Conservatives negatively evaluate counterstereotypical people to maintain a sense of certainty

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People frequently use physical appearance stereotypes to categorize individuals when their group membership is not directly observable. Recent research indicates that political conservatives tend to use such stereotypes more than liberals do because they express a greater desire for certainty and order. In the present research, we found that conservatives were also more likely to negatively evaluate and distribute fewer economic resources to people who deviate from the stereotypes of their group. This occurred for people belonging to both preexisting and novel groups, regardless of whether the stereotypes were real or experimentally fabricated. Critically, conservatives only negatively evaluated counterstereotypical people when the stereotypes were functional—that is, when they expected that they would need to use the stereotypes at a later point to categorize individuals into groups. Moreover, increasing liberals' desire for certainty led them to negatively evaluate counterstereotypical people just like conservatives did. Thus, conservatives are not only more likely to use stereotypes than are liberals, but are especially likely to negatively evaluate counterstereotypical people to organize the social world with greater certainty.

ideology | stereotyping | social evaluation

When Janet Reno was confirmed as the first female US Attorney General in 1993, she challenged the stereotypes of her sex through both her physical appearance and grasp of political power. People often negatively evaluate individuals who deviate from the stereotypes of their outgroup (i.e., counterstereotypical people) (1). Many political conservatives evaluated Reno negatively (2), and we argue that conservatives display negative responses to counterstereotypical people in general. More important, we explain why. Specifically, conservatives report a greater desire than liberals to efficiently reach closure and certainty in their judgments (3–5). Although everyone relies on the functionality of stereotypes to some extent (6), we argue that conservatives are particularly motivated to use stereotypes to efficiently categorize people and thus will negatively evaluate counterstereotypical people to preserve a sense of certainty about the world (4). If liberal–conservative differences in these needs drive evaluations of counterstereotypical people, then reducing conservatives' desire to categorize others should decrease the extent to which they negatively evaluate counterstereotypical people. Moreover, if conservatives' greater desire for certainty motivates them to categorize people, then heightening liberals' desire for certainty should reciprocally increase the extent to which they negatively evaluate counterstereotypical people.

Our research is predicated on the finding that people are motivated to categorize others into social groups. When group membership is not directly observable, people often rely on stereotypes about physical characteristics as a functional means of making their categorizations. For example, people assume that men with feminine facial features are gay (vs. straight) (7) and that men who appear dominant belong to the Republican (vs. Democratic) party (8). All people use stereotypes when making judgments, but to varying extents (6, 9). Research has recently demonstrated that

conservatives are more likely than liberals to use physical appearance stereotypes to categorize people into groups (10). Additionally, some evidence suggests that conservatives may be more likely to treat people in a negative manner when they do not fit the physical stereotypes of their group. For example, conservatives (but not liberals) are less likely to vote for Republican candidates who do not look stereotypically "Republican" (11), and female candidates who look less feminine are less likely to win elections in conservative (but not liberal) states (12). Thus, although conservatives are more likely than liberals to use (negative) stereotypes in general, we predicted that they would be especially likely to negatively evaluate counterstereotypical people to organize the social world with greater certainty.

Importantly, our argument that a motivation to categorize and feel certain leads conservatives to negatively evaluate counterstereotypical people diverges from decades of research in the social sciences concerning why they might do so. Many have argued that people endorse stereotypes, including physical appearance stereotypes, because they hold negative attitudes toward minority groups (e.g., racial and sexual minorities) (13–16) and because stereotypes can be used to justify the current structure of a society (17–20). Conservatives often report more negative attitudes toward minority groups than liberals do (21, 22), and are also more likely to endorse maintaining the current structure of a society (4, 23). These variables are therefore plausible explanations for why conservatives might negatively evaluate counterstereotypical people. Here, we tested the alternative perspective that conservatives' greater desire to efficiently categorize people and attain certainty explains why they negatively evaluate counterstereotypical people.

Significance

People often evaluate others in a negative manner when they do not fit the stereotypes that are generally believed about their group. Here, we not only show that political conservatives are more likely to negatively evaluate people who deviate from stereotypes than are liberals, but also explain why. Previous research has heavily emphasized that people endorse stereotypes because they hold negative attitudes toward members of minority groups and because doing so helps to maintain the current structure of society. In contrast to these perspectives, we demonstrate that conservatives negatively evaluate and economically penalize people who deviate from stereotypes because those stereotypes help them to efficiently categorize people into groups, which provides a greater sense of certainty about the world.

In the first study, we assessed how people evaluate gay and straight men whose facial features vary in gender typicality. We expected that conservatives would evaluate stereotypical people (feminine gay men and masculine straight men) more positively than counterstereotypical people (masculine gay men and feminine straight men). Participants viewed 30 pictures of white men's faces presented with a randomly assigned label indicating their ostensible sexual orientation (straight or gay). Participants in all of our studies evaluated each person using a 0 (not at all positively) to 100 (very positively) scale, unless otherwise noted. Both conservatives [$B = -6.47$, SE = 0.79, $t_{(4,721)} = -8.21$, $P < 0.001$] and liberals [$B = -2.78$, SE = 0.79, $t_{(4,721)} = -3.53$, $P < 0.001$] evaluated masculine straight men more positively than feminine straight men, but the difference between liberals' evaluations of masculine vs. feminine straight men was smaller than the difference in conservatives' evaluations [$B = -0.95$, SE = 0.29, $t_{(4,721)} = -3.31$, $P < 0.001$]. Conservatives evaluated feminine gay men more positively than masculine gay men [$B = 1.99$, SE = 0.55, $t_{(4,721)} = 3.60$, $P < 0.001$], but liberals did not [$B = -0.30$, SE = 0.55, $t_{(4,721)} = -0.54$, $P = 0.59$] (Fig. 1). Although conservatives also reported more negative attitudes toward sexual minorities in general [$r_{(161)} = 0.44$, $P < 0.001$], statistically adjusting for these attitudes did not eliminate the effects in any of our studies involving sexual orientation (i.e., studies 1 and 6). Conservatives therefore evaluated counterstereotypical people more negatively than liberals did. However, people sometimes characterize gay men as feminine to reinforce negative attitudes toward sexual minorities (24), which could have influenced participants' judgments. We therefore conducted a second experiment testing whether conservatives would negatively evaluate people who deviate from an entirely novel stereotype.

In our second study, participants read a bogus WebMD article stating that either Jewish or non-Jewish people (randomly assigned) were more likely to have moles on their faces than the other group. We selected moles because they are not associated with any other social category, possess a less negative connotation than gender typicality does, and are easily perceived from the face. Participants evaluated 30 white men's facial photos labeled as Jewish or not Jewish; one-half had moles, and one-half did not. Conservatives evaluated counterstereotypical targets more negatively than stereotypical targets [$B = 1.22$, SE = 0.27, $t_{(7,947.04)} = 4.60$, $P < 0.001$], whereas liberals did not [$B = 0.02$, SE = 0.27, $t_{(7,947.01)} = 0.09$, $P = 0.93$]. [In studies 2–5 and 7, stereotypical targets were those whose group aligned with the stereotype that participants learned at the beginning of the study (i.e., mole possession). For example, among participants who read that Jewish people are more likely to possess moles, stereotypical targets were Jewish targets with moles and non-Jewish

targets without moles, and counterstereotypical targets were Jewish targets without moles and non-Jewish targets with moles.] Although conservatives reported more negative attitudes toward Jewish people in general [$r_{(272)} = -0.16$, $P = 0.008$] and a greater desire to maintain society's current structure [$r_{(272)} = 0.34$, $P < 0.001$], adjusting for these variables did not eliminate the effects in any of our studies involving Jewish ethnicity (i.e., studies 2 and 5).

In our third study, we further tested how political ideology related to the evaluation of counterstereotypical people by using fabricated stereotypes about fictional groups (the "Niffites" and the "Luupites"). Because there are no preexisting beliefs or evaluation differences between these two groups (25), using them allowed us to eliminate the possibility that general negative attitudes toward groups and the desire to maintain the current structure of society explain conservatives' negative evaluations of counterstereotypical people. Participants learned the stereotype (randomly assigned) that either Niffites or Luupites had more facial moles than the other group. We also told participants that they would view photos of people's faces later in the study and would be asked to categorize them as Niffites or Luupites. Given that participants did not have any other information to judge group membership, moles acted as the only viable cue to categorize the targets. Participants then evaluated the same faces from our second study paired with labels indicating that each belonged to the Niffites or Luupites. Conservatives evaluated the counterstereotypical targets more negatively than the stereotypical targets [$B = 1.99$, SE = 0.30, $t_{(6,582.83)} = 6.67$, $P < 0.001$], but liberals did not [$B = 0.45$, SE = 0.30, $t_{(6,582.84)} = 1.50$, $P = 0.13$]. Adjusting for perceptions of the groups' power and status, general attitudes toward each group, and the desire to maintain society's current structure did not eliminate the effects in any of the studies in which we used Niffites and Luupites as the target groups (i.e., studies 3, 4, and 7). Thus, conservatives evaluated counterstereotypical (vs. stereotypical) people more negatively even when the groups were fictional and the stereotypes were contrived.

We hypothesize that conservatives negatively evaluate counterstereotypical people because using stereotypes is a functional process that helps them to quickly categorize others and, in turn, maintain a sense of certainty about the world. We therefore repeated our third study, except that we told participants that they would view a separate set of photographs after making their evaluations and would either categorize a new set of faces as Niffites and Luupites (as we told them in the third study), or just estimate the ages of the new faces (conditions randomly assigned). When participants expected to categorize people, the results replicated the previous study: conservatives evaluated counterstereotypical targets more negatively than stereotypical targets [$B = 1.67$, SE = 0.38, $t_{(6,608)} = 4.46$, $P < 0.001$], but liberals did not [$B = 0.64$, SE = 0.40, $t_{(6,608)} = 1.60$, $P = 0.11$]. When they expected to just estimate the new targets' ages, however, both liberals and conservatives evaluated the stereotypical and counterstereotypical targets similarly [$B = -0.14$, SE = 0.30, $t_{(6,608)} = -0.44$, $P = 0.66$] (Fig. 2). Thus, conservatives only negatively evaluated counterstereotypical people when they anticipated needing to later use the stereotypes to categorize people.

The results of our fourth study suggested that conservatives only negatively evaluate counterstereotypical people when they need to use the stereotypes to categorize people into groups. To better understand the mechanism underlying this effect, we next examined whether liberals are less likely to negatively evaluate counterstereotypical people because they possess a weaker desire for certainty (4). We therefore manipulated participants' desire for certainty in our fifth study by randomly assigning them to either respond to prompts known to heighten feelings of uncertainty (26), or to not read any prompts (i.e., the control condition). Following this manipulation, the study proceeded identically to
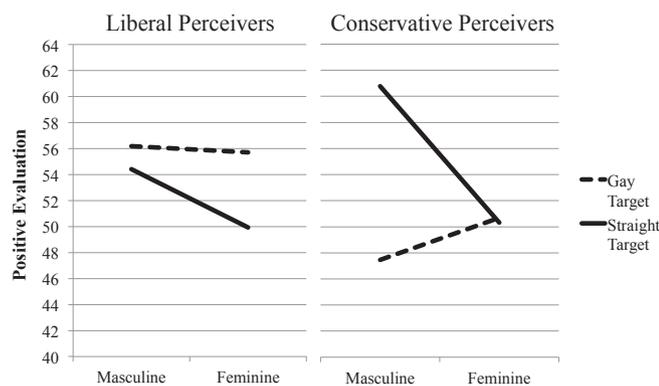

Fig. 1. Evaluations plotted as a function of participant ideology (1 SD above and below the mean), target sexual orientation, and target gender atypicality (1 SD above and below the mean) in study 1.
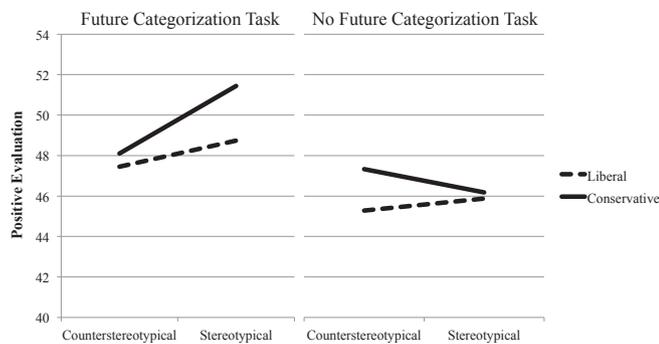
Fig. 2. Evaluations plotted as a function of future task condition, participant ideology (1 SD above and below the mean), and target stereotypicality in study 4.

our second study, except that all participants learned the stereotype that Jewish people are more likely to have moles than non-Jewish people. In the control condition, conservatives again evaluated counterstereotypical people more negatively than stereotypical people [$B = 1.45$, SE $= 0.39$, $t_{(7,768)} = 3.72$, $P < 0.001$], but liberals did not [$B = -0.19$, SE $= 0.36$, $t_{(7,768)} = -0.52$, $P = 0.60$]. However, both liberals and conservatives evaluated counterstereotypical people more negatively than stereotypical people when uncertainty was salient [$B = 1.15$, SE $= 0.29$, $t_{(7,768)} = 4.03$, $P < 0.001$] (Fig. 3). Temporarily enhancing the desire for certainty therefore led liberals to negatively evaluate counterstereotypical people as conservatives had. Liberals may therefore be less likely to negatively evaluate counterstereotypical people partly because they are typically less motivated to feel certain than conservatives are.

In our final two studies, we applied these findings to examine whether conservatives also distribute fewer economic resources to counterstereotypical people. Studying how people allocate monetary resources is important because possessing economic resources impacts well-being and the ability to fulfill basic needs (27). In our sixth study, we told participants that we were interested in how they make decisions based on minimal information and that they would decide how to allocate $30 among four people. They then simultaneously viewed photographs of four white men's faces alongside information about each person's age, race, sex, and (critically) sexual orientation. Two of the men were stereotypical in appearance (a feminine man labeled as gay and a masculine man labeled as straight), and two were counterstereotypical (a masculine man labeled as gay and a feminine man labeled as straight). Participants indicated (in whole dollars) how they wished to allocate the money. Consistent with the results of our previous studies, conservatives allocated less money to the counterstereotypical (i.e., masculine) gay man [$B = 0.31$, SE $= 0.15$, $Z = 2.06$, $P = 0.04$] and to the counterstereotypical (i.e., feminine) straight man [$B = -0.46$, SE $= 0.20$, $Z = -2.32$, $P = 0.02$] than to their stereotypical counterparts, whereas liberals allocated less money to the stereotypical (i.e., feminine) gay man [$B = -0.52$, SE $= 0.17$, $Z = -3.15$, $P = 0.002$] and to the stereotypical (i.e., masculine) straight man [$B = 0.17$, SE $= 0.13$, $Z = 1.25$, $P = 0.21$] than to their respective counterstereotypical counterparts (although the latter difference was not statistically significant; Fig. 4).

Our seventh study replicated this effect using the fictional Niffite and Luupite groups. After learning the stereotype that either Niffites or Luupites were more likely to possess moles than the other group (randomly assigned), participants decided how to allocate $30 among four white men—two randomly labeled as Niffites and two as Luupites, with one man displaying facial moles within each pair. Conservatives allocated less money to the counterstereotypical targets than to the stereotypical targets

[$B = 0.52$, SE $= 0.14$, $Z = 3.65$, $P < 0.001$], but liberals did not [$B = -0.05$, SE $= 0.10$, $Z = -0.50$, $P = 0.62$]. Conservatives therefore allocated fewer economic resources to counterstereotypical people who belonged to both real and fictional groups.

These studies demonstrate that conservatives negatively evaluate people who deviate from stereotypes more than liberals do. Our results suggest that conservatives' evaluations stem from a functional process of using stereotypes to efficiently categorize people into groups and thus maintain a sense of certainty. In the present studies, we investigated how people evaluated individuals who deviate from physical stereotypes that can be used to categorize them into groups. However, people can also deviate from stereotypes that are more generally used to describe and predict others' behavior, rather than to categorize them (e.g., stereotypes that women are warm whereas men are competent) (28). An interesting avenue for future research would be to examine whether different psychological motivations (e.g., the desire for certainty vs. the desire to justify a society's current structure) guide evaluations of people who deviate from category stereotypes versus stereotypes used to predict behavior. Altogether, our findings help to elucidate how psychological motivations can shape liberals' and conservatives' responses to people who challenge stereotypes.

Materials and Methods

Institutional Approval and Informed Consent. All studies reported in this manuscript were approved by New York University's Institutional Review Board. At the beginning of all studies, participants read an informed consent and agreed to complete the study.

Study 1. We recruited 163 participants (106 women, 56 men, 1 "other" gender; M_age = 32.94 y, SD = 10.31, age range = 18–65 y) online through Mechanical Turk (MTurk) (see ref. 29 for a description and assessment of this research platform). Forty-five additional participants completed the study but were excluded from analysis either for failing an attention check or providing invariant responses across targets (e.g., all evaluations of 50 on the 0–100 scale).
Stimuli. We photographed 30 white undergraduate men under standardized conditions in a laboratory. The men self-reported their sexual orientation as being either gay ($n = 15$) or straight ($n = 15$). All targets were white to avoid potential confounds with racial stereotypes. Targets posed facing forward and possessed no jewelry, tattoos, facial piercings, or glasses. All images were cropped at the target's neck, but ears and hair were retained.
Introductory information. We instructed participants that they would view a series of pictures of men who either identified as gay or straight, indicated by a label below each face, and that they would evaluate each person.
Labeling of faces. Participants viewed the 30 photographs, each on a separate page. A label below each photograph ostensibly indicated whether the person identified as gay or straight. Eight of the 15 straight targets were randomly labeled as straight and 7 as gay, and 8 of the 15 gay targets were
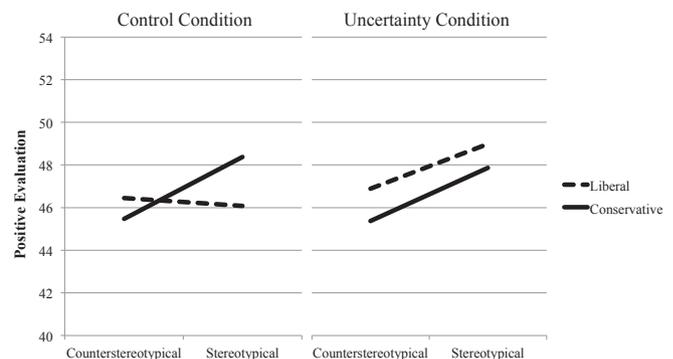

Fig. 3. Evaluations plotted as a function of uncertainty condition, participant ideology (1 SD above and below the mean), and target stereotypicality in study 5.
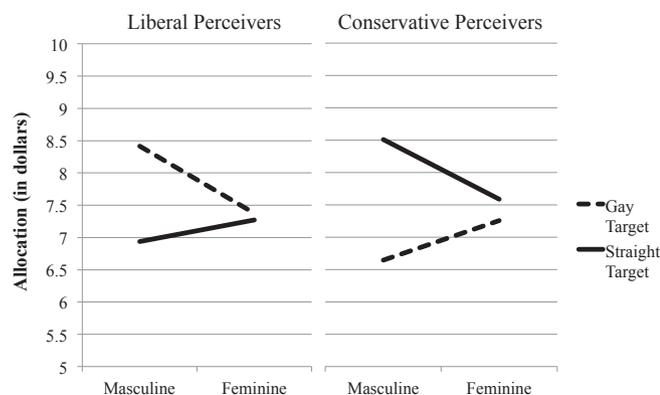
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Fig. 4. Allocations plotted as a function of participant ideology (1 SD above and below the mean), target sexual orientation, and target gender atypicality (1 SD above and below the mean) in study 6.

randomly labeled as gay and 7 as straight. Targets' self-identified sexual orientation did not significantly influence how they were evaluated.

Evaluations of targets. Unless otherwise noted, participants in all studies evaluated targets by responding to the question "How positively do you feel toward this person?" using a 0 (not at all positively) to 100 (very positively) scale.

Attitudes toward sexual minorities. Participants completed the Attitudes Toward Gay Men and Lesbians scale (interitem reliability Cronbach's $\alpha = 0.95$), a well-validated measure commonly used to assess general attitudes toward sexual minorities (10).

Ideology. In all studies, participants reported their political ideology in response to the question: "Where on the following scale of political orientation would you place yourself?" (1 = extremely liberal, 5 = moderate, 9 = extremely conservative; M = 4.20, SD = 1.94).

Targets' gender atypicality score. We estimated targets' gender atypicality by instructing 30 independent coders recruited from MTurk to rate the masculinity and femininity of each target (e.g., 1 = not at all feminine, 7 = extremely feminine). Interrater reliability was high (masculine $\alpha = 0.93$; feminine $\alpha = 0.93$), and so we averaged the scores across coders to achieve a composite masculinity and femininity score for each target. As expected, masculinity and femininity ratings were strongly inversely correlated [$r_{(28)} = -0.95, P < 0.001$]. Thus, we reverse-scored the mean masculinity ratings for each face and averaged them with the mean femininity ratings to create a composite gender atypicality score for each target (higher numbers indicate greater gender atypicality).

Additional statistics. In the main text, we report how liberals and conservatives evaluated gay and straight targets based on their gender atypicality. To justify this, we first conducted a multilevel model analysis (which accounted for the nonindependence in participants' evaluations) (30) using the MIXED procedure in SPSS. This procedure can yield fractional degrees of freedom. The model included participant's ideology (grand-mean centered), the target's labeled sexual orientation (straight = 1, gay = −1), the target's gender atypicality (grand-mean centered), and all two- and three-way interactions as predictors, with participants' evaluations as the dependent variable. We specified a compound symmetry covariance matrix. We observed a significant three-way interaction [$B = -0.77$, SE = 0.18, $t_{(4,721)} = -4.39, P < 0.001$]. The sexual orientation by gender atypicality two-way interaction was significant for both conservatives [$B = -4.23$, SE = 0.48, $t_{(4,721)} = -8.78, P < 0.001$] and liberals [$B = -1.24$, SE = 0.48, $t_{(4,721)} = -2.57, P = 0.01$]. All further simple effects are reported in the main text.

Study 2. We recruited 274 participants (175 women, 99 men; $M_{age} = 34.00$ y, SD = 10.78, age range = 18–73 y) online through MTurk. Fifty-two additional participants completed the study but were excluded either for failing an attention check question or providing invariant responses.

Stimuli. We selected 30 photographs of white undergraduate men with ($n = 15$) and without ($n = 15$) facial moles from a database of individuals photographed under standardized conditions in a laboratory. Targets posed facing forward. All images were cropped at the target's neck, but ears and hair were retained.

Stereotype creation manipulation. We first instructed participants that they would read an excerpt from a recent Internet article. We then presented them with a fake WebMD article that had been altered to provide participants with information to create the stereotype either that Jewish people are more likely ($n = 137$) or less likely ($n = 137$) than non-Jewish people to have

moles. Participants randomly assigned to the "Jews more moles condition" read an article describing a recent dermatological study finding that Jewish people were more likely to possess moles than non-Jewish people. Participants randomly assigned to the "Jews fewer moles condition" read that the study ostensibly determined that Jewish people were less likely to have moles than non-Jewish people using similar (but opposite) language as the article in the other condition.

In a pretest, 56 participants read one of these articles and indicated the extent to which they agreed that the information in the article was valid, credible, biased (reverse coded), and inaccurate (reverse coded) using a 1 (strongly disagree) to 7 (strongly agree) scale. Responses to all questions ($M_{range} = 4.57$–5.25, $SD_{range} = 1.19$–1.51) were significantly above the midpoint of the scale (values of $t \geq 3.31$, values of $P \leq 0.002$), indicating that participants generally believed that the information in the article was valid. Additionally, participants' ideology was not associated with perceptions of the article's credibility (values of $|r| \leq 0.16$, values of $P \geq 0.24$).

Labeling and evaluation of faces. Participants then viewed the 30 different faces, each on a separate page. One-half of the faces clearly possessed moles, and one-half did not. A label below each face indicated whether the person in the photograph was ostensibly Jewish or not Jewish. Participants evaluated each face as in study 1.

Attitudes toward Jewish people. Participants indicated their general attitudes toward Jewish people using a 0 (not at all positively) to 100 (very positively) scale.

Social dominance orientation. To assess participants' desire to maintain the current structure of society, they completed the Social Dominance Orientation$_6$ (SDO$_6$) scale (31) (interitem reliability Cronbach's $\alpha = 0.94$), which includes items such as "Having some groups on top really benefits everybody." Participants responded using a 1 (strongly disagree) to 7 (strongly agree) scale.

Ideology. Participants reported their political ideology as in study 1 (M = 4.22, SD = 1.78).

Study 3.

Pilot study. We conducted a pilot study of our stereotype manipulations to examine whether participants would differentially evaluate the groups based on their likelihood of possessing moles. We first instructed them to read an excerpt from a story describing fictional groups called the Niffites and Luupites in which they learned either that the Niffites ($n = 26$) or the Luupites ($n = 26$) were more likely to have moles or long fingers than the other group (randomly assigned).

Because we sought to use groups that would minimize differential group evaluations and perceived hierarchy, participants indicated their "general attitudes" toward each group using a 0 (not at all positively) to 100 (very positively) scale, indicated "perceived status" in response to the question "Which of the groups mentioned in the excerpt do you perceive as having more positive value attached to their group?" using a 1 ("Luupites have higher value") to 4 ("Both groups have equal value") to 7 ("Niffites have higher value") scale, and indicated "perceived power" in response to the question "Which of the groups mentioned in the excerpt do you perceive as having more resources (e.g., food, land, wealth, etc.)?" using a 1 ("Luupites have more resources") to 4 ("Both groups have equal resources") to 7 ("Niffites have more resources") scale. Participants evaluated the group that they learned was more likely to have moles more negatively [$t_{(50)} = -2.21, P = 0.03$], as having less status [$t_{(50)} = 3.50, P < 0.001$], and as having less power [$t_{(50)} = 2.09, P = 0.04$].

Participants and design (main study). We recruited 227 participants (141 women, 86 men; $M_{age} = 33.03$ y, SD = 10.77, age range = 18–65 y) online through MTurk. One hundred seventeen additional participants completed the study but were excluded from analysis either for failing an attention check question, providing invariant responses, or failing to correctly recall the information learned in the manipulation.

Stereotype creation manipulation. Participants were randomly assigned to learn either that the Niffites ($n = 112$) or the Luupites ($n = 115$) were more likely to have moles using the same manipulations as in the pilot study. After reading this information, participants learned that they would be completing two tasks in the study. For the first task, they would view photographs of people belonging to the Niffite and Luupite groups (indicated via a label below each picture) and that they would report how they feel about each person, similar to studies 1 and 2 above. For the second task, we told participants that they would view a separate series of photographs that did not possess group membership labels and would categorize each person as a Niffite or Luupite. We told them this information to provide them with a motivation to retain the stereotype that they had learned by anticipating that they would later need to use the stereotype. Participants did not actually complete this second task.

Labeling and evaluation of faces. Participants then viewed the 30 faces, each on a separate page. One-half of the faces clearly possessed moles, and one-half did not. Below each face was a label indicating whether the person in the photograph was ostensibly a Niffite or Luupite. Participants evaluated each face as in study 2.

Perceptions of Niffites and Luupites. Participants indicated their general attitudes toward the groups, as well as the perceived status and power of the groups using the same scales as in the pilot study.

Social dominance orientation. Participants completed the SDO_6 scale (interitem reliability Cronbach's $\alpha = 0.92$) as in study 2.

Perceived validity of stereotype. Participants responded to the question "To what extent does whether a person has moles on their face help to accurately categorize them as belonging to the Luupite or Niffite group?" using a 1 (not at all) to 7 (very much so) scale. The mean response was significantly above the scale midpoint [M = 4.74, SD = 1.83; $t_{(226)} = 6.08$, $P < 0.001$], and responses did not differ as a function of ideology or article condition (values of $|t| \leq 1.04$, values of $P \geq 0.30$), suggesting that participants believed the stereotype.

Stereotype manipulation checks. To ensure that participants encoded and remembered the stereotype information presented to them at the beginning of the study, they separately indicated which group was more likely to have moles and which group was more likely to have long fingers. For each question, participants indicated that the correct answer was either the Luupites, Niffites, neither group, or that they were unsure. Participants who failed to correctly answer both questions were excluded from analysis [*Participants and design (main study)*].

Ideology. Participants reported their political ideology as above (M = 4.22, SD = 2.04).

Study 4. We recruited 228 participants (145 women, 83 men; $M_{age} = 33.64$ y, SD = 11.41, age range = 18–70 y) online through MTurk. Three hundred thirty additional participants completed the study but were excluded either for failing an attention check, providing invariant responses, or failing to correctly recall the information learned in the manipulation.

Stereotype creation manipulation. All participants read information creating the stereotype that Luupites were more likely to have moles than Niffites using the same materials as in study 3.

Future categorization manipulation. As in study 3, participants then received instructions that they would complete two tasks in the study. For the first task, they would view photographs of people belonging to the Niffite and Luupite groups (indicated by a label below each picture) and would report how they feel about each person. For the second task (which they would not actually complete), they learned that they would either categorize a new set of faces as Luupites and Niffites (n = 125) or that they would estimate the ages of a new set of faces (n = 103).

Evaluations of targets. Participants then viewed the same 30 faces as in studies 2 and 3, each on a separate page, and provided their evaluation of them.

Additional variables. Attitudes toward the groups, SDO_6 (interitem Cronbach's $\alpha = 0.93$), and the perceived status and power of the groups were measured as in study 3.

Perceived validity of stereotype. We assessed participants' belief in the stereotype that they learned at the beginning of the study the same way that we did in study 3. The mean response was significantly above the scale midpoint (M = 4.58, SD = 1.90) [$t_{(227)} = 4.61$, $P < 0.001$], and responses did not differ as a function of ideology or article condition (values of $|t| \leq 1.40$, values of $P \geq 0.16$), suggesting that participants believed the stereotype.

Stereotype manipulation checks. Participants completed the same stereotype manipulation checks as in study 3.

Ideology. Participants reported their ideology (M = 4.07, SD = 2.05).

Additional statistics. We report how liberals and conservatives evaluate targets based on their stereotypicality in the main text. However, we first conducted an analysis using the MIXED procedure in SPSS that included participants' ideology (grand-mean centered), target stereotypicality (grand-mean centered), second task condition (categorization = 1, no categorization = −1), and all two- and three-way interactions as predictors, with evaluations of the targets as the dependent variable. We specified compound symmetry as the covariance matrix. The three-way interaction was significant [B = 0.23, SE = 0.10, $t_{(6,608)} = 2.32$, $P = 0.02$]. We decompose the ideology by target stereotypicality interaction separately for people assigned to the categorization and no categorization conditions in the main text.

Study 5. We recruited 268 participants (174 women, 94 men; $M_{age} = 34.74$ y, SD = 11.26, age range = 18–68 y) online through MTurk. Sixty-one additional participants completed the study but were excluded for either failing an attention check or providing invariant responses.

Stereotype creation manipulation. All participants learned the stereotype that Jewish people are more likely to have moles. Participants read the same bogus article as in study 2.

Uncertainty manipulation. We randomly assigned participants to either the uncertainty salience (n = 128) or control (n = 140) condition. As in previous research (e.g., ref. 26), participants assigned to the "uncertainty salience condition" were asked to "Please briefly describe the emotions that you experience when you feel uncertain," "Please write down, as specifically as you can, what you think physically will happen to you as you feel uncertain," and "Please briefly describe the kinds of situations in which you experience a lot of uncertainty." Participants assigned to the "control condition" did not receive any further information and continued to the next part of the study.

Evaluations of targets. Participants then viewed the same 30 faces as in the previous studies, each on a separate page. A label below each face indicated whether the person in the photograph was ostensibly Jewish or not Jewish. One-half of the faces clearly possessed moles and one-half did not. Participants evaluated each face as in studies 1–4.

Additional variables. We measured attitudes toward Jewish people and SDO_6 (interitem Cronbach's $\alpha = 0.92$) as above.

Ideology. Participants reported their ideology (M = 4.31, SD = 2.02).

Perceived validity of stereotype. Participants responded to the question "To what extent does whether a person has moles on their face help to accurately categorize them as Jewish or not Jewish?" using a 1 (not at all) to 7 (very much so) scale. Participants' beliefs did not differ based on their condition or ideology (values of $P \geq 0.30$).

Additional statistics. We report how liberals and conservatives evaluate targets based on their stereotypicality in the main text. We first used the MIXED procedure in SPSS to predict participants' evaluations of the targets according to their ideology (grand-mean centered), the targets' stereotypicality (grand-mean centered), the uncertainty condition (uncertainty = 1, control = −1), and all two- and three-way interactions. We specified compound symmetry as the covariance matrix. The three-way interaction was marginally significant [B = −0.18, SE = 0.10, $t_{(7,768)} = −1.79$, $P = 0.07$]. In the main text, we decompose the ideology by stereotypicality interaction separately for people assigned to the control and uncertainty conditions.

Study 6. We recruited 326 participants (164 women, 162 men; $M_{age} = 34.04$ y, SD = 11.75, age range = 18–74 y) online through MTurk. Nine additional participants completed the study but were excluded for failing an attention check, and one additional participant did not provide their ideology.

Stimuli. We chose four photographs from those used in study 1: two rated high in gender atypicality (mean scores of 4.28 and 3.97), and two rated low in gender atypicality (mean scores of 2.43 and 2.28).

Allocation task. Participants read that the researchers were interested in how people allocated money based on minimal amounts of information. We told them that they would be allocating money to four individuals who had previously participated in a study conducted in our laboratory, and that any money allocated to these individuals would be given to them as compensation in addition to what they received for completing the initial study. As a cover story, we told participants that the study had concerned romantic relationships, and that people had provided their age, race, sex, and sexual orientation.

Participants next viewed four photographs of white men in a 2 × 2 matrix pattern. Two of the men were randomly labeled as gay and two as straight. Additionally, one of the men was rated high on gender atypicality and one was rated low on gender atypicality within each sexual orientation. The exact presentation order of the faces within the matrix was randomized across participants. Four sliding bars appeared below the photographs that participants used to make their allocation. The bars were labeled as persons 1–4, and a number corresponding to one of the bars appeared next to each photograph. Participants used the bars to decide how to make their allocation, and could change their answers until they submitted their responses for all four targets. The only constraint was that the total allocation must amount to $30 and that the allocations must be made in whole dollars.

Ideology. Participants reported their ideology (M = 4.40, SD = 2.17).

Additional statistics. In the main text, we report how liberals and conservatives allocated to gay and straight targets based on their gender atypicality. Before doing this, we analyzed the full factorial model using generalized estimating equations, including participants' ideology (grand-mean centered), target sexual orientation (straight = 1, gay = −1), gender atypicality, and all two- and three-way interactions as predictors; participants' allocations to targets as the dependent variable; and specifying an exchangeable correlation matrix. We observed a significant three-way interaction (B = −0.17, SE = 0.04, Z = −4.07, $P < 0.001$), which we decomposed by examining the two-way target sexual orientation by gender atypicality interaction separately for

conservatives and liberals. The two-way interaction was significant for both conservatives ($B = -0.38$, SE = 0.13, $Z = -2.86$, $P = 0.004$) and liberals ($B = 0.34$, SE = 0.11, $Z = 3.23$, $P < 0.001$). All further simple effects are reported in the main text.

Study 7. We recruited 273 participants (169 women, 104 men; $M_{age} = 33.57$ y, SD = 11.51, age range = 18–68 y) online through MTurk. Seventy-four additional participants completed the study but were excluded from analysis for failing an attention check question.

Stimuli. We randomly chose four photographs from those used in study 3; two men possessed moles and two did not.

Stereotype creation manipulation. We randomly assigned participants to learn that either the Niffites ($n = 140$) or the Luupites ($n = 133$) were more likely to

have moles. The information used to create these stereotypes was identical to that in study 3.

Allocation task. Participants allocated money to the four targets as in study 6.

Perceived validity of stereotype. We assessed participants' belief in the stereotype that they learned at the beginning of the study the same way that we did in study 3. The mean response significantly exceeded the midpoint of the scale (M = 4.32, SD = 2.14) [$t_{(272)} = 2.46$, $P = 0.01$], and responses did not differ as a function of ideology or article condition (values of $|t| \leq 0.52$, values of $P \geq 0.60$), suggesting that participants believed the stereotype.

Stereotype manipulation checks. Participants completed the same manipulation checks as in study 3.

Ideology. Participants reported their political ideology (M = 4.31, SD = 2.16).

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