Stereotypic Trait Disconfirmation and Positive–Negative Asymmetry

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ABSTRACT. Spanish high school students participated in two studies on stereotypical trait disconfirmation. The students were presented with information about typical members of a relevant social category who exhibited a counterstereotypical trait. In the first study, the disconfirmation of a positive trait caused a decline in the participants' use of this trait to describe the social category as a whole, and the participants generalized counterstereotypical information to the group as a whole more readily when this information was evaluatively consistent with their attitudes toward the group. In the second study, the disconfirmation of a negative trait had no effect on the participants' description of the target group. The results of the two studies are discussed in the context of positive–negative asymmetry.

RECENT RESEARCH ON THE EFFECTS of stereotype disconfirmation has been focused on the relationship between the person who disconfirms the stereotype and the social category this person belongs to. In Rothbart and John's (1985) model of stereotype change, one of the conditions that is necessary for the generalization of a change to a social category is a good fit between the person who is disconfirming the stereotype and his or her social category; thus, this person
must exemplify in all other ways the characteristics thought to typify that group. This prototype model may be related to the mechanism of "refencing," described by Allport (1954) in his studies on stereotyping and prejudice. According to Allport, when information about members of a group that is a target of prejudice is inconsistent with a stereotype, people tend to consider this information as exceptional and therefore to dismiss it. Thus, the disconfirming information is excluded, and the category is rebuilt, its definition strengthened.

The prototype model can be related to the subtyping model, tested by Weber and Crocker (1983). This model of stereotype change is based on the concept that stereotypes are hierarchical structures (Ashmore 1981; Brewer, Dull, & Lui. 1981) made up of superordinate stereotypes that consist of traits that are applicable to all the members of a category. When new information about the members of a category does not fit the category, subtypes are created. Members of a category who deviate a great deal from the norm are considered exceptions. Because it permits the integration of information that is incongruent with the stereotype but still maintains the stereotype for the majority of the group members, subtyping is a model of nonchange. Thus, Rothbart and John's (1985) prototype model could be viewed as the mirror image of the subtyping model.

Existing evidence seems to support the prototype model of stereotype change. Weber and Crocker (1983, Experiment 3) demonstrated that information disconfirming the general stereotype about a social category (e.g., corporate lawyers) was more effective in reducing the use of a stereotype when it was presented by representative members than when it was presented by unrepresentative members, because the latter were subtyped as a special category. Wilder (1984) demonstrated that pleasant contact with a member of the out-group improved evaluations of the out-group only when the person was viewed as typical of the out-group. Rothbart and Lewis (1988, Experiment 3) demonstrated that information about individual members of a group (a fraternity) that varied in prototypicality was generalized to the group as a function of its members' prototypicality. The only study that has failed to demonstrate any effects of individual members' typicality on views of the group as a whole is Hamill, Wilson, and Nisbett's (1980) study on prison guards. Rothbart and Lewis (1988) interpreted this discrepancy as an indication that the experimental manipulation of typicalness had a much stronger impact in their study than in the study of Hamill et al.

Recent work has provided both direct and indirect support for the prototype model of stereotype change. Hewstone, Hopkins, and Routh (1992) demonstrated in one study that the favorable impression made by an atypical school police officer was not generalized to all police officers. In a subsequent study, Hewstone et al. found that this atypical member tended to be perceived as a member of the caring professions rather than as a police officer. Johnston and Hewstone's
(1992) study provides substantial support for the prototype model, because it demonstrates how perceptions of the typicalness of disconfirming exemplars mediate stereotype change.

Most researchers who conduct studies on the prototype model of stereotype change have not considered the possible effects of the relationship between the recipient of the information and the social category. From a selective information-processing perspective, one would expect a higher retention of counter-stereotypical or disconfirming information when it is consistent with participants’ own attitudes toward the group. One might also hypothesize that such information would be more effective in producing stereotype change. This change would occur for highly accessible categories, in a direction consistent with the previous attitude.

As Fazio, Chen, McDonel, and Sherman (1982) demonstrated, experience with an attitude object increases the accessibility of the attitude for information processing (Fazio et al., 1982; Fazio & Zanna, 1981). In turn, accessibility is related to the attitude’s predictive power concerning behavior.

A second aspect that must be considered is whether the stereotypic traits being disconfirmed are positive or negative. Rothbart and Park (1986) found that people perceived positive traits as easier to disconfirm than to confirm, and negative traits as easier to confirm than to disconfirm.

Research in the area of positive–negative asymmetry (Lewicka, Czapinski, & Peeters, 1992; Peeters & Czapinski, 1990) concerning the differences in processing positive and negative information has indicated the pervasiveness of the negativity effect as the “greater impact of evaluatively negative than equally intense positive stimuli on a subject.” The results of more recent studies in this area in the specific domain of trait inferences and impression formation and disconfirmation (Martijn et al., 1992; Skowronski & Carlson, 1992) indicate that negativity or positivity effects depend on the type of dimension that is being used and on the amount of information that is provided about the behavior. These researchers used Reeder and Brewer’s (1979) work on the relations between dispositions and behaviors and the distinction between the dimensions of morality and ability. Reeder and Brewer pointed out that, whereas in the area of morality, negative information (e.g., an immoral act) is highly indicative of the actor’s disposition, in the area of ability, positive information is more revelatory. Skowronski and Carlson (1992, Study 1) found negativity effects in judgments along the honesty–dishonesty dimension and positivity effects in judgments along the intelligent– unintelligent dimension. Whereas in the morality dimension, a very negative behavior in a description of an actor was more difficult to contradict than a positive behavior, in the ability dimension, the opposite was true. These findings cast some doubt on Rothbart and Park’s (1986) suggestion of a general difference in the disconfirmability of positive and negative traits and indicate the importance of distinguishing between the domains of morality and ability. Similarly, Martijn, Spears, Van der Plight, and Jakobs (1992, Study 1) found that negative
behavioral information leads to more definite inferences in the domain of morality and that positive behavioral information leads to more definite inferences in the domain of ability.

These lines of theorizing and study indicate the following directives for the present research:

1. The necessity of considering the participants’ attitudes toward the target group.
2. The selection of social categories that are accessible and relevant to the participants.
3. The necessity of considering not only the positivity or the negativity of the disconfirmed trait but also the dimension to which the trait belongs. (In the present study, the disconfirmed traits were part of the same morality dimension.)

The present research comprises two studies in which a stereotypical trait of an accessible social category was disconfirmed by members of the category who were otherwise typical. In the first study, a positive stereotypical trait was disconfirmed, and in the second study, a negative trait was disconfirmed.

In addition to examining the prototype model of stereotype change, we examined recall and attributions concerning the disconfirmatory information, to determine whether the process of stereotype change involves better recall and/or specific attribution patterns.

**Study I**

The hypotheses for the first study were as follows:

1. When negative information that disconfirms a positive stereotypical trait is provided by several, otherwise typical members of an accessible social category, the recipients of this information will decrease their use of this disconfirmed trait to describe that social category.
2. Counterstereotypical information presented by individual exemplars that is consistent with participants’ attitudes toward the group will be generalized more readily to the target group than counterstereotypical information that is inconsistent. In the present case, participants with negative attitudes toward the group who receive disconfirming information about a positive stereotypical trait will use the positive trait to describe the group less often than those who have positive attitudes toward the group will.

**Method**

**Participants.** The participants were forty-two 16- to 17-year-old male students, from two classes, in their 3rd year of study at a private Catholic high school in
Logroño, in northeast Spain. The participants were assigned to one of two experimental conditions, on the basis of class membership, but because placement in the classes was alphabetical, the method of assignment to the conditions can be considered random.

**Design and procedure.** The two experimental conditions were stereotype disconfirmation and stereotype nondisconfirmation. In the former condition, the participants listened to a tape with descriptions of three typical members of a social category (teacher) that were consistent with the categorical stereotype but also included a counterstereotypical trait; in the latter condition, the participants listened to the same descriptions, but the counterstereotypical trait was omitted.

The social category we used (teachers) was highly accessible to the participants (students), because it referred to a group that (a) was highly relevant and (b) the participants had regular contact with. Relevance was assessed in a pilot study, with a sample that was similar to the one we used in the present study. On an open-ended questionnaire, the participants provided the names of the groups that were the most important to them. One of the groups that was mentioned most frequently was teachers. High contact, which was judged a priori by the experimenters, was verified using a scale that ranged from *no contact* (1) to *high contact* (4). The mean score for teachers was 3.5.

The stereotypical traits that were used to describe the targets were also selected in a pilot study, with another sample that was similar to the one in the experimental study and 7-point scales that ranged from *not applicable* (1) to *very applicable* (7). The traits that were selected, "cultured" (*M* = 5.27) and "acts as a guide" (*M* = 5.66), were used to create stereotypical models of the group. We selected a mildly stereotypical trait for disconfirmation, "responsible" (*M* = 4.90), because we expected that an attempt to disconfirm a weaker stereotypical trait would be more successful than an attempt to disconfirm a stronger one, as demonstrated by Krueger and Rothbart (1988). Although we did not specifically determine that the trait "responsible" belonged to the morality dimension, its proximity to the trait "reliable," used by Martjin et al. (1992) as an example of the morality dimension, seemed to warrant its inclusion in this dimension. Thus, the participants received information about three teachers who exhibited two stereotypical characteristics, being "cultured" and "acts as a guide," but who were also described as irresponsible.

The experimental task was presented as part of a study on advertising, allegedly designed to select characters for a television series on everyday life. The participants listened to a tape that contained a description of six persons (three were members of the teacher target group, and the other three, a dealer, an executive, and a blue-collar employee, were members of three other social groups. The first, fourth, and sixth descriptions were used as filler material; and the second, third, and fifth descriptions were of members of the target group. The descriptions included the group label, the two supporting stereotypical traits ("cul-
tered" and "acts as a guide"), a behavioral description that disconfirmed another stereotypical trait ("responsible"), and a behavior that was unrelated to the stereotype.

After listening to the tape twice, the participants completed the following tasks:

1. Recall task. The participants wrote everything they remembered about the stimulus persons who had been described.

2. Stereotype rating. The participants rated the four groups, using 16 traits for each group, on a series of trait scales that ranged from not applicable (1) to very applicable to the group (7). The scales that were used for the target group contained the stereotypical traits that were selected in the pilot study, including the disconfirmed stereotypical trait.

3. Attributional task. This task was completed only by the participants in the disconfirmation condition. The participants explained why the stimulus person exhibited the counterstereotypical behavior; first the participants answered an open-ended question about why they thought the teacher had behaved irresponsibly, then they rated (from 1 to 7) how much they agreed with each of the following explanations: (a) because it is not unusual for members of that group to be that way (group attributions), (b) personal circumstances have contributed to make him that way (situational factors), (c) because he is an exception within the group (exceptionality), and (d) because being irresponsible is part of his personality (dispositional factors).

4. Attitude measure. To measure the participants' attitudes toward the target group, we asked them to rate how much they liked each of the four social groups that were mentioned in the descriptions of the six stimulus persons, using 7-point scales that ranged from not liking at all (1) to liking very much (7).

Results and Discussion

Only the results for stereotype change will be reported in the present study. We included the recall and attributional tasks in the present study to scan specific recall and attributional patterns related to stereotype change. None of the results were significant.

Dependent measures. The ratings for the disconfirmed stereotypical trait were compared for the two experimental conditions.

The global stereotype index consisted of the mean ratings of the stereotypical traits, excluding the disconfirmed trait, for each group, and was compared for the two experimental conditions.

To test the first hypothesis, we conducted ANOVAS, comparing the difference between the two conditions, for each of the 16 stereotypical scales for the target group and for the global stereotype index (see Table 1).

Although the results of both dependent measures indicated that the partici-
TABLE 1
Average Trait Ratings, by Condition

<table>
<thead>
<tr>
<th>Stereotype change</th>
<th>Condition</th>
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<tbody>
<tr>
<td></td>
<td>Disconfirmation ( n = 18 )</td>
</tr>
<tr>
<td>Disconfirmed positive trait “responsible”</td>
<td>4.44 ( a )</td>
</tr>
<tr>
<td>Global stereotype index</td>
<td>4.64</td>
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</table>

Note. Means with different subscripts differ at \( p < .05 \).

Participants used the stereotype less in the disconfirmation condition, this decrease was significant only for the disconfirmatory trait, \( F(1, 39) = 4.94, p < .05 \). A comparison of the mean ratings in the global stereotype index indicated a tendency in the same direction, but this tendency was not significant, \( F(1, 39) = 2.88, p = .097 \).

Thus, Hypothesis 1 was supported; when typical members of a social category exhibited negative behaviors, disconfirming a stereotypical trait, the participants’ use of a positive stereotypical trait to describe the group as a whole decreased. Moreover, the participants’ use of other stereotypical traits to describe the group also tended to decrease.

The second hypothesis was that counterc stereotypical information that was consistent with the participants’ attitudes toward a target group would be more effective in decreasing the participants’ use of stereotypical traits to describe the group than would counterc stereotypical information that was inconsistent with the participants’ attitudes toward the group. To test this hypothesis, we divided the participants into two groups, according to their attitude toward teachers, using the median split. We expected that the participants with an unfavorable attitude toward teachers would be less inclined than the participants with a favorable attitude toward teachers to describe the teachers as responsible. We conducted two \( 2 \times 2 \) (Condition \( \times \) Attitude) analyses of variance (ANOVAs) on the disconfirmed trait and the global stereotype index (see Table 2).

When the disconfirmed trait was used as a dependent variable, condition had a significant main effect, \( F(1, 37) = 7.30, p < .01 \), indicating a decrease in the use of the stereotypical trait “responsible” in the disconfirmation condition and a significant main effect of attitude, \( F(1, 37) = 18.45, p < .001 \); thus, the participants with more negative attitudes toward the group were less inclined to use the positive stereotypic trait. Most important, there was a significant interaction between attitude and condition, \( F(1, 37) = 6.11, p < .05 \). An inspection of the means indicated that this finding was attributable to the decrease in the use of the stereotypical trait “responsible” by the participants in the disconfirmation condition who had negative attitudes toward the group (see Figure 1).
TABLE 2
Average Ratings of the Disconfirmed Positive Stereotypical Trait (Responsible) and Global Stereotype Index, by Condition and Attitude

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Disconfirmed trait</th>
<th>Global stereotype index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disconfirmation</td>
<td>Nondisconfirmation</td>
</tr>
<tr>
<td>Negative</td>
<td>3.22 (_a) (n = 9)</td>
<td>5.09 (_b) (n = 11)</td>
</tr>
<tr>
<td>Positive</td>
<td>5.66 (_a) (n = 9)</td>
<td>5.75 (_b) (n = 12)</td>
</tr>
</tbody>
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*Note.* Means with different subscripts differ at \( p < .05.\)

There were no significant main effects or interactions for the global stereotype index.

The hypothesis that the use of several exemplars disconfirming a positive stereotype of an accessible category will cause a reduction in the application of the trait to the category as a whole and a tendency to generalize this decreased application to other stereotypical traits was supported. These findings suggest that the impact of negative information seems to transcend impression formation and individual evaluations and may be generalizable to the exemplar’s group.

Support for the selective generalization of information consistent with participants’ attitudes was also found. Only those participants with a negative attitude toward the group applied the new information about group members who disconfirmed a positive trait.

These results are also relevant to the question of whether attitudes guide information processing. As Fazio et al. (1982) have demonstrated, attitudes guide behavior to a greater extent when attitude objects are accessible. In the present sample, the participants’ attitudes seemed to guide their use of information, changing their view of an accessible group.

**Study 2**

Our purpose in conducting this second study was to determine the effects of the disconfirmation of a negative stereotypical trait on participants’ view of a target group. Consistent with Rothbart and Park’s (1986) suggestion and with Skowronski and Carlston’s (1992) findings in the area of positive–negative asymmetry, we expected that positive information disconfirming a negative stereotype would have a lower impact than negative information disconfirming a positive stereotype. We tried to disconfirm a negative trait in the dimension of morality, as in Study 1, expecting that the participants would selectively generalize the disconfirming information from the stimulus persons to the group, depending on the participants’ attitudes toward the target group.
More specifically, we expected that when the participants obtained positive information about several exemplars of an accessible social category, disconfirming a negative stereotypical trait, they would generalize the disconfirmation to the group as a whole. We predicted that this generalization would be smaller than a similar generalization involving negative information. In addition, we expected that the participants would be more apt to generalize the counterstereotypical information to the target group when this information was consistent, rather than inconsistent, with their own attitudes. Thus, we expected that the use of a negative trait to describe the group would decrease more for participants with positive attitudes toward the target group who received positive information about group members, disconfirming a negative stereotype, than for participants with negative attitudes toward the group.

**Method**

**Participants.** Fifty male students (16- to 17-year-olds) from two classes in their 3rd year of high school (the same as in the first study) were assigned to each experimental condition. As in Study 1, the criterion for assignment to the condition was class membership.

**Design and procedure.** The procedure was the same as that of Study 1, but the stereotypical trait that was disconfirmed was negative instead of positive.
The design was the same as that in Study 1, with one variation; the three teachers exhibited fair behaviors that disconfirmed the negative stereotypical trait "unfair" (\( M = 5.17 \) in a 7-point scale in the pilot study): the three exemplars included information about fair behaviors that belonged to the morality dimension.

Results and Discussion

A comparison of the ratings for the stereotype scales and the attitude toward teachers scale in the nondisconfirmation condition for Studies 1 and 2 indicated that the differences between the samples' original ratings of the stereotypical category and their initial attitudes toward the target group were almost nonexistent. Thus, we were able to compare the results of the two studies. The two samples differed for only 1 of the 16 trait adjectives, "boring" (\( Ms = 5.96 \) and \( 5.12 \), for Studies 1 and 2, respectively); \( t(47) = 2.31, p < .05 \), and consequently, we did not use this adjective in the descriptions. There were no significant differences between the two samples for their attitude toward teachers.

Stereotype change. An ANOVA was applied to each of the 16 stereotypical scales and to the global stereotype index. No significant effects of condition were found for the disconfirmed trait (fair) or for the global stereotype index (see Table 3). We did, however, find an unexpected significant decrease in the trait "grumbling" in the nondisconfirmation condition compared with the disconfirmation condition. \( t(48) = 2.24, p = .03 \).

The first hypothesis was not supported; there was no reduction in the use of the disconfirmed trait or in the global stereotype index.

The second hypothesis—that the effect of the disconfirmation of positive traits would be stronger than the effect of the disconfirmation of negative traits—was supported, because in the second study, the disconfirmation of a negative stereotypical trait had no effect on the participants’ description of the target

<table>
<thead>
<tr>
<th>Stereotype change</th>
<th>Condition</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Disconfirmation</td>
</tr>
<tr>
<td>Disconfirmed negative trait &quot;unfair&quot;</td>
<td>4.72</td>
</tr>
<tr>
<td>Global stereotype index</td>
<td>4.86</td>
</tr>
<tr>
<td>&quot;Grumbling&quot;</td>
<td>5.40_b</td>
</tr>
</tbody>
</table>

Note. \( n = 25 \) in both conditions. Means with different subscripts differ at \( p < .05 \).
TABLE 4
Average Ratings of the Disconfirmed Negative Stereotypical Trait (Unfair) and Global Stereotype Index, by Condition and Attitude

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Disconfirmed trait</th>
<th>Global stereotype index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disconfirmation</td>
<td>Nondisconfirmation</td>
</tr>
<tr>
<td>Negative</td>
<td>5.18 (n = 11)</td>
<td>5 (n = 8)</td>
</tr>
<tr>
<td>Positive</td>
<td>4.35 (n = 14)</td>
<td>4.23 (n = 17)</td>
</tr>
</tbody>
</table>

group. This finding suggests that only the disconfirmation of positive traits affected the perception of the group as a whole.

To test the third hypothesis, we conducted Attitude × Condition ANOVAs on the disconfirmed trait and the global stereotype index. The means are reported in Table 4.

The disconfirmed trait did not indicate significant main effects of attitude or condition, nor did it indicate interaction effects. For attitude, we found only a tendency toward significance, $F(1, 46) = 2.95, p < .09$; the participants with positive attitudes toward the group tended to use the negative stereotypical trait less. No significant main effects or interaction effects were found for the global stereotype index.

The present study indicates that the generalization of the disconfirmation of a negative trait to a group is more difficult than that of a positive trait. This result is consistent with the findings of Rothbart and Park (1986), which indicate that people consider negative traits as being more difficult to disconfirm than positive traits, and with the findings of Skowroski and Carlston (1992), which indicate that disconfirming negative moral behavior was more difficult than disconfirming positive moral behavior, apparently because the negative information had a greater impact on overall evaluation. The present findings point in the same direction and indicate that this effect can be generalized to the area of stereotype disconfirmation.

The results of the present study also suggest that attitudes toward a group seem to be less influential when the information being processed is positive, disconfirming a negative trait, rather than vice versa.

**General Discussion**

The present studies highlight two facets of stereotype change that occurs as a consequence of information about exemplars that disconfirms group stereotypes.
The first of these facets refers to the valence of the traits being disconfirmed. The negativity effect that was evident in the disconfirmation of the trait in the morality domain was generalizable to the disconfirmation of a stereotypical trait for a social category as a whole. This process suggests that there are some limitations to the applicability of the prototype and subtyping models of stereotype change. A review of the studies (Johnston & Hewstone, 1992, Rothbart & Lewis, 1988, Weber & Crocker, 1983) involving generalization to the group as a whole indicates that the majority of the traits being disconfirmed were positive or neutral, not openly negative (e.g., “unfair”). However, most of the stereotypical traits that play a role in intergroup relations are negative and belong to the moral dimension, especially when intergroup discrimination and conflict are involved. These findings demonstrate the difficulty, acknowledged by Rothbart and John (1985), of changing negative stereotypes through contact with or information about individual members of a group that disconfirms the stereotype.

The second facet of this research concerns the influence of attitudes about the target group in a context where the group is highly accessible because of high contact and relevance. This tendency stresses the importance of evaluative factors in addition to the purely cognitive processes that are involved in stereotype change and maintenance. The influence of attitudes was not symmetrical; negative attitudes seemed to be more powerful than positive attitudes regarding their ability to mediate the impact of disconfirming information. Thus, both the nature of the disconfirming information and the nature of attitudes toward the group seemed to have a significant role.

These findings could be interpreted in terms of either the informational or the behavioral adaptive interpretations of negativity effects. Whereas negative information along the morality dimension can have more diagnostic value than positive information along the same dimension, people with negative attitudes may be more aware of negative cues than people with positive attitudes are of positive cues.

Research on stereotype disconfirmation that includes the ability dimension and considers participants’ attitudes will allow researchers to better understand the effects of informational and affective factors in positive–negative asymmetry.

REFERENCES


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