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Effects of Stereotypes on Decision Making and Information-Processing Strategies

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In two experiments we investigated the effects of stereotyping on (a) reactions to a behavioral transgression and (b) the recall of information bearing on it. Subjects read a case file describing a transgression committed by a target (in Experiment 1, a job-related infraction; in Experiment 2, a criminal act). In some cases, the target's transgression was stereotypic of the target's ethnic group (conveyed through his name), and in other cases it was not. After reading the case file, subjects judged the likelihood that the transgression would recur and recommended punishment for the offense. These judgment data supported the hypothesis that stereotypes function as judgmental heuristics. Specifically, subjects used a stereotype of the target to infer the reasons for his transgression, and then based their punishment decisions on the implications of these inferences, considering other relevant information only when a stereotype-based explanation of the behavior was not available. However, recall data suggested that once a stereotype-based impression of the crime and its determinants was formed, subjects reviewed other available information in an attempt to confirm the implications of this impression. This led to differential recall of presented information, depending on whether its implications were consistent with, inconsistent with, or irrelevant to those of the stereotype.

Since the emergence of social cognition as a major focus of psychological theory and research (e.g., Higgins, Herman, & Zanna, 1981; Wyer & Srull, 1984), many researchers have come to view the process of stereotyping in cognitive terms (cf. Hamilton, 1979, 1981; Rothbart, 1981). For example, some theorists (McCauley, Stitt, & Segal, 1980; Rothbart, Fulero, Jensen, Howard, & Birrell, 1978; S. E. Taylor, Fiske, Etcoff, & Ruderman, 1978) have argued that the standard processing strategies of the human cognitive system (e.g., categorization, heuristics) can successfully account for stereotyping phenomena. Tajfel (1981) similarly suggested that stereotypes result from the need for coherence, simplicity, and predictability in the face of an inherently complex social environment. Conceptions like these contradict the conventional notion that the use of stereotypes represents faulty cognitive functioning. Rather, they suggest that stereotypes are often functional; they permit stimulus input to be simplified and provide a basis for understanding and predicting the behavior of others when information processing demands are high.

The studies reported in this article were stimulated by our desire to determine more precisely how stereotypes influence informa-

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tion processing and decision making. In two experiments, participants received a "case file" of information about a target person who had engaged in a transgression, and they were asked to decide what punishment should be administered. In some cases, a transgression-related cultural stereotype of the target was activated before other information about him was presented. We addressed two basic questions: First, what implications is a stereotype likely to have for the interpretation of a transgression and why it occurred, and under what conditions is a stereotype likely to be applied? Second, what influence does a stereotype-based impression of a person's behavior have on the processing of other information about the individual?

Effects of Stereotypes on the Interpretation of Behavior

People who must decide how severely to punish a transgression will presumably base their decisions in part on their perceptions of why it occurred. If the transgressor belongs to a stereotyped national or ethnic group and if the transgression is believed to be typical of members of this group, other features of the group stereotype may be used to generate an explanation for it. The question is what type of explanation is likely to be generated and what its implications are.

Previous studies indicate that people perceive stereotype-consistent behavior to be more stable (Deaux, 1976) and more likely to be dispositionally caused (D. Taylor & Jaggi, 1974) than nonstereotypic behavior. In other words, stereotypic behaviors are believed to be more likely to generalize over time and situations. In the present research, we therefore hypothesized that subjects would perceive transgressions to be relatively more likely to recur if they were stereotypic of the transgressor's social or ethnic group. Moreover, because harsher punishment should typically be recommended for transgressions that are attributed to stable causes than for those that are seen as due to transitory factors (Carroll, 1978), we predicted that more punitiveness would result for cases involving stereotypic transgressions than for those involving nonstereotypic ones.

Priorities in the Use of Stereotypes

The next issue is what priority is likely to be given to stereotype-based explanations of a transgression when nonstereotypic explanations also exist. We considered three hypotheses.

According to the first, the *heuristic* hypothesis, people use stereotypes as a heuristic (i.e., a simplifying rule of thumb) in interpreting the behavior of others and that they search for alternative interpretations only if a stereotype-based interpretation is inapplicable.[1] In the present context, this hypothesis implies that if the offender's transgression is stereotypic of his or her ethnic group, the stereotype will be used to interpret it and make punishment recommendations regardless of whether other information with different implications is also available.

According to the second, the *default* hypothesis, people use stereotypes as bases for judgments only as a last resort, when no other information with more direct relevance is available. This hypothesis implies that the interpretation of a transgression (and therefore punishment recommendations) will be based on its stereotypic consistency with the transgressor's ethnic group only if no other explanatory information about the transgression is provided. In other words, the influence of stereotypes will be eliminated if other available information about the target can explain the transgression.

The third, *integration* hypothesis is that persons consider both stereotypic and nonstereotypic sources of information in interpreting a person's behavior. That is, both stereotypic and nonstereotypic explanations of a transgression may be generated when information bearing on them is available, and punishment recommendations may be some weighted function of their implications

[1] The term *heuristic* in this context refers to a nonoptimal rule of thumb used to arrive at a judgment that is effective in many but not all cases. This is in contrast to an algorithm, which is an optimal procedure for generating decisions based on consideration of all relevant aspects of the information available. The term is not intended to refer to any particular one of the heuristics (e.g., representativeness, availability) identified by Tversky and Kahneman and others (Kahneman, Slovic, & Tversky, 1982; for a review, see Sherman & Corty, 1984).

considered in combination (see Anderson, 1983).

Few previous studies have investigated the relative merits of these hypotheses. Moreover, the conclusions drawn from them appear at least superficially to conflict. For example, a series of studies by Locksley and her associates (Locksley, Borgida, Brekke, & Hepburn, 1980; Locksley, Hepburn, & Ortiz, 1982) support the default hypothesis. In those studies, subjects received information about a male or female college student whose behavior in a series of situations conveyed either assertiveness or passivity. Although subjects judged male targets to be more assertive than female targets in the absence of any relevant behavioral information, this effect was eliminated when direct behavioral evidence was provided.

However, Locksley et al.'s (1980; 1982) findings may not generalize to the conditions of concern here. Specifically, in the tasks constructed by Locksley et al., subjects made trait inferences based on behaviors with direct implications for the trait being judged. In such conditions, it seems likely that subjects will (a) activate a semantic concept of the trait in question, (b) search the information presented (or a mental representation of it) for features that can be encoded in terms of this concept, and (c) base their judgments on the implications of these semantic encodings, without more extensive processing. (For a similar discussion of the limitations of the methodology of Locksley et al., see Deaux & Lewis, 1984).

The heuristic hypothesis is more likely to apply when the information processing demands are complex. In many instances, the judgments and decisions one must make are not directly implied by any aspects of the information available. Moreover, one must construe the likelihood of past and future events and behavior, based on real world knowledge (e.g., "scripts"; see Abelson, 1976, 1981) of the types of persons and situations being considered and their typical antecedents and consequences. In these conditions, it is relatively difficult to consider and integrate the ramifications of all potentially relevant aspects of the information. Consequently, the use of heuristics is more likely (for similar arguments, see Abelson, 1976, 1981; Nisbett & Ross, 1980; Wyer & Carlston, 1979). In fact, in investigations of decision tasks that were more complicated than those of Locksley et al., the influence of stereotypes has predominated over that of relevant nonstereotypic information (Dipboye, Fromkin, & Wiback, 1975; Grant & Holmes, 1981; Heneman, 1977).

In the decision situations we investigated, subjects were required to make decisions about persons who had committed various transgressions. These decision situations were also complex. Specifically, the decision required subjects to make implicit assumptions about the causes of the transgression and the likelihood that it would recur. However, none of the information presented explicitly provided this information. Therefore, subjects were required to infer the validity of alternative assumptions on the basis of their general knowledge of the types of persons and events involved. Heuristic processing seemed more likely to occur in these circumstances.

The three hypotheses outlined earlier were evaluated on the basis of both judgment and recall data. The results of Experiment 1 validated our assumptions concerning the effects of stereotypes on the perception that a transgression is likely to recur, and on the severity of the punishment considered to be appropriate for it. Experiment 2 was a replication and extension of the first study that bore more directly on the relative merits of the three hypotheses.

Experiment 1

Subjects in the first study recommended the disciplinary action to be taken for an offense that was either stereotypic or nonstereotypic of the offender's ethnic group. In addition, they estimated the likelihood that the transgression would recur. In this study (unlike Experiment 2), none of the other information presented had implications for judging why the offense occurred. This allowed us to examine the effect of stereotyping under conditions in which it should have its greatest influence.

In addition, the study provided a preliminary indication of the effects that activating a judgment-relevant stereotype may have on the attention paid to other information about the stereotyped individual. If subjects use a

stereotype to explain the transgression under conditions in which it is applicable, their decision should be relatively easy compared with cases in which they must construe and integrate the implications of the information presented in the file. When a stereotypic explanation is available, they should think less about other information available in the target's case file. Therefore, this information should be recalled less well than in conditions in which the target's crime is nonstereotypic. (For similar arguments and supporting evidence, see Craik & Lockhart, 1972; Hastie, 1980; Jacoby, Craik, & Begg, 1979; Wyer & Hartwick, 1980.) This recall difference could be accounted for in terms of both the heuristic and default hypotheses. However, a failure to find such a difference would be particularly embarrassing to the heuristic hypothesis.

Method

Overview

Twenty-eight psychology students participated in a study of disciplinary decision making. They read the personnel files of three male employees. These files contained (a) the name of the employee, (b) 17 pieces of demographic and other nonevaluative information, and (c) a description of a job-related infraction committed by the employee. The first two cases were the same for all subjects. The third, the experimental case, varied over experimental conditions with respect to (a) the name of the employee (American or Arab) and (b) the nature of the offense (stereotypically American or stereotypically Arab).

After reading each case, participants made judgments concerning the severity of disciplinary action to be taken, the likelihood that the employee would commit the same offense again, and the disciplinary action to be taken should the offense recur. Finally, subjects were asked to recall the information presented in the third (experimental) case.

Seven subjects were randomly assigned to each combination of target (American or Arab) and offense (stereotypically American or Arab).

Materials

Three case files were prepared, each pertaining to a different hypothetical employee. Each file contained 17 items of information of the sort one might expect to find in personnel records. That is, it described each target's job position, place of residence, marital status, and several other generally nonevaluative pieces of information. Each case file also contained a sheet that briefly described a problem caused by the target in the course of performing his job.

The first two cases were identical for all subjects. One involved a supervisor (Mr. Newman) who was accused of unnecessary verbal abuse. The second concerned a person (Mr. Brewer) who had reported to work drunk. In the third (experimental) case, both the target's ostensible nationality and the nature of his offense were manipulated over experimental conditions.

A stereotype was activated by naming the target "Ahmad Gazah" in some conditions and "Albert Ellman" in others. In the context of this study, these names were assumed to elicit a stereotype of a typical Arab employee and a typical blue-collar American employee, respectively.

To select infractions that were stereotypically associated with these two groups, pilot subjects were asked to generate negative traits they considered to be typical of either American or Arab workers, and their modal response in each case was chosen as stereotypic. The trait selected was "lack of cooperation with management," in the case of an American employee, and "laziness" in the case of an Arab employee.

On the basis of these data, four experimental case files were constructed to represent each combination of target nationality (American or Arab) and type of offense (stereotypically American or stereotypically Arab). Except for these factors, the four case files contained identical information.

Procedure

Subjects were told that the study was concerned with disciplinary decision making. They were asked to assume the role of a personnel manager who is often called on to make decisions concerning employee discipline. They were told that they would receive files pertaining to each of three cases and to consider the contents of each file carefully, and then to answer a series of questions concerning the case. In responding, they were asked to imagine that their recommendations for punishment would actually be implemented.

Subjects considered each case file in turn. After reading the description of the employee's offense and the other information available in the file, participants answered three questions. First, they gave their recommendation for how severely the employee should be disciplined. Second, they estimated the likelihood that the same problem would recur. Finally, they indicated the severity of the punishment they would recommend if the same problem occurred again. Each question was answered by circling a number along a 10-point scale from 1 (*not at all*) to 10 (*extremely*). Subjects were given about 5 min to read and answer questions pertaining to each case.

After completing the three cases, subjects were given 5 min to respond to a demographic questionnaire pertaining to their age, academic class, and so on. Then they were requested to recall the information presented in the third (experimental) case. They were told to write down everything they could remember, in as close to the original wording as possible. To ensure that subjects knew which case they should recall, the particular offense committed was reiterated. Subjects were given as much time as they needed to complete the recall task. When finished, they were thanked and debriefed.

Scoring

Recall of the background items presented about the target was scored according to a gist criterion: A recalled

item was scored as correct if it was equivalent in meaning to a presented item, even if its wording was not identical. Because extremely high interrater reliability has typically been obtained in other studies when similar criteria have been used (cf. Srull, 1981; Wyer & Gordon, 1982), scoring was performed by a single judge who was blind to experimental conditions. The total number of background items recalled by each subject was used as the dependent measure.

Results

Normative data justified the assumption that the antimanagement offense was stereotypic of Americans and nonstereotypic of Arabs, whereas laziness was stereotypic of Arab workers but not of Americans. Given this assumption, the effects of stereotypes can best be conveyed by reorganizing the four combinations of the target's transgression and the target's name/ethnicity into a 2×2 factorial design involving type of transgression (antimanagement vs. laziness) and its stereotypic relatedness to the target's nationality (stereotypic vs. nonstereotypic). Judgments and recall measures were each analyzed as a function of these two variables.[2] Results are presented and discussed for each dependent variable in turn.

Stability Judgments

Infractions were expected to be viewed as relatively more stable when they were stereotypic of the target's nationality. Data presented in the top part of Table 1 support this expectation. That is, subjects perceived an infraction to be more likely to recur when it was stereotypic of the target's nationality ($M = 6.50$) then when it was not ($M = 4.43$), $F(1, 24) = 4.22$, $p < .05$, and this was true regardless of the type of transgression involved.

Disciplinary Decisions

If stereotypic offenses are perceived as more likely to recur (first part of Table 1), and if transgressions that are attributed to stable factors are more severely punished (cf. Carroll, 1978), subjects should recommend harsher punishment for stereotypic offenses than nonstereotypic ones. Data shown in the middle two parts of Table 1 support this hypothesis. Specifically, respondents recommended more severe discipline for stereotypic offenses than for nonstereotypic ones. This was true for both the initial offense (Ms = 6.07 vs. 4.57) and a subsequent one should it occur (Ms = 8.00 vs. 6.76); in each case, $F(2, 24) = 5.38$, $p < .05$. Although the effect of stereotypic relatedness appears less pronounced for antimanagement offenses than for laziness, it is similar in direction in all cases and was significantly contingent on type of offense only in the analysis of punishment recommendations for repeat offenders, $F(1, 24) = 4.24$, $p < .05$. This interaction may be alternatively interpreted as a main effect of target ethnicity (see Footnote 2). That is, Arab targets were treated more severely for repeated infractions than were American targets (Ms = 7.93 vs. 6.79), regardless of the offense they commited.

Table 1
Effects of Type of Transgression and Its Stereotypic Relatedness to Target's Nationality on Judgments and Recall: Experiment 1

Dependent variable	Stereotypic relatedness of offense: Stereotypic	Stereotypic relatedness of offense: Nonstereotypic
Estimate of likelihood that offense will recur		
Antimanagement offense	6.43	4.43
Laziness offense	6.57	4.43
Severity of recommended disciplinary action		
Antimanagement offense	5.57	5.14
Laziness offense	6.57	4.00
Severity of recommended discipline given recurrence		
Antimanagement offense	7.43	7.29
Laziness offense	8.57	6.14
Recall of information (total number of items)		
Antimanagement offense	9.86	13.14
Laziness offense	9.00	9.86

Recall Data

When an applicable stereotype-based explanation of the target's infraction was avail-

[2] Note that in this analysis, the interaction of type of transgression and stereotype relatedness to the transgression may be alternatively interpreted as the main effect of the target's ethnicity (American vs. Arab).

able, subjects were expected to think less extensively about other information presented and therefore to show poorer recall of this information. Data relevant to this hypothesis, presented in the bottom part of Table 1, are consistent with expectations: Less information was recalled when the target's offense was stereotypic of his nationality (M = 9.43) than when it was not (M = 11.50), $F(1, 24) = 4.12$, $p < .05$.

Independently of the effect of stereotyping, subjects better recalled information about targets who had committed an antimanagement offense (M = 11.50) than information about targets who committed the laziness infraction (M = 9.43), $F(1, 24) = 4.13$, $p < .05$. Perhaps the antimanagement infraction seemed more serious, so the information was more closely scrutinized. Be that as it may, the stereotypic relatedness of the transgression affected recall independently of and in addition to this effect.

Experiment 2

The results of Experiment 1 indicate that stereotypic transgressions are seen as more likely to recur than are nonstereotypic ones, and that they are punished more severely. In addition, the recall data suggest that when a stereotype-based explanation for a transgression exists, it may decrease the attention paid to other information about the transgressor. However, the first experiment was conducted in a decision-making vacuum. That is, no decision-relevant information other than the target's name was provided. Consequently, the relative priority given to stereotypic and nonstereotypic explanations of behavior when both types are available could not be evaluated.

In the present study, subjects made parole recommendations for persons convicted of different types of crimes. The study differed from Experiment 1 in two ways. First, we added a control condition in which the target's name did not convey his ethnic or cultural background, and therefore a cultural stereotype was not activated. Second, three different types of information were included in the target's "case file." One, *nondiagnostic background* information, was similar to that presented in the first study; that is, it described demographic characteristics of the target that were irrelevant to an understanding of why the crime had occurred. A second type of information pertained either to the criminal trial or to the target's behavior when he was in prison. Although this *decision-relevant* information had implications for whether the target should be paroled, it described events that occurred after the crime took place, so it was less likely to be thought about in an attempt to explain why the crime was committed. The third type of information described the target's *life circumstances* at or before the time the crime occurred. This information varied over conditions in terms of its relevance for explaining why the target's particular offense might have been committed.

The manipulation of life-circumstances information permitted an evaluation of the three hypotheses noted earlier. These hypotheses concern the influence of stereotypes on judgments. According to the heuristic hypothesis, stereotype-based explanations take priority over alternative, nonstereotypic ones. If this is so, subjects should rely on a stereotype-based explanation of the target's transgression to make punishment recommendations whenever it is available, regardless of whether alternative (nonstereotypic) explanations of the offense are also suggested by the information. In contrast, the default hypothesis implies that subjects use stereotypes as bases for judgments only as a last resort; that is, they first review the information presented about the target for nonstereotypic explanations of his behavior, and use a stereotype-based explanation only if no alternative cause of the behavior is suggested by this information. Finally, the integration hypothesis implies that both stereotype-based explanations and nonstereotypic explanations of the target's behavior should independently affect judgments under conditions in which they are available.

We expected the processes underlying the use of stereotypes as a basis for judgments to be clarified further by an examination of the amount and type of information that subjects were able to recall under different experimental conditions. Subjects were given the name of the target and a description of his transgression before reading the other information in the target's file. Therefore, if sub-

jects largely ignore other available information when a stereotype-based judgment is possible, their recall of all three types of information contained in the file (i.e., background information, decision-relevant information, and life-circumstances information) should be lower in these conditions. In contrast, if the default of integration hypotheses are valid, the amount of thought given to information in the case file, and its subsequent recall, should vary with the type and implications of this information for punishment decisions.

The use of stereotypes as heuristics in arriving at decisions does not *necessarily* mean that subjects fail to read and think about the remaining information in the file. They may read it but simply not base their judgments on it. More specifically, a stereotype of the target may be activated on the basis of his name, and an impression of the crime and its determinants may be immediately formed on the basis of this stereotype. Once this occurs, subjects may review the remaining material in the file to discover if corroborative evidence exists. Moreover, they may do this without changing the impression they have formed. However, they may nevertheless spend different amounts of time and effort thinking about the information, depending on its consistency with the implications of this impression. (For related arguments suggesting that stereotypes, once activated, may guide subsequent information processing, see S. E. Taylor, Crocker, & D'Agostino, 1978.) We consider these possibilities in more detail after the relevant results have been reported.

Method

Overview

Participants were given two case files pertaining to prisoners eligible for parole. The first (practice) case file contained information about a prisoner convicted of sexual molestation. The contents of the second, experimental case file varied over conditions with respect to (a) the name of the prisoner (Hispanic; upper-class white Anglo-Saxon Protestant, or WASP; or nondescript), (b) the crime the person had committed (stereotypically Hispanic vs. stereotypic of upper-class WASPs), and (c) the nature of information describing circumstances in the target's personal life. This latter information either did or did not suggest a nonstereotypic explanation of the particular crime the target had committed.

After reading each case, participants reported their recommendations for parole, estimated the likelihood that the crime would recur, and indicated the length of the jail sentence they would recommend in the event of recidivism. After completing both cases and a brief intervening task, participants were asked to recall all of the information they could that was contained in the second (experimental) case file they had read.

Eighty-four introductory psychology students participated in the experiment to fulfill a course requirement. Seven subjects were randomly assigned to each of 12 combinations of target name, crime, and type of life circumstances information presented (crime-relevant or crime-irrelevant).

Materials

Each participant received a file containing information about two prisoners eligible for parole. In the second, experimental case, the target was assigned one of three names. Two of these, "Ashley Chamberlaine" of Cambridge, Massachusetts and "Carlos Ramirez" of Albuquerque, New Mexico identified the target as an upper class white Anglo-Saxon Protestant (WASP) or a Hispanic, respectively. The third, "John T." of Dayton, Ohio, did not activate a stereotype of any particular ethnic or social group. In addition, one of two alternative crimes was attributed to the target. The first, embezzlement through forgery (described more specifically as "forged signatures on company accounting books and illegally collected several thousand dollars for his personal use"), was assumed to be stereotypic of upper-class or "white-collar" criminals. The other, assault and battery committed in a bar (specifically, "brutally attacked a man in a bar after a disagreement, leading the man to be hospitalized"), was assumed to be stereotypic of lower-class Hispanic criminals. (For evidence that Hispanic targets are stereotypically classified by American Caucasians as both aggressive and belonging to the lower or working class, see Marín, 1984.)

The remaining information contained in each experimental case file consisted of the following:

1. Five pieces of *background* information, pertaining to age, marital status, number of dependents, city of birth, and city of current legal residence.

2. Eleven pieces of *decision-relevant* information pertaining to how the crime was committed, the original plea entered in the trial, the length of his sentence, the time he had already served and percent of sentence completed, his previous criminal record, an overall rating of the prisoner by penitentiary officials, a record of his participation in prison programs, the general character of his prison behavior, and his relationship with fellow inmates. (This information was generally favorable.)

3. Three pieces of *life-circumstances* information pertaining to factors in the target's life that might have led him to commit either forgery or assault, and therefore could be used as a basis for explaining the crime.

The background information (except for city of birth) and decision-relevant information were identical in all versions of the experimental case. However, the life-circumstances information varied over conditions in terms of its relevance to the particular crime the target had committed. To select this information, pilot subjects generated circumstances in a person's life that might lead the person to commit either forgery or assault. Manifes-

tations of these circumstances were then presented in a list to a second group of subjects who estimated the likelihood that each circumstance might lead someone to commit each of the two crimes. On the basis of these ratings (reported along a 0–10 scale), three items were chosen as potential explanations of each crime. Specifically, "spends money compulsively," "was in need of cash to support his pregnant wife," and "had very poor motivation to work" were chosen as crime-relevant explanations for forgery but not assault, and "is experiencing great frustration in his personal life," "his wife was involved in an extramarital affair at the time," and "he had been victimized and abused as a child" were chosen as crime relevant explanations for assault but not forgery. Each item selected had a mean scale rating of over 7.5 for the crime to which it was relevant but a rating of less than 5.0 for the other crime.

Procedure

Participants were run in groups of approximately 12. Subjects within each group were randomly assigned to one of the 12 experimental conditions; thus each condition was typically represented once in each experimental session. Subjects were told they would be involved in a study of parole decision-making, the purpose of which was "to determine how individuals use information from a person's past to explain his past criminal behavior and predict his future behavior patterns." They were asked to assume the role of a parole board member and to use the information presented to decide "if the individual is no longer a menace to society and should therefore be released."

Subjects read each file in turn. The first case concerned a sexual molester. The second file contained the experimental case. Subjects were given 5 min to read each file and to answer four questions following it. The first three ("How strongly do you feel that the man should be paroled at this time?", "How likely is it that the man is still a menace to society?", and "If he is released, how likely is it that he will commit another crime?") were answered along an 11-point scale ranging from 0 (*not at all*) to 10 (*extremely*). The fourth (open-ended) question was, "If he did commit the same crime again, to how many years (from 0 to 30) would you sentence him if you were the judge?" Subjects were allowed to review the information in the case files in order to answer these questions if they wished to do so.

After completing both decision cases, subjects were given 5 min to complete a demographic questionnaire as a filler task (see Experiment 1) and then were administered the recall task according to the same procedures as in Experiment 1.

Recall of (a) life circumstances information, (b) decision-relevant information, and (c) nondiagnostic background information was scored separately according to a gist criterion similar to that used in Experiment 1. The proportion of items recalled of each type was computed for each subject and used as an index of recall of information of this type.

Manipulation Checks

The differential relevance of the life-circumstances information for explaining the two crimes was established on the basis of the pilot data mentioned previously. Additional assumptions concerned (a) the stereotypic nature of the crimes, (b) the independence of life-circumstances information and the activated stereotypes, and (c) the implications of the life-circumstances information for punishment decisions. These assumptions were validated on the basis of questionnaire data obtained from 25 subjects who did not participate in the main experiment.[3] These data indicated the following:

1. Given no other information, subjects believed that a person named "Ashley Chamberlaine" was more likely to commit forgery (M = 5.16 on a 0–7 scale) than assault (M = 1.86), that someone named "Carlos Ramirez" was more likely to commit assault (M = 4.72) than forgery (M = 2.00), and that someone named "John T." was equally likely to commit each crime (M = 3.04 and 3.12 for forgery and assault, respectively). Therefore, crimes were not only judged as likely to be committed by a member of a group for which they were stereotypic, but were judged as very unlikely to be committed by a member of the group for which they were nonstereotypic. In fact, these latter crimes were seen as inconsistent with the stereotypes activated by the target names rather than simply as unrelated to these stereotypes.

2. A person named "Ashley Chamberlaine" was believed to be no more likely to experience the life circumstances associated with forgery (M = 2.97 on a 0–7 scale) than those associated with assault (M = 2.79). This was also true of a person named "Carlos Ramirez" (Ms = 3.59 and 3.55, respectively) and a person named "John T." (Ms = 2.97 and 3.05, respectively). Therefore, the two sets of life circumstances were not differentially implied by the stereotypes activated and can be assumed to contribute additional explanatory information concerning why the crime occurred rather than contributing information than is redundant or inconsistent with socioethnic stereotypes.

3. Subjects recommended less severe punishment for a crime in general if it was due either to transitory factors (M = 3.72 along a 0–7 scale) or to "aspects of a person's background over which he had no control" (M = 4.32) than if it was due to a stable characteristic of the person's personality (M = 5.24). Moreover, they recommended less severe punishment of the particular crimes considered in the study if crime-relevant life circumstances information accompanied their description (M = 4.72) than if it did not (M = 5.10).[4] This confirms the assumption that these life circumstances, which were assumed to provide generally transitory or situational explanations of the crimes, decreased punitiveness toward a person who committed them.

[3] Details about the questionnaire administered and the statistical analyses of the results reported below are obtainable from the first author.

[4] Subjects also recommended less severe punishment when crime-*irrelevant* life circumstances information accompanied the description of the crime (M = 4.67). This could suggest that the manipulation of relevance was not effective. However, the normative data described earlier, and also the results reported, suggest otherwise.

Table 2
Mean Strength of Parole Judgments as a Function of Type of Stereotype Activated and Relevance of Life-Circumstances Information: Experiment 2

Judgment	Stereotype activated		
	Applicable (consistent)	Inapplicable (inconsistent)	None
Stability judgment composite			
Crime-relevant life-circumstances information presented	4.18	3.50	2.46
Crime-irrelevant life-circumstances information presented	4.93	3.11	3.29
Parole recommendation[a]			
Crime-relevant life-circumstances information presented	5.93	7.50	8.36
Crime-irrelevant life-circumstances information presented	5.64	8.43	5.79
Jail sentence for repeat offender			
Crime-relevant life-circumstances information presented	8.71	7.57	9.29
Crime-irrelevant life-circumstances information presented	8.43	8.07	14.14

[a] Lower numbers indicate greater punitiveness.

Results

The main issues of interest in the second experiment surrounded the effects of two variables. One was the nature of the stereotype (if any) that was activated during the decision-making process—that is, whether (a) a stereotype that was consistent with the crime committed was activated, (b) a stereotype that was inconsistent with the crime was activated, or (c) no stereotype at all was activated. The second variable was the relevance of the life-circumstances information presented in the case file for explaining the crime. To simplify interpretation, the six combinations of target name (Hispanic, WASP, or nondescript) and type of offense (stereotypically Hispanic vs. stereotypically WASP) were reorganized to convey the independent and interactive effects of these factors. Specifically, cells involving forgery committed by an upper-class WASP or assault committed by a Hispanic were aggregated to form an *applicable (consistent) stereotype* condition, and cells involving forgery committed by a Hispanic or assault committed by an upper-class WASP were aggregated to form an *inapplicable (inconsistent) stereotype* condition. Finally, the two cells involving the nondescript target were combined to form the *no-stereotype* condition. This was done separately for each type of life-circumstances information (crime relevant vs. crime irrelevant).

Preliminary analyses of each dependent variable as a function of the nature of the stereotype activated, the type of life-circumstances information presented, and the type of crime committed (stereotypically Hispanic vs. stereotypically WASP) yielded only one significant interaction involving this latter factor. This interaction, which occurred in analyses of recall of background information, is neither easily interpretable nor theoretically interesting, and was attributed to chance pending replication. Therefore, data are collapsed over the two types of crimes in the analyses to be reported.

Stability Judgments

Perceptions of the stability of the target's criminal behavior were inferred from responses to the two items concerning (a) the likelihood that the prisoner was still a menace to society and (b) the likelihood that he would commit another crime if released. Responses to these items were highly correlated (r = .83) and therefore were averaged to provide a single index of perceived stability.

Subjects were expected to judge the target's criminal behavior to be more stable when it was consistent with the stereotype activated by his name than when it was inconsistent with this stereotype. Data shown in the top part of Table 2 support this hypothesis. Specifically, subjects judged the crime to be more stable when it was stereotypically consistent with the target's apparent cultural group (M = 4.55) than when it was either stereotypically inconsistent with it (M = 3.30) or when no

stereotype at all was activated ($M = 2.88$, $F(2, 81) = 3.78$, $p < .05$. Information describing the target's life circumstances did not significantly affect perceptions of the crime's stability, $F < 1$. It should nonetheless be noted that when no stereotype was activated, crime-relevant life-circumstances information decreased subjects' beliefs that the crime would recur. This corroborates the assumption that in the absence of stereotype-based explanations for the crime, this information leads subjects to judge the crime as less stable.

Parole Recommendations

Experiment 1 indicated that crime-applicable stereotypes resulted in greater punitiveness than did crime-inapplicable stereotypes. If the heuristic hypothesis is correct (i.e., if viable nonstereotypic explanations of the crime are ignored when a stereotype-based explanation exists), similar effects should occur in the present experiment regardless of whether crime-relevant life-circumstances information is available. In contrast, the default hypothesis implies that when the crime can be explained on the basis of information about the target's life circumstances, parole recommendations should be influenced by this information alone and should not depend on whether an applicable stereotype-based explanation also exists. Finally, the integration hypothesis suggests that both sources of explanations for the crime should have an influence whenever they are present.

Data presented in the bottom two thirds of Table 2 are clearly most compatible with the heuristic hypothesis. For example, the presence of crime-relevant information about the target's life circumstances increased subjects' recommendations for parole (from 5.79 to 8.36) when no stereotype was activated (see the middle third of Table 2). This confirms the assumption that this information provided an explanation of the crime that, in the absence of other information, led subjects to recommend leniency. However, the activation of a stereotype completely eliminated the effect of this information. That is, subjects relied exclusively on stereotype-based explanations under these conditions, making less strong recommendations for parole when the crime was consistent with the stereotype activated by the target's name ($M = 5.79$) than when it was not ($M = 7.96$). Most important, this difference occurred regardless of whether an alternative explanation for the crime was conveyed by the life-circumstances information. This pattern of effects is confirmed by a significant interaction of the type of stereotype activated and the type of life circumstances information presented, $F(2, 78) = 3.95$, $p < .05$.

Subjects' recommendations for the prison sentence to be imposed if the prisoner repeated his crime (shown in the bottom third of Table 2) followed an analogous pattern, although the interaction of stereotype activation and explanation type was not significant, $F(2, 78) = 1.52$, $p > .10$. That is, when no stereotype was activated, subjects recommended a substantially lower sentence when the life-circumstances information suggested an explanation of the crime ($M = 9.29$) than when it did not ($M = 14.14$). However, the activation of a stereotype eliminated the effect of this information. Although the effects of stereotype activation on these punishment recommendations were small in magnitude, they were consistent with expectancies and were similar in direction regardless of the nature of the life circumstances information presented.[5]

Two unexpected aspects of the results are noteworthy. Specifically, the effect of providing alternative, nonstereotypic explanations for the offense on judgments was eliminated not only when the target's crime was consistent with the stereotype but also when it was *inconsistent* with the stereotype. This suggests that crime-inconsistent stereotypes were also used as a basis for judgments. Perhaps when the target's offense was inconsistent with the stereotype activated by his name and apparent cultural background, it was attributed to a transitory or situational factor (cf. Jones & Davis, 1965), and thus the decision maker

[5] The main effect of stereotype applicability was significant in this analysis, $F(2, 76) = 3.38$, $p < .05$. Specifically, the nondescript target was generally treated more harshly for repeating his crime ($M = 11.71$) than was either stereotyped target, regardless of whether the stereotype was applicable to the crime ($M = 8.57$) or inapplicable ($M = 7.82$). The reason for this difference is not clear.

Table 3
Proportion of Each Type of Information Recalled as a Function of Type of Stereotype Activated and Relevance of Life-Circumstances Information

Dependent variable and type of life-circumstances information presented	Stereotype activated		
	Applicable (consistent)	Inapplicable (inconsistent)	None
Recall of life-circumstances items			
Crime-relevant life-circumstances information presented	.45	.86	.74
Crime-irrelevant life-circumstances information presented	.71	.67	.64
Recall of background items			
Crime-relevant life-circumstances information presented	.84	.66	.83
Crime-irrelevant life-circumstances information presented	.60	.80	.63
Recall of decision-relevant items			
Crime-relevant life-circumstances information presented	.62	.64	.70
Crime-irrelevant life-circumstances information presented	.56	.61	.56

recommended greater leniency. Moreover, this decision, like decisions pertaining to stereotype-consistent crimes, may have been made without any consideration of the other relevant information available.

Second, subjects' punitiveness was surprisingly high when (a) no stereotype was activated *and* (b) the target's life circumstances were irrelevant to the crime he committed. In other words, subjects were quite unsympathetic to an offender whose crime could not be explained in terms of either his cultural background or circumstances in his particular life situation. This was particularly true in the case of a repeated offense. This suggests that when subjects cannot find any explanation at all for recurring instances of a person's antisocial behavior, they attribute it to an inherent deficiency in the target's personality that can be corrected (if at all) only by severe punishment.

Recall Data

If other information in the target's file is ignored when a stereotype-based judgment is possible, the activation of a crime-relevant stereotype should decrease the recall of this information, and this should be true regardless of its type and implications. However, although subjects may not alter their stereotype-based impression of the crime once it has been formed, they may nevertheless review other information in the file to confirm the implications of this impression. In this event, the effect of stereotype activation on the recall of information should depend in part on both the relevance of this information to the judgments being made and its consistency with the implications of the activated stereotype.

Recall of the three types of information considered in this study is shown in Table 3. These data clearly invalidate the hypothesis that stereotype activation simply decreases attention to all other information about the target. The activation of a stereotype, and the nature of this stereotype, had quite different effects on the recall of the three types of information. To diagnose these differences, we analyzed data pertaining to each type of information separately.

Life-circumstances information. Pooled over the two crimes, each piece of life-circumstances information was used as crime-relevant and crime-irrelevant information an equal number of times. Thus comparisons of the recall of these types of information are not confounded with item content. The top third of Table 3 shows that when no stereotype of the target was activated, life circumstances were better recalled when they were relevant to the target's crime than when they were not. This was also true when the stereotype activated was inconsistent with the crime the target had committed. When the stereotype activated was consistent with the crime, however, crime-relevant life-circumstances information was recalled *less* well. This pattern of results is confirmed by a significant interaction of stereotype and type of life circum-

stances information presented, $F(2, 78) = 6.17$, $p < .01$.

Background information. The recall of nondiagnostic background information, shown in the middle third of Table 3, indicates that the results of the first experiment were replicated under comparable conditions. Specifically, under those conditions in which the life-circumstances information was irrelevant, subjects recalled less background information when the target's crime was consistent with the stereotype activated by his name ($M = .60$) than when it was not ($M = .84$). However, the overall pattern of results is more complicated, as evidenced by the interaction of stereotype applicability and the relevance of the life-circumstances information, $F(2, 78) = 5.42$, $p < .01$. Under conditions in which the target's crime was inconsistent with the activated stereotype, the presence of crime-relevant life-circumstances information decreased the recall of the background information. However, when the target's crime was consistent with the activated stereotype, the presence of crime-relevant life circumstances increased the recall of background information. Perhaps when the activated stereotype and the crime-relevant life-circumstances information had different implications for the punishment decision, subjects considered the background information more carefully in an attempt to reconcile the discrepancy in these implications. We will consider this possibility in more detail presently.

Decision-relevant information. The decision-relevant information provided no information pertaining to the causes of the criminal's offense and was therefore not very likely to be reviewed in order to explain the crime's occurrence. However, it might nonetheless be reviewed for use in making parole recommendations. If so, this review should occur primarily under conditions in which no stereotype is activated.

This possibility was only weakly supported. The bottom third of Table 3 shows that decision-relevant information was recalled better when the life-circumstances information was relevant ($M = .65$) than when it was not ($M = .58$), $F(1, 78) = 3.97$, $p < .05$. However, although this difference was greater when no stereotype was activated, this contingency was not reliable, $p > .10$. It should be noted that the decision-relevant information conveyed that the target had been a good prisoner, and therefore implied leniency. Consequently, the results suggest that this information was recalled better when its implications were similar to those of the life-circumstances information accompanying it.

Summary

Although the recall data appear complex when each type of information is considered separately, a review of the data as a whole provide a reasonably coherent picture. Three general observations are noteworthy.

1. Consider first those conditions in which no stereotype was activated. All three types of information were recalled better under these conditions when the life-circumstances information had implications for why the crime was committed and were apparently used as a basis for judgments (see Table 2).

2. When the target's name activated a stereotype with which his crime was inconsistent, the stereotype-based impression of the crime used in the parole decision implied leniency. In this case, life circumstances were recalled better when they were crime-relevant, and therefore also implied leniency, than when they were irrelevant. However, nondiagnostic background information about the target was recalled less well in the former condition.

3. When the target's name activated a stereotype with which his crime was consistent, the stereotype-based impression of the crime implied greater punitiveness. In this case, life circumstances were recalled more poorly when they were crime-relevant, and therefore their implications (leniency) differed from those of the stereotype-based explanation. In contrast, nondiagnostic background information about the target was recalled better in this condition.

Although this pattern of results was not predicted, it provides insight into the role of stereotype-based expectancies in the processing of other information about the stereotyped individual. A detailed discussion of this role is provided in the next section.

Discussion

The two studies reported in this article increase our understanding of how cultural stereotypes may influence the evaluation of

socially undesirable behavior and the cognitive processes that mediate these effects. In addition, they provide insight into how stereotypes affect the processing of other information about the stereotyped individual. We first consider the implications of the results for the effects of stereotyping on judgments. Then we propose a conceptualization of the effects of stereotyping on information processing that takes into account its effects on both judgments and recall.

Effects of Stereotypes on Judgments

Transgressions that are consistent with a cultural stereotype of the transgressor appear to be attributed to stable dispositional factors rather than to transitory or unstable ones (see also Deaux, 1976; D. Taylor & Jaggi, 1974). Because transgressions that are attributed to stable factors are punished more severely (Carroll, 1978), harsher punishment is recommended for stereotypic offenses than for nonstereotypic ones. The converging results obtained in Experiments 1 and 2 suggest that this conclusion generalizes over both different stereotypes and different types of transgressions.

The effects of activating a stereotype appear to override the effects of other information available about the target. When no stereotype was activated by the name of the transgressor, information about his past life circumstances with implications for why the transgression occurred resulted in greater leniency. However, the activation of a stereotype eliminated the effect of this information. Normative data indicate that this cannot be attributed to the redundancy of the relevant life circumstances with stereotypic conceptions. It therefore seems most reasonable to conclude that stereotypes functioned as judgmental heuristics in interpreting the target's behavior and why it occurred, that is, they were used despite the fact that other judgment-relevant information was available.

The pervasiveness of this tendency is particularly striking in light of the relative salience of the stereotypic cues provided and the nonstereotypic explanatory information presented about the target: We activated stereotypes in this study simply by assigning the target a name that suggested his national or cultural background. This information was ostensibly incidental to the judgmental task at hand. In contrast, the life-circumstances information presented in Experiment 2, which provided an alternative explanation of the target's offense, was a prominent part of the material that subjects were expected to consider in arriving at their judgments. Although this latter information had a marked influence on judgments and decisions when a stereotype was *not* activated (see the bottom two thirds of Table 2), the effect was eliminated entirely when a stereotype was activated.

We completely eliminated the effect of life-circumstances information on parole decisions not only by activating a stereotype that was applicable for interpreting the target's crime, but also by activating a stereotype with which the target's crime was inconsistent. Apparently subjects attributed the target's offense to a stable dispositional factor when it was consistent with expectations based on the stereotype (and therefore subjects were more punitive) but attributed it to a transitory or situational factor when it was inconsistent with these expectancies (and therefore subjects were more lenient). It is somewhat unclear why subjects were not stimulated to seek additional information about the target when his crime was inconsistent with the stereotype activated by his name. However, this finding provides further support for the hypothesis that people tend to make judgments on the basis of personal theories rather than on the basis of data (cf. Crocker, 1981; Golding & Rorer, 1972; Lord, Ross, & Lepper, 1979).

The support obtained for the heuristic hypothesis makes salient the need to distinguish between the types of conditions investigated in this study and those investigated by Locksley et al. (1980; 1982). As previously noted, heuristic processing may be more likely to occur when the judgmental situation is cognitively demanding. This hypothesis should be tested more directly under conditions in which the stimulus domain is controlled. One other constraint on the generalizability of the present findings should also be noted: In both experiments reported here, the name of the target was presented first, before subjects had a chance to read the information in the case. This is of course the typical order in which one would expect to find this information. However, it raises the possibility that a stereotype-based impression

was used as a basis for judgments not because of an inherent preference by subjects to use a stereotype, but rather because it was activated *first,* before other relevant information was processed. The fact that initial information presented about a person is used as a basis for judgments is well documented in other paradigms (cf. Anderson & Hubert, 1963; Dreben, Fiske, & Hastie, 1979). It is conceivable that if subjects had not learned the target's name until *after* they had read the other information in the target's file, their judgments might well have been based on the implications of this information, much as they were when no stereotype was activated.

Effects of Stereotypes on Information Recall

The nonparallel effects of stereotype activation on judgments and recall indicate that recall differences do not simply reflect differences in the amount of processing of information that occurred in the course of making the judgments. Rather, they must reflect differences in the processing of the information *after* a stereotype-based impression of the crime has been formed. A consideration of recall data provides insight into the possible nature of these processes.

First consider cases in which subjects receive a file in which the name does not activate a stereotype. In this condition, they presumably search the file for an explanation of the target's offense. When crime-relevant life-circumstances information is contained in the file, they tend to use it as a basis for their impression of the crime and why it occurred, and their parole judgments are based on this impression (see Table 2). Moreover, the processing of this information required in order to form the impression facilitates its subsequent recall (see top third of Table 3). Note, however, that the presence of crime-relevant life-circumstances information in the file also facilitated the recall of *other* information in the file (see bottom two thirds of Table 3). This suggests that when the life-circumstances information provided an explanation of the crime, it was used as a basis for organizing and conceptually integrating the remaining information about the target, facilitating the recall of this information as well. (For evidence that the organization of information around a judgment-relevant theme facilitates recall, see Ostrom, Lingle, Pryor, & Geva, 1980; Srull, 1983.)

However, suppose instead that when subjects begin reading the case file of the target and learn the crime he has committed, his name activates a stereotype. In this case, they may immediately form a stereotype-based impression of why the crime occurred. If the crime is consistent with the stereotype, the impression they form may imply relatively greater punitiveness. Alternatively, if the crime is inconsistent with the stereotype, they may form an impression of the crime as being due to unstable, transitory factors, the implications of which are leniency. Subjects may use these initial, stereotype-based impressions as criteria for parole decisions, independently of the other information in the file. However, they may nevertheless review the remaining material in the file for evidence confirming these impressions. This may have one of two effects. First, if other information in the file confirms the implications of the stereotype-based impressions, subjects may integrate this information into the impression they have formed, paying little attention to other less obviously relevant material. In contrast, if other information in the file disconfirms the implications of the stereotype-based impression, subjects may not integrate it into their impression. However, the inconsistency between the two sets of implications may stimulate them to search for other explanation-relevant material.

These assumptions can account for the recall data shown in Table 3. That is, when the target's crime was inconsistent with the stereotype, and thus the impression formed of the crime implied leniency, crime-relevant life circumstances (which also implied leniency) may have been integrated into this impression. This may have led it to be recalled better, whereas impression-irrelevant background information about the target was recalled less well. However, when the crime was consistent with stereotype-based expectancies, the stereotypic impression of the crime implied greater punitiveness, so the implications of the crime-relevant life-circumstances were inconsistent with this impression. In this case, the subjects may not have tried to integrate this information into their initial impression. Instead, they may have directed their attention to other background infor-

mation about the target in order to confirm their impression. As a consequence, this background information, although objectively irrelevant to an understanding of the crime, was recalled well, whereas the life circumstances information, although objectively relevant, was recalled poorly.

This interpretation also accounts for the recall of decision-relevant information under conditions in which a stereotype was activated. This information, although relevant to the decision, was *not* relevant to an explanation of the crime. Consequently, the attention given to this information should not depend on the type of stereotype activated or the relevance of the life-circumstances information presented. Thus neither variable should appreciably influence the recall of this information, as the data in the bottom third of Table 3 suggest.

The preceding discussion seems to confirm intuitions that persons often remember information better when it is consistent with stereotypes they have formed. On the other hand, it may appear to contradict evidence in the person memory literature that expectancy-inconsistent information is better recalled (cf. Hastie, 1980; Srull, 1981; Wyer, Bodenhausen, & Srull, 1984; Wyer & Gordon, 1982). However, this contradiction is illusory. In conceptualizing and predicting the effects of inconsistency, it is important to understand precisely the nature of the inconsistency and the cognitive activity it is likely to evoke. In the person memory paradigm, subjects are typically given a trait-based expectancy for a person, followed by behaviors that vary in their evaluative and descriptive consistency with this trait. Behaviors that are evaluatively inconsistent with trait-based expectancies are typically recalled better than evaluatively consistent ones. This presumably results from attempts to reconcile the target's behaviors with the favorableness of the overall impression of him or her, resulting in interitem associations between these behaviors and others the target has manifested. However, the inconsistencies of concern in the present study are not between different behaviors of a person; rather, they are between the implications of different explanatory scripts pertaining to a single behavior (e.g., a crime). The bases for these explanations are not themselves incompatible. (This is evidenced by normative data showing that the life circumstances attributed to the targets were not differentially implied by the stereotypes considered.) Thus although the implications of these explanations for punishing the target were inconsistent, their implications for attributes of the target himself were not. There is no reason to suppose that the processes of resolving these types of inconsistencies are the same (see Wyer & Gordon, 1984, for a discussion of these matters).

Although the present studies have shed light on the information processing strategies that influence the use of stereotypes as bases for judgments, the issue is far from resolved. In particular, a clear a priori specification of the types of judgments and situational conditions in which stereotypes are applied must be empirically established. A more direct indication of the assumptions that underlie the use of stereotypes and the implications they are perceived to have is also desirable. Future empirical work must address these issues.

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