferences for negative behaviors.

Memory for Attributed Behavioral Information

People’s naive causal understanding can be gleaned from the manner in which they attribute the causes of valenced behaviors and the manner in which they spontaneously make dispositional and situational inferences. The existence of this naive causal understanding is also apparent in research that has examined memory for attributed behavioral information.

In studies of person memory, participants are provided with information about a target—for example, that the target possesses certain positive or negative characteristics (see Hastie & Kumar, 1979; Srull, 1981). Participants are then given behavioral information about the target that is consistent or inconsistent with these characteristics. After processing the information and forming their impressions of the target, participants are presented with a recall task. What people remember serves as an index of the type of information that they have preferentially processed. Many studies have found that people best remember expectancy-incongruent over expectancy-congruent information (see Stangor & McMillan, 1992, for a review).

It might be expected, however, that people’s naive causal theories could also affect the processing of theory-relevant information. Research by Ybarra and Stephan (1996) examined this issue. In this research, participants were presented with preliminary information about a target, then they were presented with behaviors that were consistent or inconsistent with this information. The behaviors also systematically varied in their favorability. In addition, the behaviors were linked to explicit attributions explaining why they had occurred. For example, the behavior statement “Bob returned the extra change at the supermarket because the person behind him noticed the mistake” represented a positive behavior with a situational attribution. In contrast, the behavior statement “Bob returned the extra change at the supermarket because his conscience wouldn’t let him do any differently” represented a positive behavior with a dispositional attribution. A similar pairing of situational or dispositional attributions was carried out with the negative behaviors.

It was expected that people would relate the behavior and attribution information to their naive causal theories. Reliance on these implicit theories should facilitate the processing of theory-consistent information (Ybarra & Stephan, 1996, Experiment 3, 1999, Experiment 4). Consequently, it was expected that people would be more likely to remember positive behaviors when the behaviors were caused by situational causes (e.g., “Bob returned the extra change he received at the supermarket because the person behind him noticed the mistake”) than by dispositional causes (“... because his conscience wouldn’t let him do any differently”). In contrast, for negative behaviors, it was expected that people would be more likely to remember them if they were caused by dispositional causes (e.g., “Bob looked at the exposed test answers because he knew he could get away with it”) than by situational causes (“... because the other student accidentally dropped it in front of him”). However, if people’s memory for the information was determined to a greater extent by whether the behavioral information was consistent or inconsistent with the initial expectancy participants were given, then the existence of or influence of the naive causal theories on information processing would be called into question.

The findings obtained by Ybarra and Stephan (1996, Experiment 2; see also Ybarra, 1999; Ybarra, Stephan, & Schaberg, 2000) support the view that people have a naive causal understanding of valenced behaviors that influences the processing of attributed behavioral information. People were more likely to remember the target’s positive behaviors when they were caused by situational factors, but people were more likely to remember negative behaviors when they were caused by dispositional factors. Additional analyses that took into account the consistency of the behaviors with the expectancies participants had been provided failed to show any reliable effects. What dominated people’s memories was misanthropy—remembering best behavior and attribution information that was consistent with their naive causal theories regarding the typical causes of positive and negative behaviors.

The misanthropy effect in memory was replicated even under conditions of cognitive strain (Ybarra & Stephan, 1996, Experiment 3). Given that cognitive strain induces people to rely on prior knowledge to process information, these findings suggest that people’s naive theories of valenced behaviors are well developed and can affect causal understanding under a variety of circumstances. In addition, these findings also argue against a positivity norm explanation for the memory patterns (Fiske, 1980; Kanouse & Hanson, 1972). If the information emphasized by the naive causal theories runs counter to people’s supposed general positive expectations about others, then it would have been expected that misanthropic processing would have been reduced under cognitively strainful conditions. This should have resulted because expectancy-inconsistent information requires more cognitive resources to process than expectancy-consistent information (cf. Bargh & Thein, 1985; Stangor & Duan, 1991).

Behavior Prediction Judgments

Not only can people infer the causes of behavior by invoking one of the naive causal theories (e.g., if the behaviors are positive, the causes are likely to be situational) and use these theories to process available information, they may also use the theories as a basis for predicting behavior. They should do this when they have

a prior attributional orientation based on information or culturally shaped proclivities that stress that behavior is generally caused by either dispositional or situational factors. People who have a situational orientation toward the causes of behavior should expect that others will enact more positive behaviors than people who have a dispositional orientation. Likewise, people who have a dispositional orientation toward the causes of behavior should expect that others will enact more negative behaviors than people who have a situational orientation.

Research by Ybarra and Stephan (1999) examined these ideas by manipulating participants’ beliefs about the typical causes of behavior (inducing a situational or dispositional orientation) and then asking them to make behavioral predictions for the target. This was done in one study (Ybarra & Stephan, 1999, Experiment 1) by describing the typical motivations underlying a target’s behavior. Without mentioning any specific dispositions or situational factors, participants in one condition were led to expect that the target behaved according to his own intentions regardless of the circumstances in which he found himself. Participants in the other condition were led to expect that the target behaved in a manner consistent with situational and normative requirements. After forming an impression of the person on the basis of this information, participants were asked to indicate the extent to which he would be likely to enact a variety of behaviors that differed in valence.

The findings of the study indicate that people generally expected that the target would enact more positive than negative behaviors. This finding is consistent with the research reviewed earlier indicating that people have more positive than negative expectations for the behaviors of others. As for the issue of whether people use their naive causal theories to make behavior predictions, the findings indicate that they did. Participants who had a situational orientation predicted that the target would enact more positive behaviors than did participants who had a dispositional orientation. Participants with a dispositional orientation, on the other hand, expected more negative behavior from the target than did participants with a situational orientation. In a subsequent study, Ybarra and Stephan (1999, Experiment 2) obtained comparable results after covertly priming participants with knowledge that would activate a dispositional or a situational orientation toward the target. The findings were also replicated using cultural differences as the operationalization of attributional orientation (Ybarra & Stephan, 1999, Experiment 3).

Negativity in Social Information Processing

The operation of people’s naive causal theories that relate valenced behaviors to specific causal understandings can also be discerned in a variety of findings in social cognition. The consistency of the findings across studies should serve as an indication of how pervasive people’s naive causal understanding of valenced social information is. Many of these findings have to do with the recurring processing and evaluative advantage of negative over positive social information, as discussed earlier (for reviews, see Fiske, 1980; Kanouse & Hanson, 1972; Peeters & Czapinski, 1990; Skowronski & Carlston, 1987). For example, Hastie and Mazur (1978) had participants form impressions of various individuals. In addition to performing other tasks, participants were asked to recall the behaviors with which they had been presented.

The results of the study indicate that negative behaviors were better recalled than positive behaviors. Recent research has found a similar memory advantage for negative information on measures of recognition memory as well (Sherman & Frost, 2000).

Carlston (1980) examined the effect of a delay (none vs. 1 week) on people's memory for different kinds of information. The findings indicate that memory for positive behavioral information tended to decline much more over time than memory for negative behavioral information, and that positive behavioral information was recalled less accurately than negative behavioral information. In addition, people felt less confident in their recall of impression judgments when they had formed positive compared with negative impressions.

More recent research continues to corroborate the memory advantage that negative social information enjoys over positive information. Pratto and John (1991, Experiment 2) used a Stroop task to examine how the valence of words interfered with people's ability to name the color in which the words were presented. In this particular study, they examined participants' incidental learning of the trait words they had seen during the Stroop task. The findings indicated that participants recalled twice as many negative traits as positive traits despite the fact that they were not expecting their memory to be tested. Other researchers have obtained similar results (Bird, 1987). Studies that have examined memory for information about members of groups have found that people showed better memory overall for negative information than for positive information (Howard & Rothbart, 1980; Ybarra et al., 2000). Thus, there is much evidence showing that negative social information is better remembered than positive social information. According to the present analysis, this tends to be the case because negative information is more likely than positive information to be directly associated with targets' dispositional qualities. The dispositional inferences in turn help in the elaboration and organization of the information, facilitating its subsequent retrieval from memory (Wyer & Gordon, 1982; cf. Hamilton et al., 1980; Klein & Loftus, 1990).

In contrast, the greater likelihood that positive social information versus negative social information is understood in terms of situational causes has implications for other social cognitive effects. Because situational demands in general are more likely to encourage positive rather than negative behavior, it may be expected that the evaluative implications of positive versus negative information may be less available in general for processing. If so, studies that assess the readiness with which people evaluate social stimuli may show asymmetries as a function of the stimuli's valence.

Recall that Pratto and John (1991) had participants perform a Stroop task. In a typical Stroop task, participants are presented with words in different colors, and the task for participants is to name the color in which the word is printed. For example, if participants are presented with the word *brown* and it is printed in green ink, the correct response is to say "green." However, attending to the meaning of the word can lead to interference in processing if the word itself refers to a color, as it does in this example. Pratto and John used this reasoning to examine the degree to which the evaluativeness of words that differed in valence (positive, negative) captured attentional resources by interfering with naming the color in which the words themselves were printed. The results obtained by the investigators indicated

that negative words produced greater interference in the color-naming task than positive words. Although the investigators explained their findings in terms of automatic vigilance and the attention-grabbing power of threatening stimuli, the findings also appear consistent with the naive causal understanding perspective. According to this interpretation, because positive behavior tends to be situationally understood, the evaluative implications of positive attributes may be less apparent than the evaluative implications of negative attributes. Thus, if evaluative implications interfere with the color-naming task, then it would be less likely that positive compared with negative information would have such an interfering effect.

Summary

The argument I made in the first half of this article is that people perceive an intimate relation between the valence of behaviors and their perceived causes. The existence of these naive causal theories was supported by a review of various findings from social cognition. People expect that others are more likely to engage in positive behavior than in negative behavior and that there are more occasions in which to enact the former than the latter type of behavior. People are also more likely to make situational attributions for positive than for negative behavior and are more likely to make dispositional attributions for negative than for positive behavior. Research dealing with the asymmetry in spontaneous trait and situational inferences echoed these attribution findings. The degree to which people processed and remembered positive and negative behavioral information was also strongly influenced by the types of causes (dispositional, situational) the behaviors were associated with. People were also shown to rely on their naive causal understanding to predict positive and negative behavior in a target. The prediction of positive behavior increased when the situation instead of the person was thought to have control over the person's behavior, whereas the prediction of negative behavior increased when the person instead of the situation was perceived as having control over the person's behavior. Finally, I reviewed a variety of research illustrating the pervasiveness of people's memory for and sensitivity to negative information about others, which is an outcome that should be found given people's propensity to associate others' negative acts with their dispositional qualities.

Valenced Behaviors and Causal Understanding: Implications for Person Perception

In the first half of this article, I reviewed research to formulate a generally useful characterization of how people naively make sense of others' behaviors as a function of a behavior's valence. The purpose of the present article is to put forth a framework that integrates such causal understanding processes with person perception processes. Therefore, in the second half of this article, I turn to examining the influence that people's naive theories of valenced behaviors have on the manner in which people process information about others.

When processing information about others, a basic goal of the social perceiver is to determine others' dispositional characteristics

(e.g., Gollwitzer & Moskowitz, 1996; Heider, 1944; Jones & Gerard, 1967).³ Drawing conclusions about the dispositions possessed by others should engender some certainty in the perceiver that he or she understands what this person is like. In contrast, failing to conclude what a person is like should engender a sense of uncertainty about the target's characteristics. This reasoning suggests that people should have greater certainty about a target who has behaved or is expected to behave in a negative rather than a positive manner because negative behaviors are more likely than positive behaviors to allow people to draw dispositional inferences.

There are a variety of findings that suggest that this is the case. Rothbart and Park (1986; see also Aloise, 1993; Gidron et al., 1993) had participants respond to various traits by having them indicate how much behavioral evidence would be required before they were willing to ascribe various traits to people. An important finding from the study indicates that people believe that it takes very little evidence to ascribe negative characteristics to others but considerably more evidence to ascribe positive characteristics. There is other research consistent with these findings. As described earlier, Yzerbyt and Leyens (1991) found that in making decisions about different targets, people requested less information to make a decision about a person who had been described in a negative manner. Having less need for information to make judgments about others implies certainty, whereas requiring more evidence and information to make a judgment implies uncertainty. Thus, these findings support the contention that people in general may be more certain about a person who has or is expected to enact negative behaviors.

In general, being uncertain leads people to remain cognitively open (Kruglanski, 1989) and to be systematic in their information processing, whereas greater certainty leads people to be less open and allows them to be more cognitively economical (Belmore, 1987; Bruner, 1957; Festinger, 1964; Kruglanski, 1989; Stangor & Ruble, 1989). Research has shown, for example, that people who have a need to be accurate are apt to process information more carefully and not rely on simplifying cues (Freund, Kruglanski, & Shpitajzen, 1985; Kruglanski & Freund, 1983; Tetlock, 1983). Other research by Schul, Burnstein, and Bardi (1996) found that when people prepared themselves to cope with potentially tainted or invalid information, that is, information about which they should have been uncertain, they were deliberate and systematic in their information processing. People who had no reason to question the information and thus should have had greater certainty about it, processed the information in a more limited and shallow fashion.

In summary, the implication of the present framework is that people's causal understanding of valenced behaviors or behavioral tendencies determines the certainty with which they understand what a person is like. The degree of certainty should affect people's information processing strategies—to be more or less systematic in their processing of information. The effect of these approaches to information about others should be discernible in various social cognitive processes and outcomes. The following sections serve to review a variety of these processes.

Naive Causal Understanding and Person Memory

People's naive causal understanding of valenced behaviors should affect the beliefs and impressions people form of others. The nature of these beliefs should have predictable effects on people's processing of information that is congruent and incongruent with their beliefs.

Many studies have shown that behavioral information that is incongruent with expectancies is better remembered than congruent information (e.g., Hastie & Kumar, 1979; Srull, 1981). However, many conditions affect the generality of the incongruity effect (for reviews, see Higgins & Bargh, 1987; Stangor & McMillan, 1992). Some of these factors include the manner in which memory is tested, (recall vs. recognition; but see Sherman & Frost, 2000), the availability of cognitive resources (e.g., Stangor & Duan, 1991), task complexity (Hamilton et al., 1989), and the strength of the beliefs perceivers hold (Higgins & Bargh, 1987; Jones, Schwartz, & Gilbert, 1983; Srull & Wyer, 1989; Stangor & Ruble, 1989). Another factor that should affect the information people preferentially process is the degree of certainty they have about others' characteristics.

Certainty about a belief should make people more likely to attend to expectancy-congruent information because it reinforces the belief, but it should make them less likely to attend to expectancy-incongruent information because they should not be interested in testing beliefs about which they are certain (cf. Stangor & McMillan, 1992). However, uncertainty about a belief should make people more likely to attend to and process expectancy-incongruent information because, compared with expectancy-congruent information, the epistemological gain from evidence that refutes a belief should be greater than the gain from evidence that reinforces an uncertain belief (see e.g., Popper, 1959). A variety of research supports this suggestion. For example, Stangor and McMillan (1992), in their meta-analytic review, obtained results showing that weak expectancies, expectancies about which people should be more uncertain, tend to yield greater memory for expectancy-incongruent over expectancy-congruent information. In contrast, strong expectancies, expectancies that people should have greater certainty about, tend not to yield a recall advantage for expectancy-incongruent information and in some cases even lead people to remember more expectancy-congruent information.

Other studies have addressed the manner in which the chronic certainty or uncertainty people bring to a situation affects person memory. For example, Driscoll, Hamilton, and Sorrentino (1991; for research dealing with the related construct of need for cognition, see Srull, Lichtenstein, & Rothbart, 1985, Experiment 2) examined how people who vary in uncertainty orientation (Sorrentino & Short, 1986) processed information that was congruent or incongruent with their expectancies. According to these investigators, people who are uncertainty-oriented seek out information to attain clarity and understanding. Certainty-oriented persons, in

³ This is reasonable given that people's implicit theories of personality and human behavior appear to be stable across culture (e.g., Benet & Waller, 1995). In addition, the human mind seems to be innately prepared to learn to seek agency in animate objects (i.e., other humans—e.g., Leslie, 1994; Wellman, 1990). Therefore, it appears that searching for the causes of behavior in people themselves is a basic process.

contrast, use available information in an attempt to maintain pre-existing beliefs.

After measuring participants' uncertainty orientation, Driscoll et al. (1991) provided them with expectancies and had them use behavioral information that was both congruent and incongruent with the expectancies to form impressions of a person. The findings from the study indicate that uncertainty-oriented participants recalled more expectancy-incongruent than expectancy-congruent information, whereas certainty-oriented participants remembered expectancy-incongruent and expectancy-congruent information equally well. Taken together, these studies indicate that people's need to clarify what others are like, whether this results from the nature of the expectancies (weak or strong) or their own personalities, influences the extent to which they will preferentially process information that is incongruent with their beliefs about a person. The more certain a perceiver is, the lesser his or her need to test expectancies, whereas greater uncertainty leads to a greater need to test expectancies and the resultant memory advantage for expectancy-incongruent information.

If people have greater certainty in their inferences about a target after processing negative versus positive information, then incongruity encoding should be more prevalent when participants have processed positive versus negative information in formulating their initial beliefs about a person. Research by Ybarra, Schaberg, and Keiper (1999) was designed to examine these ideas. In Experiment 1 of their research, Ybarra et al. had participants form an impression of a person. Prior to processing statements describing the behaviors the target had enacted, participants were given background information to induce expectancies that the target tended to enact honest and friendly (positive) behaviors or, in another condition, dishonest and unfriendly (negative) behaviors. Participants were then paced through behavioral information that was congruent or incongruent with their expectancies. After an interpolated task, the participants' memory for the behavioral information was assessed in a surprise recall task.

The findings from the experiment indicated that the recall of expectancy-congruent and expectancy-incongruent behaviors depended on the favorability of the participants' expectancies. Participants who held positive target expectancies recalled more expectancy-incongruent than expectancy-congruent behaviors, whereas participants who held negative expectancies showed comparable recall for both types of behaviors. In Experiment 2 (Ybarra et al., 1999), using modified expectancy information, these findings were replicated with people showing more incongruity encoding when they believed the target to possess positive than negative characteristics. Ybarra et al. (1999) conducted a third study using information (traits instead of behaviors) that previous research has shown promotes congruity rather than incongruity encoding. Despite the tendency to process such information in a confirmatory manner, the results from the experiment were nevertheless consistent with those of Experiments 1 and 2.

More recent research corroborates the above findings. Trafimow and Finlay (2001, Experiment 1) attempted to distinguish in their studies among various models of person memory representation. These investigators had study participants form initial expectancies of a target, and in two of the four conditions the expectancies were uniformly positive (kind and intelligent) and uniformly negative (unkind and unintelligent). Participants were then presented with an equal number of behavioral statements that were congruent

and incongruent with the expectancies. After participants had processed the behavioral information, their memory for the behavioral information was tested.

Consistent with the findings of Ybarra et al. (1999), the results obtained by Trafimow and Finlay (2001) indicate that participants showed greater memory for expectancy-incongruent than expectancy-congruent information ($M = 6.11$ vs. 5.11 , respectively) when they held a positive expectancy about the target. However, there was no difference in memory for the expectancy-incongruent and expectancy-congruent behaviors ($M = 5.05$ vs. 5.25 , respectively) when participants held negative target expectancies.

Researchers in cognitive aging have also obtained findings consistent with those just reviewed. Hess and Pullen (1994) had younger and older adults form self-paced impressions of a positive or negative target. Their memory findings indicate that both the younger and older adults showed better memory for expectancy-incongruent than expectancy-congruent information when they held positive expectancies for the target, but that there was no difference in memory for the different types of behavioral information when participants held negative target expectancies. Participants' reading latencies mirrored the memory patterns. Participants spent more time reading the expectancy-incongruent than expectancy-congruent behaviors for positive targets, but there was no difference in reading times for the behavioral information associated with the negative target.

Other research by Sherman and Frost (2000) provides additional support for these memory patterns. These investigators found that participants were more likely to remember information incongruent with a positive stereotype (priest) but that they were more likely to remember information congruent with a negative stereotype (skinhead). Furthermore, because the processing of incongruent information requires the availability of cognitive resources (e.g., Stangor & Duan, 1991; Stangor & McMillan, 1992), Sherman and Frost's findings indicate that under low cognitive-capacity conditions, expectancy-congruent rather than expectancy-incongruent information was more likely to be recalled. However, this was only found in the positive stereotype condition. This last finding makes sense in light of the present analysis as well. If people are more likely to seek belief-disconfirming information when they hold positive compared with negative expectancies, then it would be expected that the detrimental influence of reduced cognitive capacity on the processing of incongruent information would be more apparent in the former compared with the latter expectancy condition.

Naive Causal Understanding and Epistemic Processes

A perceiver's certainty in their inferences and beliefs about others should, in addition to impacting memory processes, also affect the degree to which people remain cognitively open or cognitively closed. In general, being *cognitively open* refers to the tendency to seek out and integrate additional information into a current judgment or person representation, whereas being *cognitively closed* refers to the tendency to reduce or eliminate the processing of additional information (Kruglanski, 1989).

If people have greater uncertainty in their inferences about a target after processing positive versus negative information, then they should, in general, be more cognitively open in the former

than in the latter condition as they attempt to reduce their uncertainty. There are accumulating research findings that suggest that this is the case. For example, Ybarra et al. (1999, Experiment 4) conducted an experiment based on previous research that has shown that there is a primacy effect in person perception. Specifically, people's impressions of others tend to be positive when the first items processed about the target are positive in valence but negative when the first items processed about the target are negative in valence (e.g., Asch, 1946).

The occurrence of primacy effects is affected by the extent to which people remain cognitively open or closed. For example, Kruglanski and colleagues (Freund et al., 1985; Heaton & Kruglanski, 1991; Kruglanski & Freund, 1983; see also Tetlock, 1983) reasoned that if people become fixed on a specific hypothesis (closed), they tend to limit their information processing. As a result, they are apt to use the first pieces of information about a target as cues on which to base subsequent judgments. However, if people have not frozen on a hypothesis regarding the nature of the target (open), they are less likely to rely on cues such as those provided by primacy information. Instead, they are likely to consider and integrate more of the available information into their judgments. Thus, if people remain more cognitively open in response to information about positive others than to information about negative others, it would be expected that people who learn about a positive target should not show primacy effects in judgment, whereas people who learn about a negative target should. The findings obtained by Ybarra et al. (1999) supported this hypothesis.

In this study (Ybarra et al., 1999, Study 4), participants formed impressions in two phases. During the first phase, they were presented with information intended to induce positive or negative expectancies for the target's personality. Then, in a second phase, they were presented with additional information to use in forming their impressions. During this phase, the order in which the behavioral information was presented was manipulated so that the first pieces of information were either all positive or all negative in valence (primacy cue). Then participants' impressions were assessed. The results of the study indicate that the impression judgments of participants who held positive expectancies were equivalent regardless of whether they first learned the subsequent positive or negative behaviors the target engaged in, indicating that the participants had integrated (processed systematically) all of the behavioral information. However, participants who held negative expectancies did show primacy effects in judgment. Their impressions tended to be positive when the first pieces of the subsequent information were positive but negative when the first pieces of information were negative. The findings for the negative expectancy participants indicated that they used the shortcut provided by the primacy cue. Applied research corroborates these results. Carlson (1971) found that when selecting potential job applicants, interviewers displayed primacy effects when evaluating negatively, but not positively, described applicants.

In line with the above findings, De Bruin and Van Lange (2000) conducted a study in which they had participants form impressions of a person with whom they were to participate in a social dilemma (mixed-motive) exercise. The information about the other person was presented via computer, and the experimental control program assessed how long it took participants to read through the information. The information participants received was manipulated so

that half of the participants were presented uniformly positive information about the other person, whereas the other half of the participants were presented uniformly negative information. After this first phase of the impression task, participants were presented with additional information about the target. The central issue was whether the participants differed in how much time they spent studying the Phase 2 information, given that they had formed initial positive or negative impressions. The results were consistent with the present analysis. Participants spent more time studying the subsequent target information when they had formed initial positive compared with when they had formed initial negative impressions.

Other studies have shown that people tend to remember more information overall when they learn about a supposed positive than negative person, which is consistent with the idea that perceivers are more cognitively open when learning about positive than negative targets. For example, in a study by Johnson and Watkins (1971), participants were presented with persuasive communications. In one condition, the communication was presented by a negative target (a medical quack who had served a prison term for fraud). In another condition, the communication was presented by a positive target (a medical authority who was recognized as an expert in the field). The findings of the study indicated that participants showed greater memory for the persuasive message when the message was presented by the supposed positive than by the supposed negative target. This memory advantage for information associated with positive compared with negative targets is echoed in other findings in social cognition (Hamilton, Driscoll, & Worth, 1989, Experiment 1; Ybarra et al., 1999).

Naive Causal Understanding and Impression Change Processes

The naive causal understanding perspective can also shed light on the ways in which people's impressions change in response to information that disconfirms their impressions. Most of the person-memory research described above deals with people's attention to and encoding of belief-disconfirming information. In that research, the focus is on how memory is affected, and only on occasion have researchers examined how impressions change when confronted with new information (Briscoe et al., 1967; Reeder & Covert, 1986).

According to the present analysis, people who have formed initial positive impressions of a target will experience uncertainty regarding their impression because the target's positive behaviors tend to be understood in terms of social demands. Consequently, these perceivers have not achieved the basic goal of uncovering the target's true dispositional characteristics (cf. Jones & Gerard, 1967). In contrast, when people form initial negative impressions of others, they should have greater certainty in their impressions because they believe that the target's behavior reflects underlying dispositional characteristics. If information is available that can modify an initial impression (i.e., impression-disconfirming information), then it would be expected that impressions based on positive information would undergo greater change than impressions based on negative information. This should be expected because the disconfirming information is more likely to be integrated in the former than the latter case. Research by Reeder and Covert (1986) provided a test of this hypothesis.

Reeder and Coovert (1986) had participants form impressions of a target person in two phases (also see Briscoe et al., 1967; Ybarra, 2001). During the first phase of the impression-formation process, participants formed uniformly positive or negative impressions of the target, and the amount of information available to form the initial impression was varied. After rendering their initial judgments of the target, participants were presented with one additional piece of behavioral information, and this item was designed to disconfirm their initial impressions of the target. Participants were then asked to provide revised judgments of the target in light of all of the information they had processed. The findings of study indicate that impressions based on positive information underwent greater change than impressions based on negative information. The results of the study were explained within an implicational schemata framework (Reeder & Brewer, 1979). However, the results are nevertheless consistent with the present analysis and the postulate regarding the greater integration of subsequent information into an extant positive than negative impression.

Asymmetries in impression revision have also been obtained in more applied settings and in research that has compared younger and older adults (Hess & Pullen, 1994; Yaniv & Kleinberger, 2000). For example, Yaniv and Kleinberger (2000) conducted a series of studies in which they measured the degree to which decision makers weighted their own opinions and those of advisors. With regard to the present analysis, a particularly interesting aspect of their findings indicates that participants weighted their personal opinions considerably more over time when the advisor's estimates were originally accurate but subsequently declined in quality. However, when the quality of the advisor's estimates steadily improved after giving previously poor estimates, participants hardly produced any change in the degree to which they used the advisor's opinions, which they continued to rely on sparingly. What is noteworthy about these studies is that decision making is a prototypical competence-related activity. Even so, a similar asymmetry in the inferences people draw from positive and negative information is evident in this domain.

Taken together, the above findings provide strong support for the idea that the way people make sense of positive and negative information about others is closely tied to their understanding of the typical causes of positive and negative social behaviors. Positive expectancies and impressions characterize a target as a person who is likely to behave according to social demands, in addition to potentially indicating something about the type of person they are. Thus, it is not possible to achieve an adequate characterization of such a target because there is a sense in which his or her true qualities are masked by situational factors. In contrast, negative expectancies and impressions characterize a person as someone who has acted according to his or her dispositional qualities, therefore people are likely to infer that they know exactly what type of person he or she is. These processes, based on people's naive understanding of valenced behaviors, help to determine how people think about and process information about others.

The reviewed research findings appear to contrast with some of the ideas put forth by Gilbert (1991) on automatic believing. According to Gilbert's conceptualization, when people take in information from the environment their automatic response is to believe it, even if that information is false. Only subsequently through a more controlled mechanism can those items be rejected if necessary. However, because this more controlled mechanism

depends on cognitive resources, cognitive strain will preclude the rejection of the false information that had been previously processed.

The currently reviewed research suggests that automatic believing may not characterize people's way of thinking about social targets (cf. Schul et al., 1996). Instead, it suggests that people are more uncertain and cognitively open and skeptical about positive targets than negative targets. Research by Gilbert, Tatarodi, and Malone (1993) appears to be consistent with the present perspective. In this research (Experiments 1; see also Experiment 3), these investigators found that people's use of false positive information for judgments about a target was the same regardless of whether participants experienced cognitive strain. According to Gilbert et al.'s model, cognitive strain should have inhibited people from rejecting this false information and should have led to less negative judgments of the target. It appears that people did not automatically believe the positive information with which they were presented.

In addition to the research reviewed to this point, there are various other findings in social cognition that are consistent with the implications of the naive causal understanding perspective for person perception processes. I review these findings next.

Using Old Judgments in New Circumstances

Given their tendency to be cognitively economical (Allport, 1954; Brewer, 1988; Fiske & Neuberg, 1990), it might be expected that after having formulated a judgment about a target, social perceivers might rely on that previous judgment if they had to judge that target anew. There are findings based on response time measures that deal directly with the issue of whether old judgments are used to make new judgments. Lingle and Ostrom (1979) conducted a series of studies to examine this question. Participants in this research acted as job counselors and had to make decisions regarding the suitability of various individuals for different occupations. During the first part of the study, participants were presented with an occupational label (projected on a wall), followed by a slide containing traits that described a person. After a set amount of time, the occupation label was again presented and the participants were asked to indicate the suitability of the person for the occupation. Following this decision, another slide with a second occupation was shown to participants, and they had to decide the suitability of the same stimulus person for this new job. Response times to these second judgments were recorded.

In Experiments 2 and 3, Lingle and Ostrom (1979) presented participants with a homogeneous set of positive or negative traits. In addition, there was a set size manipulation, such that target persons were described with few (e.g., 1, 3) or many (e.g., 5, 7) traits. The results across all three experiments indicated that people were faster at making a second judgment when the occupation that was being judged was similar, rather than dissimilar, to the first occupation. In addition to these findings, whether the traits were positive or negative also affected the pattern of response times. Specifically, when participants were presented with negative traits about the person, the number of traits in the set (e.g., 1, 3, 5, 7) did not increase response times for the second judgment. For people who were presented with positive traits, however, the number of traits increased response times for the second judgment. The findings obtained by Lingle and Ostrom are consistent with the

naive causal understanding perspective, which suggests that people are more uncertain about others about whom they have formed positive compared with negative impressions. The lack of certainty after forming positive impressions induces people to review the information once again in order to make a new judgment, whereas the greater certainty created by negative first impressions allows them to simply rely on an old judgment in making a new judgment about the target.

The Permanence of Judgments and People's Confidence in Them

A central implication of the naive causal understanding analysis for person perception is that perceivers should have more or less certainty about a person depending on whether they have processed positive or negative social information. Research by Carlston (1980) makes this point explicitly. In these studies, which were briefly described earlier, participants formed impressions of targets using behavioral information. Then they completed an interpolated task in which they provided their judgments. Next, participants in the delay condition were dismissed and asked to return in one week. The other participants, following a brief delay, were asked to render trait ratings for the target. Then they were asked to recall the original judgments they had made and indicate how confident they were in their recall of those judgments. Participants in the delayed condition were asked to complete these measures after a week's time.

With regard to people's recall of their judgments, participants' positive judgments became less positive after a week's delay (difference = 1.9), and their negative judgments became less negative (difference = 0.70). However, the difference in recalled judgments for people who made positive judgments was significantly greater than for people who made negative judgments. Other results indicated that after a week's delay, participants' confidence in their recalled judgments declined considerably if they had made positive compared with negative judgments (differences = 1.18 vs. 0.50) (see Bird, 1987, for comparable effects on recall memory). Thus, even without any intervening evidence on which to base a change in impressions, positive judgments were less likely to endure in memory than were negative judgments.

Other research by Johnson and Watkins (1971) is consistent with the findings obtained by Carlston (1980). These investigators presented participants with persuasive communications that were delivered by a positive or negative source. Attitudes toward the topic were assessed immediately or 4 weeks later. In general, participants displayed higher agreement with the persuasive appeal associated with the positive source than with the persuasive appeal associated with the negative source. Of greater interest, the findings indicate that participants' agreement with the persuasive appeal decreased significantly from Time 1 to Time 2 when the appeal was presented by the positive source but that there was no difference in agreement between Time 1 and Time 2 when the persuasive appeal was provided by the negative source. These findings are consistent with the impression-change research described earlier (Briscoe et al., 1967; Reeder & Coovert, 1986; Yaniv & Kleinberger, 2000) and the findings obtained by Lingle and Ostrom (1979, Experiments 2 and 3), in that negative judgments appear to be more available than positive judgments in subsequent judgment tasks.

Summary

When learning about another person, people aim to uncover the dispositional characteristics underlying that person's behavior. As the naive causal understanding perspective indicates, this goal is more likely to be achieved when learning about someone who engages in or is expected to enact negative behaviors than when learning about someone who engages in or is expected to enact positive behaviors. The consequence of this naive understanding is that when learning about a positive other, people will experience greater uncertainty regarding the target's dispositional characteristics compared with situations in which they learn about a negative other. These differences in uncertainty help to determine how systematically people process subsequent information about the target, with greater uncertainty increasing how careful people are in their social information processing. In support of this analysis, I reviewed research that indicates people are more likely to process behavioral information that disconfirms a positive versus a negative expectancy. People are also more likely to revise an impression of a person on the basis of positive rather than negative information, and they are more likely to rely on cognitive simplifying cues in the latter than in the former conditions. In addition, I reviewed other findings indicating that people are more likely to rely on old judgments to make new evaluations when they have formed negative versus positive person impressions and that old judgments are more likely to persevere in memory if they are negative rather than positive in valence. The latter findings recall Mark Antony's proclamation in *Julius Caesar* that "the evil that men do lives after them; the good is oft interred with their bones."

In the first half of this article, I developed the argument that people possess naive theories regarding the typical causes of positive and negative behaviors; the implications of this conceptualization for person perception processes were developed in the second half of the article. The review has thus provided a framework that integrates causal understanding processes with various person perception processes and outcomes. However, there are issues that merit further discussion. For example, it is important to discuss how the present analysis applies to the perception of known and unknown others. In addition, it is important to consider whether people's naive causal understanding varies across culture and what role people's naive theories might play in a general model of the attribution process. These issues are taken up next.

Processing Information About Known and Unknown Others

It is important to note the resemblance between some of the research described in support of people's naive theories and findings from the social cognition literature dealing with the perception of known and unknown others. For example, the misanthropy effect, in which people best remember others' negative dispositionally attributed behaviors and positive situationally attributed behaviors (Ybarra & Stephan, 1996), corresponds to the manner in which people explain the behavior of out-group members (Hewstone, 1990; Pettigrew, 1979; Stephan, 1977). Similarly, when describing the behavior of out-group members, people tend to describe negative behaviors through the use of abstract language (e.g., trait adjectives), thus denoting stable characteristics of group members. However, their positive behaviors are likely to be de-

scribed concretely with verbs that denote nonstable characteristics or isolated events (e.g., Arcuri, Maass, & Portelli, 1993). However, with regard to the perception of in-group members and people who are similar to the self, people tend to attribute negative behaviors to situational causes but positive behaviors to dispositional causes (Hewstone, 1990; Pettigrew, 1979; Stephan, 1977). The linguistic intergroup patterns also tend to reverse when describing the behavior of in-group members (Arcuri et al., 1993).

Comparable misanthropic attribution findings have been obtained in the perception of others who are disliked or not considered close to the self, whereas liked others and those who are considered close to the self are the beneficiaries of more generous attributional tendencies (e.g., Regan, Straus, & Fazio, 1974; Taylor & Koivumaki, 1976). Research on social memory has produced related findings (Dutta, Kanungo, & Freibergs, 1972; Howard & Rothbart, 1980). For example, Ybarra et al. (2000, Experiment 2) found that in learning information about members of two different out-groups, people displayed the misanthropic memory pattern similar to the one found for individuals. In another experiment, however, in which participants learned either about an out-group or in-group, the misanthropic memory pattern was only found when learning about the out-group. The participants who learned about the in-group no longer displayed any bias in memory.

One way to begin conceptualizing the above findings on attribution and memory is to suggest that people's naive causal theories function as a preliminary template with which to scan the social environment, and under specific circumstances they will continue to guide subsequent information processing. The application of the theories is likely to be effortless and cognitively efficient (Ybarra & Stephan, 1996, Experiment 3). In applying the theories, people assume the worse in others, which serves self-protective needs. When the naive theories are used to think about the behavior of unknown others, perceivers should continue to process information as laid out in the second half of this article. They should be skeptical and cognitively open about unknown others who do positive things but more cognitively closed about those who do negative things. If the person is a known other, especially a liked other, the application of the naive theories is likely to be terminated. At this point, perceivers should rely on the individuating information provided by the person in forming their impressions. Also, over time they may develop new knowledge structures that are more sensitive to the behavior encountered in the social settings with the liked and trusted others. These new knowledge structures may be used in the service of building and maintaining trust. For example, when perceiving liked others, perceivers tend to adopt generous information processing tendencies, as reviewed earlier. Expecting that liked others do positive things because of the type of people they are but negative things because of circumstances should allow the perceiver to remain engaged in such relationships.⁴

Culture and Causal Understanding

Attribution is only one indicator of how people causally understand others and their behavior. To achieve a fuller understanding of how people make sense of others' actions, it is necessary to consider various social cognitive processes and outcomes. For example, in the previous section dealing with in-group and out-group perception, I reviewed research dealing with attribution, the

use of linguistic markers, and social memory. Given this suggestion, any conclusions drawn from the available cross-cultural research on attribution should be taken with some reservation.

It might be thought that the nature of people's causal understanding would be similar regardless of cultural heritage, because all people are participants in various social systems that prescribe behaving positively and proscribe behaving negatively. Nevertheless, through different historical trajectories, different cultural groups appear to have developed different tendencies for explaining the behavior of others. For example, there is research that suggests that the attribution processes of people from Western cultures differ from those of people from Eastern and Latin American cultures (e.g., Miller, 1984; Morris & Peng, 1994), with Westerners being more dispositional and the Eastern and Latin American cultures being more situational in their attributions. However, an examination of research that has compared people's attributions for behaviors that differ in valence across cultures might allow for a compromise between differing cultural tendencies in attributions and the present analysis. Research by Miller (1984) allows such an exploration.

Miller (1984) had American and Indian participants make open-ended attributions for both positive and negative acts, and these explanations were classified as referring to dispositions or contextual (situational) factors. For the purpose of the present argument, it is instructive to take the attribution tendency posited to dominate in one culture and subtract from it the number of attributions that contrast with the dominant tendency. Using the means provided by Miller (1984, Study 1), this would involve subtracting for Americans the number of situational attributions from the number of dispositional attributions they made. For Indians, this would involve subtracting the number of dispositional attributions from the number of situational attributions they made. Note that these mean differences were not tested by Miller and it is unclear whether they would be statistically significant.

These difference scores suggest, however, that Americans were more dispositional when explaining negative behavior (difference = 0.31) than when explaining positive behavior (difference = 0.13). Indian participants were more situational when explaining positive behavior (difference = 0.27) than when explaining negative behavior (difference = 0.17). Given a cultural tradition that is inclined toward dispositional attribution (Americans), this dispositional tendency should be more apparent when dispositional causes matter most, when explaining negative behaviors, and less apparent when dispositional attributions matter least, when explaining positive behaviors. In contrast, given a cultural tradition that is inclined toward situational attribution (Indians), this situational tendency should be more apparent when situational causes matter most, when explaining positive behavior, and less apparent when situational attributions matter least, when explaining negative behavior. What these findings suggest is that the valence of the behavior does constrain the attributions people make as posited by the naive causal understanding analysis. However, the tendencies for certain cultures to rely on either dispositional or situational attributions to a greater extent make the

⁴ This suggestion is of course based on the assumption that the liked other will continue to enact a majority of positive behaviors and enact negative behaviors infrequently.

different elements of people's social understanding (negative behaviors caused by dispositions or positive behaviors caused by situations) more or less discernible.

*People's Naive Theories of Valenced Behaviors:
The What and How of the Attribution Process*

The attribution process is affected by a variety of factors having to do with *how*, *what*, and *when* (Trope & Higgins, 1993). People's naive theories of valenced behaviors have to do with content and the effect a person's knowledge has on attribution (and various other cognitive outcomes). Thus, for the most part, they deal with the *what* of the attribution process. However, there should be specifiable processes through which these outcomes emerge. Thus, it is important to relate the *what* of attribution, as described in the present review, to the *how* of the attribution process.

A comprehensive model of the attribution process is Trope's (Trope, 1986; Trope & Gaunt, 1999; Trope & Liberman, 1993; see also Gilbert et al., 1988) two-stage model. In Trope's model, causal attribution regarding other people's behavior proceeds through two basic stages, an identification stage and a hypothesis-testing stage. The identification of behavior is determined by relating a behavior to the disposition category or categories it reflects. This is a cognitively efficient and rapid process. After identifying the disposition or dispositions a behavior is related to, people test the hypothesis that the person has that disposition and adjust the inference with any relevant situational information. If a behavior is not clearly identified as relating to only one disposition-related category, the perceiver may test multiple hypotheses. In contrast to behavior identification, the hypothesis-testing stage is a cognitive resource-intensive process.

In Trope's model (e.g., Trope, 1986; Trope & Liberman, 1993), available situational information and prior information about the target play a role at the identification stage when the behavior is ambiguous. If the behavior is related to only one disposition-related category, it is clear which disposition it reflects and it is thus unambiguous, but if a behavior is related to more than one category, it is unclear which disposition it reflects, making it ambiguous. In the latter case, the available situational information helps to pinpoint which disposition-related category the behavior is related to (e.g., taking into account that it was a wedding or a funeral at which the person was crying).

Once a behavior has been identified (both in terms of relevant dispositions and valence), people should proceed to test the hypothesis that the person has the corresponding disposition (Trope, 1986; Trope & Gaunt, 1999; Trope & Liberman, 1993). In general, hypothesis testing involves situational adjustments to preliminary dispositional inferences. These adjustments are more likely to occur for previously identified unambiguous behaviors. The inference stage involves integrating prior information about the person with information about the diagnostic value of the observed behaviors (but see Gilbert et al., 1988, for a different characterization of the adjustment mechanism). Under cognitively optimal conditions, the diagnosticity of the behavior is determined by considering the probability that the situation would produce a behavior given that a person has the corresponding disposition and by considering the probability that the situation would produce a behavior given that the person does not possess the disposition (Ajzen & Fishbein, 1975; Trope, 1974). However, under subopti-

mal conditions, a heuristic rule is used to determine the diagnosticity of behaviors because hypothesis testing is a cognitive resource-intensive process. This shortcut involves assessing the former probability but not the latter. Once a behavior's diagnosticity has been determined, this diagnostic value is integrated with prior information about the target (e.g., specific person situation model, information about group membership).

People's naive theories about the causes of valenced behaviors are a form of prior knowledge, which, according to Trope's model (Trope, 1986; Trope & Gaunt, 1999; Trope & Liberman, 1993), only affects the identification of ambiguous behaviors. However, it is likely that people's naive theories may help to determine the diagnostic value of the behaviors themselves (cf. Reeder & Brewer, 1979; Skowronski & Carlston, 1987). For example, the naive theory that indicates that negative behaviors are caused by people's dispositional qualities may lead to the determination that negative behaviors have a high diagnostic value (i.e., reflect corresponding dispositional category). Thus, such prior knowledge may preclude an extensive analysis of the situational pressures on negative behaviors. In addition, such a determination of the diagnostic value of negative behaviors might occur under both optimal and suboptimal cognitive processing conditions. The naive causal theory should cement the conclusion that the person possesses the corresponding disposition. With regard to positive behaviors, the naive theory that indicates that such behavior is caused by situational pressures may dispose people to undertake an extensive analysis of potentially inference-qualifying situational information. However, because the use of situational information to adjust inferences requires motivation and cognitive resources (Gilbert et al., 1988; Trope & Gaunt, 1999; Trope & Liberman, 1993), this more likely would be under cognitively optimal than suboptimal conditions.

Research consistent with the above suggestions was conducted by Reeder (1997). Reeder showed that causally unambiguous behavior was not adjusted for available situational information, regardless of whether information processing occurred under cognitively optimal conditions. However, causally ambiguous behavior was qualified by available situational information, but only when the participants had the requisite cognitive resources for adjusting initial inferences. Notice that these findings contrast with Trope's (1986) suggestion positing that it is the unambiguous behaviors that tend to be adjusted with available situational information.

Another aspect of the influence people's naive theories may have in determining the diagnostic value of behaviors deserves attention. Trope (Trope & Gaunt, 1999; Trope & Liberman, 1993) proposed that in determining the diagnostic value of behaviors, Bayesian-type analyses tend to be undertaken under cognitively optimal conditions. However, under cognitively suboptimal conditions, a more heuristic analysis is undertaken. According to the present perspective, people's naive theories may actually serve as ready-made Bayesian analyses when testing hypotheses about the possibility that behaviors correspond to people's dispositions. For example, people's naive theories indicate that positive behaviors arise from situational demands. Thus, the probability that a situation would produce a positive behavior given that the target has the disposition should be similar to the probability that the situation would give rise to the behavior given that other people have the disposition (i.e., that the target does not have the disposition). This

is the case because all people in social systems tend to enact positive behaviors on the basis of social demands. Thus, positive behaviors tend to have a low diagnostic value.

Based on the naive theory for negative behavior, that such behaviors reflect corresponding dispositions, the probability that a situation would produce that type of behavior given that the target has the disposition is greater than the probability that the person does not have the disposition. This is the case because social systems discourage the enactment of such behaviors, therefore there is a low probability that other people will enact such behaviors. Consequently, negative behaviors tend to have a high diagnostic value. In addition, given that prior knowledge (e.g., theories, schemata) is more likely to be used under suboptimal rather than optimal information processing conditions (Kunda & Thagard, 1996), the implication is that Bayesian-type analyses can result (i.e., for negative behaviors) even when people are not motivated to or do not have the cognitive capacity to process information carefully.

Further research is needed to examine the role people's naive theories play in the attribution process. The varied research reviewed in the present article would suggest that they can play a substantial role. In addition, not only do people's naive theories affect attribution, but they play a central role in helping to determine how information processing continues given a particular attributional outcome. Thus, the integration of the naive theories perspective with other person perception processes illustrates that *what* people have in mind when learning about others' behaviors may substantially impact the *how* of the attribution process, in addition to a host of other cognitive outcomes that have their basis in different attribution analyses.

Implications for Interpersonal Interaction and the Evaluation of Others

Figuring out what the behavior of others means allows people to predict what others might do in the future and provides people with information to coordinate interpersonal interaction. According to the present framework, there should be regularities in how people respond to others based on the behavior others are perceived to engage in. For instance, because negative behavior tends to reflect people's dispositional qualities, people should expect that a person who enacts a negative behavior is likely to do so again in the future. Not surprisingly, the result of reaching such a conclusion might be that the perceiver would avoid having contact with this person. But if the person instead enacts a positive behavior, it is not necessarily the case that perceivers will approach the person open-armed. Instead, the analysis suggests that perceivers might approach this person warily because the person's positive behavior could have been induced by the demands of the situation. Travelers in foreign countries have probably experienced this reaction many times; it is unclear whether the friendly person on the street wanting to show you around town is indeed friendly or is more interested in taking your backpack when you least expect it. How we interact with others is heavily determined by how we perceive and judge them.

There are many occasions in people's daily lives for thinking about and judging others. For example, professors evaluate students and decide whether to admit them to graduate programs of study, employers evaluate prospective employees, managers eval-

uate the performance of subordinates, parents judge their children's teachers, and consumers evaluate the representatives of a myriad of businesses and companies. What implications does the present framework have for the manner in which people might process information about others in their day-to-day lives? One implication involves thinking about others about whom some negative information is known. Under such circumstances, perceivers may limit the extent to which they carefully process information about such persons, relying on available cues to make subsequent judgments. Coupled with the separate tendency for people to attend less to information that is inconsistent with a negative impression and to rely on old judgments under such circumstances, these tendencies may converge to make the alteration of negative impressions difficult. A bad employee, although improving steadily the last 6 months, may go unnoticed, the bad teacher may remain a bad teacher in the eyes of the parents, and the consumer may decide to take his or her business elsewhere indefinitely.

The implications when evaluating others about whom positive information is known may not prove much more complimentary. The present analysis suggests that people tend to be more cognitively open and systematic in their information processing under such circumstances. In addition, if available, people tend to focus on information that is inconsistent with their positive impressions, and they tend to rely less on available positive judgments in rendering new evaluations. Together, these tendencies should converge to help in the search for and processing of information that disconfirms positive impressions of others. A disconfirmed positive impression may not be that different from a negative impression. A good employee, a good teacher, and a good salesperson may quickly decline into disrepute.

Conclusion

In general, the present analysis suggests that people tend to be conservative, reacting with intolerance toward someone who behaves offensively, but reacting with skepticism toward someone who behaves agreeably. Impressions and evaluations of others may also be in peril of becoming negative. These tendencies, as presented in the present review, represent a dour view of human nature in that people lean toward seeing the bad in others.

People's behavioral and cognitive tendencies adapt to the prevailing regularities of their environments. This manner of causally understanding others' behaviors and processing information about them may thus represent a reasonable adaptation to the social contexts in which people participate, contexts in which much of others' behavior, when it is positive, is brought about by situational demands. Despite a tendency to distrust others, as indicated by the bulk of the reviewed research, this tendency is most likely to be tentative until additional information is gathered that confers confidence and trust in a person. Thus, the incorrect conclusion to draw from this review is that we as perceivers end up disliking everybody. After all, there are many people we like and trust. An alternative conclusion to draw is that favorable and trustworthy relations with others are possible to the extent that these people have withstood a reasonable amount of scrutiny.

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