

# Framing Discrimination: Effects of Inclusion Versus Exclusion Mind-Sets on Stereotypic Judgments

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Three studies investigated how inclusion versus exclusion strategies differentially lead to stereotypic decisions. In inclusion strategies, suitable targets are selected from a list of candidates, whereas in exclusion strategies, unsuitable candidates are eliminated. Across 2 separate target domains (Study 1: male and female politicians; Studies 2 and 3: African American and European American basketball players), exclusion strategies, as compared with inclusion strategies, elicited higher levels of both sensitivity stereotyping (i.e., greater difficulty distinguishing among members of stereotyped groups) and criterion stereotyping (i.e., setting different decision thresholds for judging members of different groups; see M. R. Banaji & A. G. Greenwald, 1995). Thus, the strategy used during decision making can influence the final decision via 2 theoretically distinct stereotyping mechanisms.

*Keywords:* stereotypes/stereotyping, decision making, task framing, mind-sets, inclusion–exclusion discrepancy

A substantial literature attests to the fact that decision makers often arrive at substantially different kinds of judgments depending on how a choice option is framed (Kühberger, 1998; Tversky & Kahneman, 1986). For example, if a medical treatment is said to have a 25% mortality rate, it will be judged less favorably than if it is said to have a 75% survival rate. When stated abstractly, the logical equivalence of these two alternative frames is obvious, but psychologically, the different descriptions produce reliably different perceptions and different choices.

It is also possible to frame a decision-making process in different ways. For example, every year, graduate programs receive a glut of applications for a limited number of positions, and every year, admissions committees must decide how to reduce a large pool of applicants to a final list of accepted candidates. There are two quite different ways to approach this potentially daunting task of reducing a relatively large set of options to a small, delimited choice set (Heller, Levin, & Goransson, 2002). One strategy is to select all of the well-qualified candidates from the broader pool of applicants; this approach constitutes an *inclusion strategy*. An alternative strategy is to eliminate all candidates who are not well qualified, with the remaining individuals constituting the chosen set; this approach constitutes an *exclusion strategy*. Either of these

two strategies should result in a final choice set of individuals who are deemed well qualified with respect to the relevant criteria. Indeed, eliminating everyone who is not well qualified should produce the same final choice set as selecting everyone who is well qualified.

Normatively, these strategies should be the perfect converse of one another, leading to identical choice sets; however, an increasing body of research indicates that decision makers make substantially different decisions under exclusion and inclusion mind-sets. Perhaps the most robust difference in decision making is that individuals in an exclusion mind-set tend to produce substantially larger final choice sets than do individuals in an inclusion mind-set, an effect known as the *inclusion–exclusion discrepancy* (IED; Levin, Huneke, & Jasper, 2000; Levin, Jasper, & Forbes, 1998; Yaniv & Schul, 1997, 2000; Yaniv, Schul, Raphaelli-Hirsch, & Maoz, 2002). In one demonstration of the IED, Yaniv et al. (2002) had Israeli participants predict which of the many Israeli political parties would gain seats in the Knesset in an upcoming election. Yaniv and colleagues showed participants a list of political parties that were fielding candidates in the election and manipulated whether participants were required to (a) select the parties that they believed would gain seats in the election (i.e., an inclusion mind-set) or (b) eliminate those parties that they believed would not gain seats in the election (i.e., an exclusion mind-set). In line with mounting evidence for the IED, Yaniv et al. found that participants tended to have much larger final choice sets when operating under an exclusion rather than an inclusion mind-set.

According to Yaniv and Schul (1997, 2000), the IED arises from a general tendency toward inaction under uncertainty (see also Heller et al., 2002), with the discrepancy arising because inaction in inclusion and exclusion mind-sets has differing consequences. For individuals in an inclusion mind-set, failing to act on an option

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leads to that particular option not being part of the final choice set. Conversely, for individuals in an exclusion mind-set, the consequence of inaction is a failure to exclude a particular option, leading to that particular option being retained in the final choice set. Yaniv and Schul (2000) found that decision makers are particularly likely not to act on what they called middling cases. For extremely well-qualified or extremely unqualified candidates, there should be no effect of mind-set, but when there is uncertainty, the tendency not to act produces larger final choice sets under exclusion, as compared with inclusion, task framing.

In the present studies, we sought to investigate how stereotypes might influence decision makers' choices under inclusion versus exclusion frames. For example, if candidates are being considered for admission to a graduate program in engineering and if common social stereotypes suggest that women are generally not well qualified to become engineers, would this bias be more evident under an inclusion or an exclusion framing of the choice process? To derive predictions about this question, it was necessary to consider in greater detail the psychological processes at work in the IED. Yaniv et al. (2002) argued that, in signal-detection terms, decision makers set a lower criterion (also known as bias) for membership in the final choice set when in an exclusion mind-set. For example, in their study of the Israeli elections, Yaniv and colleagues were able to check participants' predictions against the subsequent election results, allowing them to calculate hit and false-alarm rates for participants in both the inclusion and the exclusion mind-sets. Signal-detection analyses indicated that participants set a relatively lax criterion for retaining an option in the final choice set in the exclusion condition, compared with the inclusion condition. However, Yaniv et al. found that inclusion and exclusion mind-sets did not lead to differences in sensitivity for the response options, indicating that task framing had no effect on participants' capacity to discriminate between parties who would and would not gain seats in the Knesset.

In related research, Levin et al. (2000) found evidence that the psychological effects of mind-sets on decision making can go beyond simple differences in criterion setting. Specifically, they found that participants making decisions in inclusion mind-sets tended to return to each of the possible options more frequently and also seriously considered more of the choice options than did participants in the exclusion mind-set. Thus, participants in an inclusion mind-set seemed to engage in deeper deliberation about each of the response options than did participants in an exclusion mind-set. This latter finding suggests that under some conditions, sensitivity differences in decision makers' choices may in fact be elicited depending upon the mind-set under which they construct their choice set.

If inclusion and exclusion mind-sets can indeed elicit different levels of processing depth, then one can readily expect that reliance on stereotypes will also covary with these mind-sets. A great deal of research suggests that stereotypic effects tend to be at their most powerful when motivation and capacity to process social targets (i.e., individuate) are reduced (e.g., Fiske & Neuberg, 1990; Macrae & Bodenhausen, 2000). Thus, insofar as inclusion and exclusion mind-sets have different implications for how deeply targets are processed, the IED may prove to be an interesting domain in which to investigate stereotyping processes.

### Detecting Stereotypes Via Signal Detection

As previously noted, past work by Yaniv et al. (2002) used signal-detection analysis to examine the processes underlying the IED. Within the stereotyping literature, prior work by Banaji and colleagues (e.g., Banaji & Greenwald, 1995; Park & Banaji, 2000) has used these same signal-detection methods (see Green & Swets, 1974) to explicate the processes underlying stereotyping effects. The sensitivity parameter ( $d'$  or  $A'$ ) has been linked to what Banaji and Greenwald (1995) called *sensitivity stereotyping*, or the tendency for perceivers to have difficulty distinguishing or differentiating among the members of a social group. In other words, this parameter relates to the degree of perceived homogeneity, and thus confusability or interchangeability, of the members of stereotyped groups (e.g., Judd & Park, 1988; Quattrone & Jones, 1980). In contrast, the signal-detection criterion parameter ( $\beta$  or  $B''$ ) has been mapped onto a separate mechanism by which stereotypes operate. Specifically, this *criterion stereotyping* involves the adoption of different criteria in judging members of different groups (e.g., Biernat, 2003).

Consider an example drawn from the work of Park and Banaji (2000), whose experiments focused on the stereotype of African Americans as basketball players. They had participants decide which African American and European American targets were basketball players. In this case, criterion stereotyping manifests as a tendency to set a lower criterion for African Americans to be considered basketball players than for European Americans. Sensitivity stereotyping, however, manifests as a tendency to confuse African Americans who actually have athletic prowess with those who do not. When sensitivity stereotyping is operating, members of a stereotyped group seem more homogeneous and thus are difficult to discriminate from one another.

Past work has found that sensitivity stereotyping and criterion stereotyping are responsive to different manipulations in different settings. Thus, not all instances of stereotyping necessarily engage both of these stereotyping processes. For example, in their initial demonstration of criterion stereotyping, Banaji and Greenwald (1995) used a false fame paradigm (see Jacoby, Kelley, Brown, & Jasechko, 1989) in which participants were exposed to a list of male and female, famous and nonfamous names. After a 24-hr delay, participants returned and were provided with a list of twice as many names, including all of the names observed in the first session. The typical finding, which was replicated by Banaji and Greenwald, is that nonfamous male names in the original list were more likely than nonfamous female names to seem famous when reencountered in the second session. Additionally, Banaji and Greenwald used the hits and false alarms to male and female targets in this false fame task to compute indices of sensitivity and criterion stereotyping. In this case, Banaji and Greenwald found that the false fame effect was due to a robust criterion stereotyping effect, but they discovered no reliable evidence of sensitivity stereotyping. Thus, although participants showed no difference in perceptions of homogeneity for male and female targets, they set the bar for deciding a woman was famous higher than they did for male targets. In a more recent demonstration, Park and Banaji (2000) found that both sensitivity stereotyping and criterion stereotyping are at play when perceivers are in happy mood states. In these studies, Park and Banaji presented participants with a list of African American and European American names of professional

basketball players intermingled with African American and European American distractor names. Although participants in a neutral mood showed neither reliable sensitivity stereotyping nor criterion stereotyping, participants in a happy mood showed both forms of stereotyping. Thus, stereotyping effects observed in happy-mood participants were due to a combination of increased perceptions of homogeneity of African Americans and a decrease in participants' threshold for including African Americans in a stereotype-relevant group (i.e., basketball players).

The present studies sought to understand how decision-making mind-sets might promote or undermine these distinct forms of stereotyping. Given the past work on the IED, hypotheses for sensitivity stereotyping seemed clear. The findings of Levin et al. (2000) suggested that inclusion mind-sets facilitate higher levels of elaboration than exclusion mind-sets. Insofar as relatively extensive processing is a necessary precursor for individuation (e.g., Fiske & Neuberg, 1990), we hypothesized that sensitivity stereotyping would be less likely to be observed in inclusion conditions compared with an exclusion mind-set, in which decision makers would appear to process individual targets less extensively. Park and Banaji's (2000) study used a de facto inclusion mind-set, and they found little evidence of sensitivity stereotyping under neutral mood conditions. However, the psychological tendencies associated with the exclusion mind-set might result in sensitivity stereotyping even in a neutral mood state.

Our hypotheses for criterion stereotyping, however, were more tentative. The processing depth effects of the different mind-sets did not necessarily have clear implications for criterion stereotyping, making our investigation of the effects of mind-set on criterion stereotyping a more exploratory one. The findings of Yaniv et al. (2002) suggested that decision makers set a lower criterion for membership in the target category when operating under an exclusion mind-set. On the basis of their principle of inaction under uncertainty, one might expect this criterion shift to be a general tendency that operates under an exclusion mind-set independently of any additional effect of criterion stereotyping that might be observed. Alternatively, it could be that exclusion mind-sets might also elicit a relatively high degree of criterion stereotyping, as compared with the inclusion mind-sets. Study 1 was designed to test the extent to which inclusion and exclusion mind-sets differentially engaged sensitivity and criterion stereotyping.

### Study 1

In Study 1, participants were presented with a list of names and were asked to determine which ones were politicians. The names on this list included both actual politicians and nonpoliticians, and both of these subgroups included both male and female names. Women are culturally viewed as being better suited for communal roles rather than agentic roles (Eagly & Karau, 2002; Eagly, Wood, & Diekmann, 2000). As such, it is counterstereotypic for women to hold occupations that are strongly associated with agentic qualities, such as politicians and civic leaders. To determine whether a man has the qualities necessary for politics, one must consider the individual's personal characteristics and attributes, whereas the stereotype of women permits perceivers to categorically assume that women are generally unsuitable for this kind of agentic role. In the present context, sensitivity stereotyping would be evident if people were less able to differentiate politi-

cians from nonpoliticians when considering female (compared with male) names, and criterion stereotyping would be evident if a higher criterion for membership in the category "politicians" were set for female as opposed to male names (see Banaji & Greenwald, 1995). On the basis of the findings of Levin et al. (2000) showing more extensive processing of the choice set under inclusion conditions, we expected to find greater sensitivity stereotyping under an exclusion mind-set than under an inclusion mind-set. We also expected to replicate the general IED effect and sought to determine whether it would be based on the establishment of a lower criterion in the exclusion condition and, if so, whether this criterion shift would interact with target sex at all.

### Method

#### *Participants and Design*

One hundred nineteen undergraduates (67 female) from Miami University participated in this research. Thirteen participants did not complete the task as instructed (e.g., they explicitly both included and excluded targets) and were eliminated from all analyses. Participants either completed the research in a laboratory setting in exchange for partial course credit or were approached at public locations on the university campus and asked to participate in exchange for a piece of candy. Preliminary analyses included location (laboratory vs. public locations) as a between-subjects factor; however, this factor showed neither reliable main effects nor interactions and is not discussed further. The experimental design was a 2 (mind-set: inclusion vs. exclusion)  $\times$  2 (target category: politician vs. nonpolitician)  $\times$  2 (target sex: male vs. female) mixed-model design with repeated measures on the latter two factors.

#### *Materials and Procedure*

After giving informed consent, participants were asked to complete a short questionnaire regarding their knowledge of politicians and judges. This questionnaire involved a form entitled People in Politics and Law as well as a demographics questionnaire, in that order. The People in Politics and Law questionnaire served as the primary dependent measure. It contained a set of 40 names: 20 male names, 10 of which belonged to actual politicians and judges, and 20 female names, 10 of which belonged to actual politicians and judges (see the Appendix). All names were presented on the same page. The 40 names appeared in a single predetermined random order on the page, in four columns of 10 names each.

The 20 politicians were selected on the basis of pretesting to ensure that general knowledge about the male and female politicians was closely equated. We generated a list of 122 politicians and judges (61 female) of current or historical note. Two random orders of this list were generated in a survey called the Political Knowledge Pretest, in which participants were asked to complete a recognition test of the 122 names. One-hundred nine Miami University undergraduates who completed this pretesting were asked to place a check mark beside the names that they recognized as politicians or judges. For names that were checked as belonging to the category "politician or judge," participants were asked to rate their certainty that the target was, indeed, a politician or judge on a 7-point scale (1 = *not at all certain*; 7 = *very certain*). Certainty was included to ensure that if participants were using different certainty thresholds to differentially respond to the male and female names, we could select male and female politicians who elicited identical levels of recognition and certainty. The frequency with which each of the 122 names was recognized as a politician or judge and the self-reported certainty of the recognitions were both calculated. Male and female names most closely matched in recognition frequency and recognition certainty were selected. In all cases, the matched male and female targets differed by less than 4% in recognition frequency,

with no mean recognition frequency differences for female ( $M = 39.9\%$ ) and male targets ( $M = 39.0\%$ ;  $p > .9$ ). Similarly, the matched male and female targets never differed by more than 0.40 in recognition certainty (on a 7-point scale), with no mean recognition certainty differences for female ( $M = 5.49$ ) and male ( $M = 5.56$ ) targets selected for use in this study ( $p > .8$ ). There were no participant sex effects in recognition frequency or certainty for the targets selected for use in this study ( $ps > .7$ ). To avoid floor and ceiling effects, we also made an effort to select names recognized by more than one fifth but fewer than four fifths of pretest participants.

The instructions at the top of the People in Politics and Law questionnaire manipulated the task framing, placing participants into either an inclusion or an exclusion mind-set. Specifically, participants assigned to the inclusion mind-set condition were instructed to “**circle** the names of the individuals who ARE politicians or judges” (emphasis in original), whereas participants in the exclusion mind-set condition were instructed to “**cross off** the names of individuals who ARE NOT politicians or judges” (emphasis in original). After completing this task, participants completed a brief demographics questionnaire and then were debriefed.

## Results and Discussion

### Preliminary Analyses

Preliminary analyses were conducted on the size of the choice set for both male and female targets (i.e., the number of targets who were considered to be politicians or judges). To investigate how the size of the choice set for male versus female targets varied as a function of inclusion versus exclusion framing, we subjected the data to a 2 (mind-set)  $\times$  2 (participant sex)  $\times$  2 (target sex) mixed analysis of variance (ANOVA), with repeated measures on the third factor.

Replicating the standard IED, the average choice set was substantially larger in the exclusion ( $M = 17.69$ ) than the inclusion ( $M = 6.91$ ) condition,  $F(1, 101) = 97.27, p < .001$ . The ANOVA also yielded a main effect of target sex, with male targets being retained in the final choice set ( $M = 16.55$ ) with greater frequency than female targets ( $M = 8.04$ ),  $F(1, 101) = 555.47, p < .001$ . These main effects were also qualified by a significant two-way Mind-Set  $\times$  Target Sex interaction,  $F(1, 101) = 100.29, p < .001$ , indicating that the tendency to retain more male than female targets in the final choice set was stronger in the exclusion ( $M_{\text{dif}} = 12.13$ ) than in the inclusion ( $M_{\text{dif}} = 4.89$ ) conditions. Additionally, the ANOVA yielded a Participant Sex  $\times$  Target Sex interaction,  $F(1, 101) = 5.22, p = .024$ , indicating that the tendency to retain more male than female targets in the final choice set was stronger for male ( $M_{\text{dif}} = 8.69$ ) than for female participants ( $M_{\text{dif}} = 7.69$ ). No other main effects or interactions achieved statistical significance ( $ps > .10$ ).

### Signal-Detection Analyses

Although useful in connecting the current investigation to the broader context of research on the IED, investigations of raw choice-set size are less informative in investigating how stereotypic biases may differentially play out in inclusion and exclusion mind-sets. As previously noted, past work by Yaniv and colleagues (e.g., Yaniv et al., 2002) has found that the IED in set size is due primarily to strategic shifts in the criterion for what is considered an acceptable candidate for the final choice set, whereas sensitivity seems invariant to task framing. Past work in the domain of sensitivity and criterion stereotyping, however, has

found that different manipulations have differential effects on sensitivity and criterion stereotyping. To test whether the IED is related to sensitivity and/or criterion stereotyping, we performed signal-detection analyses (Green & Swets, 1974). In line with the previous work on the IED (e.g., Yaniv et al., 2002), we decomposed hit and false-alarm rates into nonparametric estimates of sensitivity ( $A'$ ) and criterion ( $B''$ ) separately for male and female targets (see Grier, 1971).<sup>1</sup> Of particular interest is how criterion and sensitivity stereotyping differ as a function of inclusion versus exclusion mind-sets.

*Results for sensitivity.* If, as Levin et al. (2000) found, individuals consider their response options more extensively under inclusion task framing, then sensitivity stereotyping should be less evident in an inclusion as compared with an exclusion mind-set. This pattern would be reflected as a smaller difference in  $A'$  between male and female targets in the inclusion condition, relative to the exclusion condition. Given that men cannot be assumed to be politicians simply on the basis of their sex, stereotypes are not particularly informative for male targets, and sensitivity for these targets may be comparable under inclusion and exclusion conditions. That is, the relatively high levels of sensitivity in the inclusion mind-set should be maintained in exclusion conditions for male targets (similar to the findings of Yaniv et al., 2002, in the absence of stereotypes). Insofar as women can be stereotypically excluded from agentic roles, however, sensitivity stereotyping of women should be reflected in a lower  $A'$  for female targets in the exclusion condition, relative to the inclusion condition.

The indices of sensitivity ( $A'$ ) for both male and female targets were submitted to a 2 (mind-set)  $\times$  2 (participant sex)  $\times$  2 (target sex) ANOVA, with repeated measures on the third factor. The ANOVA revealed both a main effect of mind-set,  $F(1, 101) = 9.17, p = .003$ , and a main effect of target sex,  $F(1, 101) = 5.92, p = .017$ ; however, both of these main effects were qualified by the predicted Mind-Set  $\times$  Target Sex interaction,  $F(1, 101) = 7.37, p = .008$ . As can be seen in Table 1, comparing across mind-sets, it is clear that the Mind-Set  $\times$  Target Sex interaction was driven by the reduction in sensitivity to female targets under the exclusion mind-set. Although sensitivity for male targets did not differ across the mind-set conditions,  $t(104) = 1.10, ns$ , sensitivity dropped much more precipitously for female targets in the exclusion as compared with the inclusion condition,  $t(104) = 3.28, p = .001$ . Notably, the three-way Mind-Set  $\times$  Target Sex  $\times$  Participant Sex interaction failed to approach statistical significance,  $F(1, 101) = 0.04, p > .8$ , indicating that the key results with respect to sensitivity stereotyping were similar for male and female decision makers.

*Results for criterion.* Yaniv et al. (2002) found that decision makers set a generally lower criterion under exclusion (compared with inclusion) mind-sets. It was an open question, however, whether mind-sets would moderate observed levels of criterion stereotyping. Separate indices of criterion ( $B''$ ) for male and female targets were submitted to a 2 (mind-set)  $\times$  2 (participant sex)  $\times$  2

<sup>1</sup> As is common in signal-detection analyses, adjustments were made to the data to address the problem of empty cells (e.g., 0% false alarms or 100% hits in one or more conditions for a participant), such that 0% was adjusted to 5% and 100% was adjusted to 95%. Identical adjustments were made for data in all studies.

Table 1  
*Mean Sensitivity and Criterion to Male and Female Targets as a Function of Mind-Set in Study 1*

Decision parameter	Inclusion mind-set	Exclusion mind-set
Sensitivity (A')		
Male targets	.77	.73
Female targets	.78	.56
Criterion (B')		
Male targets	.43	-.08
Female targets	.47	.11

(target sex) ANOVA, with repeated measures on the third factor. Replicating Yaniv et al. (2002), the ANOVA yielded a very robust main effect of mind-set on criterion,  $F(1, 101) = 70.49, p < .001$ , such that the criterion was placed much higher in inclusion ( $M = 0.45$ ) than in exclusion ( $M = -0.01$ ) task frames. The ANOVA also yielded a main effect of target sex,  $F(1, 101) = 10.16, p = .002$ , indicating a higher criterion for female targets ( $M = 0.29$ ) than for male targets ( $M = 0.18$ ), reflecting criterion stereotyping. These main effects, however, were qualified by a Mind-Set  $\times$  Target Sex interaction,  $F(1, 101) = 5.09, p = .026$ . As can be seen in Table 1, the interaction pattern indicates that although the criterion did not differ for male and female targets in the inclusion condition,  $t(58) = 1.33, p > .15$ , the criterion for membership in the category "politicians" was higher for female than for male targets in the exclusion condition,  $t(46) = 2.84, p = .007$ . Just as participants set the bar higher for women than men to be considered famous in Banaji and Greenwald's (1995) false fame studies, so too here did participants in the exclusion condition set the bar higher for women than men to be considered politicians.

*Implications.* These results confirm that the way a choice task is framed (inclusion vs. exclusion) has a notable influence on the emergence of stereotypic bias. Specifically, when participants were asked to exclude individuals who did not belong in the category "politicians," they showed greater sensitivity stereotyping and criterion stereotyping with respect to female targets, who were stereotypically thought of as not being politicians. That is, both male and female decision makers were less sensitive in distinguishing among the female targets under the exclusion mind-set, and they set a higher criterion for designation as a category member for women than men under the exclusion mind-set. To return to our initial example, these results suggest that it may very well be the case that decisions about candidates for admission to an engineering program would be more contaminated by sexist stereotypes if the admissions committee approached the task with an orientation to eliminate unqualified candidates than if it approached the task with an orientation to select the qualified candidates.

## Study 2

In Study 2, we sought to replicate and extend these basic findings. One modification involved changing the relationship between the stereotype and the target category. In Study 1, we investigated cultural stereotypes implying that women are not likely to be politicians. Whereas there is no general expectation that men are politicians, there is a general expectation that women

are not politicians but are instead likely to be found in more communal roles. As such, women can be categorically excluded from the category "politician" if one relies on common social stereotypes. In contrast to this situation, Study 2 investigated cultural stereotypes implying that members of a stereotyped group in fact do belong in the target category. Specifically, we investigated the stereotype of African American athleticism. Whereas there is no general expectation that White men play basketball, there is a general stereotype that Black men do play basketball. In Study 2, we investigated the effects of inclusion versus exclusion mind-sets on determining which of a set of African American versus European American names belonged to the category "basketball players." This task allowed us to examine whether the same patterns seen in Study 1 (in which stereotypes implied exclusion from the choice set) would also apply under conditions in which stereotypes implied inclusion in the choice set. It also allowed us to check for generalization from the domain of sex stereotypes to that of racial stereotypes.

Another extension of Study 1 involved examining the effects of expertise on the observed biases. It might be expected that individuals who possess considerable knowledge of the target domain are able to rely more on direct recollection and thus should show generally greater sensitivity that is not particularly affected by task framing or by social stereotypes. Along these lines, Yaniv et al. (2002) confirmed that expertise tends to attenuate the IED; however, Yaniv et al. found that expertise influences only sensitivity, not criterion. They sensibly argued that this outcome occurs because expertise influences knowledge, which is one of the constructs responsible for sensitivity. Just as a more experienced radiologist might be expected to better discriminate between cancerous and noncancerous growths (Swets, Dawes, & Monahan, 2000) and expert airport screeners to better discriminate bombs from normal luggage (Schwaninger, Hardmeier, & Hofer, 2005), so too should a more knowledgeable basketball viewer be expected to more accurately discriminate between players and nonplayers. Because stereotypes have their strongest influence in ambiguous situations, however, we hypothesized that only individuals with relatively low levels of basketball expertise would show evidence of sensitivity stereotyping in an exclusion mind-set.

Criterion or decision threshold, however, is a strategically controllable parameter unrelated to the ability to discriminate between a player and a nonplayer. Indeed, mere knowledge of who is a player or not has no influence on the costs and benefits of hits and false alarms. Although expertise can be related to decision threshold, this relationship typically holds when expertise offers additional information as to the benefits and costs of errors (Swets et al., 2000). Therefore, in Study 2, we hypothesized that whereas relative domain expertise would moderate the sensitivity stereotyping effects, it would be unrelated to criterion stereotyping. To examine this issue, we also included a measure of relative basketball expertise in Study 2.

## Method

### Participants and Design

Eighty Miami University undergraduates (23 female) participated in this research. Seventy-four of the participants were European American, and 4 were Asian American. Four participants who did not complete the primary

dependent measure were removed from all analyses. The experimental design was a 2 (mind-set: inclusion vs. exclusion)  $\times$  2 (domain expertise: high vs. low)  $\times$  2 (target category: basketball player vs. nonplayer)  $\times$  2 (target race: African American vs. European American) mixed-model design with repeated measures on the latter two factors.

### Materials and Procedure

Participants were approached in public places on a university campus and were asked to complete a short questionnaire regarding their knowledge of popular culture. Persons who agreed to participate were given a brief packet of measures containing a form entitled Basketball Knowledge Questionnaire, in addition to a brief demographics questionnaire, in that order. The Basketball Knowledge Questionnaire served as the primary dependent measure in this study and was adapted from the questionnaire used by Park and Banaji (2000, Experiment 2). This questionnaire contained a set of 40 names: 20 African American names, 10 of which belonged to actual basketball players, and also 20 European American names, 10 of which belonged to actual basketball players. The 40 names appeared in a single predetermined random order on a single page, in four columns of 10 names each.

The instructions at the top of the Basketball Knowledge Questionnaire manipulated the task framing, placing participants into either an inclusion or an exclusion mind-set. Similar to Study 1, participants assigned to the inclusion mind-set condition were instructed to “**circle** the names of the individuals who ARE professional basketball players” (emphasis in original). Participants in the exclusion mind-set condition were instructed to “**cross off** the names of individuals who ARE NOT professional basketball players” (emphasis in original). After completing this task, participants recorded how many hours per week they spent watching professional basketball games during basketball season. This measure was designed to serve as a proxy for their relative domain expertise; individuals who watched more basketball should have been more familiar with who is and is not a professional basketball player. Participants then completed a brief demographics questionnaire. After the survey was completed, participants were debriefed and were given a candy bar in return for their participation.

## Results and Discussion

### Preliminary Analyses

Preliminary analyses were conducted on the size of the choice set for both Black and White targets (i.e., the number of targets who were considered to be basketball players). The data were subjected to a 2 (mind-set)  $\times$  2 (expertise)  $\times$  2 (target race) mixed ANOVA, with repeated measures on the third factor. Participants who did not watch any basketball at all (0 hr) were considered to be of lower expertise ( $n = 33$ ), whereas participants who watched at least some basketball each week ( $>1/2$  hr) were considered to be of higher expertise ( $n = 43$ ). Thus, the measure of expertise as used in these analyses generally reflects no regular exposure versus some regular exposure to professional basketball.

The results again replicated the standard IED; the final choice set was larger in the exclusion ( $M = 14.54$ ) than the inclusion ( $M = 10.73$ ) condition,  $F(1, 72) = 6.45$ ,  $p = .01$ . Individuals higher in expertise also retained more targets in the final choice set ( $M = 14.99$ ) than did individuals lower in expertise ( $M = 10.28$ ),  $F(1, 72) = 9.82$ ,  $p < .01$ . The ANOVA also yielded a three-way Mind-Set  $\times$  Expertise  $\times$  Target Race interaction,  $F(1, 72) = 10.92$ ,  $p = .001$ . This interaction revealed that individuals low in basketball expertise tended to retain more African Americans than European Americans in the final choice set when under an inclu-

sion mind-set, an effect that reversed when under an exclusion mind-set. Individuals high in basketball expertise showed no such effects. The ANOVA yielded no other significant main effects or interactions.

### Signal-Detection Analyses

*Results for sensitivity.* An index of sensitivity ( $A'$ ) was calculated for African American and European American names separately, for each participant. These indices of sensitivity were then submitted to a 2 (mind-set)  $\times$  2 (expertise)  $\times$  2 (target race) ANOVA, with repeated measures on the third factor. This analysis revealed an expected main effect of expertise,  $F(1, 72) = 15.71$ ,  $p < .001$ , replicating both Yaniv et al. (2002) and Park and Banaji (2000) in showing that individuals with high expertise ( $M = 0.82$ ) had a better capacity to distinguish between the players and non-players than did those low in expertise ( $M = 0.63$ ). The analysis also revealed both a main effect of task framing,  $F(1, 72) = 5.60$ ,  $p = .02$ , and a marginal main effect of target race,  $F(1, 72) = 3.17$ ,  $p = .08$ ; however, both of these main effects were qualified by the predicted Task Framing  $\times$  Target Race interaction,  $F(1, 72) = 5.59$ ,  $p = .02$ . In the inclusion mind-set, participants were equally sensitive to African American ( $M = 0.79$ ) and European American ( $M = 0.78$ ) targets,  $t(38) = -0.50$ ,  $p > .6$ . In the exclusion mind-set, however, participants were marginally worse at distinguishing among African American targets ( $M = 0.64$ ) than among European American targets ( $M = 0.73$ ),  $t(36) = 1.70$ ,  $p < .10$ .

Importantly, this Mind-Set  $\times$  Target Race interaction was further qualified by the predicted three-way Mind-Set  $\times$  Expertise  $\times$  Target Race interaction,  $F(1, 72) = 10.80$ ,  $p < .01$  (see Figure 1). To further investigate the nature of this three-way interaction, we decomposed it into two 2 (mind-set)  $\times$  2 (target race) interactions, one at each level of expertise. For those with relatively low expertise, the predicted Mind-Set  $\times$  Target Race interaction emerged,  $F(1, 31) = 6.96$ ,  $p = .01$ , such that decision makers operating under an inclusion frame showed no difference in sensitivity for African American and European American targets,  $t(16) = -1.23$ ,  $p > .2$ , whereas decision makers operating under an exclusion frame showed worse sensitivity for African American than for European American targets,  $t(15) = 2.28$ ,  $p = .037$ . For more expert participants, neither main effects ( $ps > .25$ ) nor the Mind-Set  $\times$  Target Race interaction ( $p = .15$ ) emerged.

The pattern of this three-way interaction suggests that, as predicted, sensitivity is generally high in an inclusion mind-set, wherein decision makers have been shown to consider each option more extensively (Levin et al., 2000). When the mind-set elicits a relatively high amount of processing of the alternatives, both majority and minority group targets are equally individuated. This pattern replicated Park and Banaji's (2000, Experiments 2 and 3) control (neutral mood) condition, in which they found roughly equal sensitivity for African American and European American targets. However, as predicted, in an exclusion mind-set, sensitivity to African American targets dropped as compared with sensitivity to European American targets. Thus, when the mind-set itself elicited less engagement with and processing of the alternatives, individuals were less likely to engage in the effort required to distinguish among African Americans. These effects were moderated by expertise: Although the sensitivity of nonexperts was subject to the moderating effects of decision-making mind-sets, the

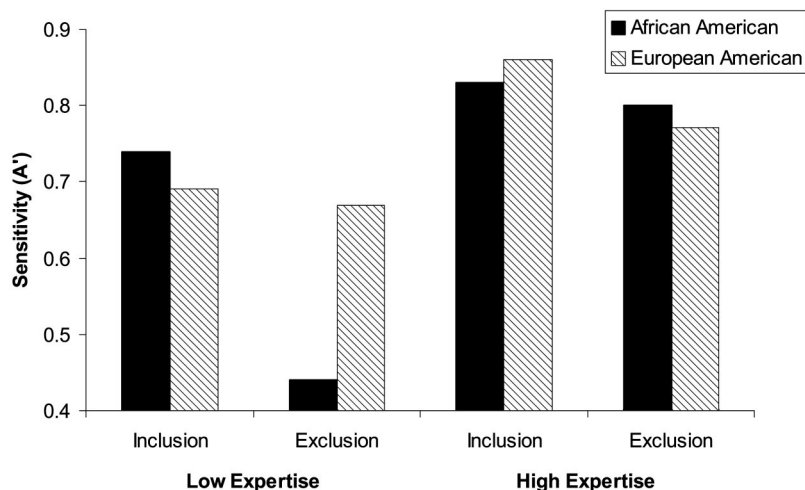


Figure 1. Mean sensitivity ( $A'$ ) to both African American and European American targets as a function of task framing and level of expertise for Study 2.

effects of mind-set and target race were eliminated for persons higher in basketball expertise. When respondents have relatively more elaborate knowledge of the relevant domain, there is correspondingly less room for the biasing effects of mind-set or target race.

**Results for criterion.** Separate indices for criterion ( $B''$ ) set for African American and European American targets were calculated for each participant. These indices of criterion were then submitted to a 2 (mind-set)  $\times$  2 (expertise)  $\times$  2 (target race) ANOVA, with repeated measures on the third factor. Again, we replicated the main effect of task framing,  $F(1, 72) = 28.85, p < .001$ , such that the criterion was placed higher in the inclusion ( $M = 0.37$ ) than in the exclusion ( $M = 0.02$ ) mind-set. Mirroring the findings from Study 1, this main effect of task framing was qualified by an interaction with target race,  $F(1, 72) = 12.28, p = .001$ . Replicating the pattern of data observed in Park and Banaji's (2000) control conditions (their Studies 2 and 3), in the inclusion condition, the criterion for African American targets ( $M = 0.41$ ) was set marginally higher than that set for European American targets ( $M = 0.32$ ),  $t(38) = -1.83, p = .08$ . As predicted, however, in the exclusion mind-set, criterion stereotyping of African American ( $M = -0.06$ ) as compared with European American ( $M = 0.08$ ) targets was observed,  $t(36) = 2.75, p < .01$ . Again replicating Yaniv et al. (2002), expertise level did not influence criterion. In this study, neither the main effect ( $p > .45$ ) nor interactions including expertise ( $ps > .13$ ) achieved significance.

The results with respect to criterion levels in Study 2 jibe well with the pattern observed in Study 1. In Study 1, participants in the exclusion mind-set set the bar higher for women to gain entrée into the counterstereotypic groups of politicians and judges. In Study 2, the converse occurred, with the exclusion mind-set eliciting a lower criterion for African Americans to be considered members of the stereotypic group of basketball player.

**Implications.** As was the case in Study 1, we again found evidence that an exclusion mind-set breeds both greater sensitivity stereotyping and greater criterion stereotyping. This pattern was replicated in a new domain (racial stereotypes) and in a context in

which the stereotype implied membership in the target category. These results were also moderated by expertise in a meaningful and predictable way. For sensitivity stereotyping, expertise had clear effects. In this case, individuals high in expertise showed equally high levels of sensitivity to African American and European American targets in both mind-sets, but under uncertainty, biases had room to operate. Stereotypic biases are known to be at their most powerful when situations are ambiguous (Bodenhausen & Macrae, 1998; Hugenberg & Bodenhausen, 2003, 2004). For low-expertise participants, the situation was a much more ambiguous one, and as such, stereotypic biases tended to influence participants' choices. When participants had less expertise and, thus, less ability to distinguish between exemplars of a particular racial category, mind-set played a large role in the extent to which they perceived African Americans (vs. European Americans) to be a homogeneous group. For criterion stereotyping, however, expertise was neither predicted nor found to be a reliable moderator. Replicating previous research (Yaniv et al., 2002), expertise was related only to sensitivity and not to criterion. Given the nature of these two separate parameters, this is a quite sensible outcome. Whereas sensitivity is a reflection of predictive ability and is thus sensibly related to domain expertise, criterion is a strategically controlled parameter, affected not by knowledge but rather by strategic concerns such as the perceived cost of errors.

### Study 3

Thus far, exclusion mind-sets in decision making have been shown to elicit low levels of sensitivity toward members of stereotyped groups. The exclusion mind-set also elicits criterion stereotyping as well, with the bar being set comparatively high for stereotyped individuals to gain entrée into counterstereotypic categories (i.e., women vis-à-vis the category "politician") but being set comparatively low for access to stereotype-consistent categories (i.e., African Americans vis-à-vis the category "basketball player"). As found in Study 2, however, sensitivity, but not crite-

tion stereotyping, was moderated by participants' relative expertise.

Study 3 was designed to replicate and extend the results of the previous studies. Whereas Study 2 investigated a variable that moderated the effects of exclusive thinking on sensitivity stereotyping (i.e., expertise), Study 3 was designed to investigate a variable hypothesized to moderate the effects of exclusive thinking on criterion stereotyping. As previously noted, unlike sensitivity, criterion cutoff is a strategically controllable decision parameter (Swets, 1992; Swets et al., 2000). As such, we hypothesized it would be moderated by relevant motivational constructs and in particular by motivation to control prejudiced responses. Specifically, we hypothesized that only individuals relatively unmotivated to appear nonprejudiced would show a strong pattern of criterion stereotyping in the exclusion mind-set. That is, we hypothesized that the criterion stereotyping in the exclusion mind-set observed in Study 2 was primarily due to individuals low in motivation to control prejudice. In contrast, we hypothesized that situations tending to elicit criterion stereotyping (i.e., an exclusion mind-set) would not elicit such a response from individuals high in motivation to control prejudice. Instead, those high in motivation to control prejudice would make different strategic decisions regarding the criterion for category membership in an effort to avoid ostensibly stereotypic judgments. In particular, they would be expected to hold an equal or even higher criterion for Black as compared with White targets. In essence, participants very high in motivation to control prejudice might overcorrect for their presumed criterion stereotyping by holding an artificially high criterion for Black as compared with White targets. In fact, in Study 2, we observed a tendency to hold a higher threshold for Black targets in the inclusion condition. Thus, whereas we hypothesized that individuals with high motivation to control would have an equally high threshold for Black (as compared with White) targets across conditions, only individuals with low motivation to control would show the drop in criterion in an exclusion mind-set. To test these hypotheses, we used the same procedure as in Study 2 but collected Plant and Devine's (1998) Internal and External Motivation to Respond Without Prejudice Scales instead of a measure of participants' relative domain expertise.

### Method

#### Participants and Design

One-hundred twenty Miami University undergraduates (91 female) participated in this research for partial course credit. Ten participants who did not complete the measures or did not follow task instructions (e.g., they explicitly both included and excluded targets) were removed from all analyses. The experimental design was a 2 (mind-set: inclusion vs. exclusion)  $\times$  2 (target category: basketball player vs. nonplayer)  $\times$  2 (target race: African American vs. European American) mixed-model factorial design with repeated measures on the latter two factors. Motivation to control prejudiced responses served as a continuous predictor variable.

#### Materials and Procedure

Materials and procedure were identical to those used in Study 2, except as noted. After providing informed consent, participants were given a brief packet of measures containing the Basketball Knowledge Questionnaire used in Study 2, as well as Plant and Devine's (1998) 10-item Internal and External Motivation to Respond Without Prejudice Scales and a brief

demographics questionnaire. The order of the Basketball Knowledge Questionnaire and the Internal and External Motivation to Respond Without Prejudice Scales was counterbalanced on a between-subjects basis; the demographics questionnaire always appeared last in the experimental packet. Preliminary analyses found that the counterbalancing factor yielded neither main effects nor interactions and thus is not discussed further. As in Study 2, the Basketball Knowledge Questionnaire served as the primary dependent measure in this study, and instructions at the top of the questionnaire manipulated participants' mind-set. After the survey was completed, participants were thanked and debriefed.

### Results and Discussion

#### Preliminary Analyses

*Motivation to control prejudiced reactions.* As is typical with analyses using the Internal and External Motivation to Respond Without Prejudice Scales, the internal motivation to respond without prejudice (IMS) and external motivation to respond without prejudice (EMS) were treated as separate predictors. In no analysis did IMS interact with any of the other factors, and thus, it is not discussed further. EMS did qualify a number of the observed effects; thus, analyses using EMS as a continuous, individual-differences predictor variable are reported where appropriate.

*Choice set.* As in the previous studies, preliminary analyses were conducted on the size of the choice set for both Black and White targets (i.e., the number of targets who were considered to be basketball players). The data were subjected to a 2 (mind-set: inclusion vs. exclusion)  $\times$  2 (target race: Black vs. White) mixed-model ANOVA, with repeated measures on the third factor. Preliminary analyses, which included IMS and EMS scores, yielded no significant effects of IMS or EMS; thus, these were dropped from all subsequent analyses of choice-set size.

The results again strongly replicated the standard IED; the average choice set was substantially larger in the exclusion ( $M = 27.06$ ) than the inclusion ( $M = 7.07$ ) condition,  $F(1, 108) = 278.67, p < .001$ . The results also showed a main effect of target race, indicating that participants retained more African American targets ( $M = 9.74$ ) than European American targets ( $M = 7.33$ ) in the final choice set,  $F(1, 108) = 63.87, p < .001$ . The ANOVA yielded no other significant effects.

#### Signal-Detection Analyses

*Results for sensitivity.* An index of sensitivity ( $A'$ ) was calculated for African American and European American names separately, for each participant. These indices of sensitivity were then subjected to preliminary analyses using a general linear model with mind-set (inclusion vs. exclusion) as a between-subjects factor, target race (Black vs. White) as a within-subjects factor, and motivation to control prejudiced responses as a continuous predictor variable (see Judd, McClelland, & Smith, 1996). Separate analyses were conducted with IMS and EMS; as predicted, neither IMS nor EMS yielded significant interactions with target race ( $ps > .18$ ). Thus, IMS and EMS were dropped from subsequent analyses of sensitivity.

Replicating Study 2, this ANOVA yielded a Task Framing  $\times$  Target Race interaction,  $F(1, 108) = 9.09, p < .001$ . As with the previous studies, inclusion ( $M = 0.57$ ) versus exclusion ( $M = 0.62$ ) mind-set had no influence on sensitivity toward European

American targets,  $t(108) = 0.92, p > .35$ . Mind-set did, however, strongly influence sensitivity toward African American targets such that sensitivity showed a substantial drop from the inclusion ( $M = 0.71$ ) to the exclusion ( $M = 0.56$ ) mind-set,  $t(108) = 3.77, p < .001$ .

**Results for criterion.** Separate indices of the criterion ( $B''$ ) set for African American and European American targets were calculated for each participant. These indices of criterion were then subjected to a general linear model with mind-set (inclusion vs. exclusion) as a between-subjects factor, target race (Black vs. White) as a within-subjects factor, and motivation to control prejudiced responses as a continuous predictor variable. Separate analyses were conducted with IMS and EMS; IMS yielded no significant effects ( $ps > .7$ ). Thus, the following analyses of criterion include only EMS as a continuous predictor.

These analyses again replicated the standard IED findings, showing a main effect of task framing on criterion,  $F(1, 106) = 9.20, p < .01$ , such that the cutoff criterion was placed higher in the inclusion ( $M = 0.30$ ) than in the exclusion ( $M = -0.01$ ) mind-set. The analyses also yielded a two-way Target Race  $\times$  Mind-Set interaction,  $F(1, 106) = 7.89, p < .01$ , such that a stronger drop in criterion was elicited for Black targets by the exclusion ( $M = -0.02$ ) versus the inclusion ( $M = 0.39$ ) mind-sets, as compared with the White targets in the exclusion ( $M = 0.01$ ) versus the inclusion ( $M = 0.39$ ) mind-sets. Importantly, however, the predicted three-way Task Framing  $\times$  Target Race  $\times$  EMS interaction was also observed,  $F(1, 106) = 4.62, p = .034$ . To further investigate the nature of this three-way interaction, we decomposed it into two Target Race  $\times$  EMS interactions, one for each mind-set. For participants in an inclusion mind-set, no Target Race  $\times$  EMS interaction was observed,  $F(1, 59) = 0.86, p > .35$ . Instead, we observed only a marginal main effect of target race,  $F(1, 59) = 2.91, p = .09$ , indicating that the criterion was set higher for Black ( $M = 0.39$ ) than for White ( $M = 0.22$ ) targets in the inclusion mind-set, replicating the pattern of data observed in Study 2. For participants in the exclusion mind-set, however, the predicted Target Race  $\times$  EMS interaction was observed,  $F(1, 47) = 5.14, p = .028$ . As can be seen in Figure 2, for exclusion-condition participants with relatively low levels of EMS, one sees a lower criterion for Black as compared with White targets, replicating the criterion data observed under exclusion conditions in

Study 2. As external motivation to control prejudice increased, however, so did the criterion for Black as compared with White targets. Indeed, at very high levels of EMS, a higher criterion was set for Black as compared with White targets.

**Implications.** This study generally replicated the patterns of sensitivity and criterion stereotyping observed in the previous studies. More importantly, however, the current study suggests that criterion stereotyping can be modulated by relevant motivational factors. Whereas Study 2 indicated that at relatively high levels of domain expertise, an exclusion mind-set does not elicit sensitivity stereotyping, in the current study, it seemed that the criterion stereotyping in exclusion mind-sets observed in the previous studies occurred only for individuals low in EMS. Insofar as participants were high in external motivation to control prejudiced responses (i.e., they did not wish to appear prejudiced to others), they tended to adhere to a higher criterion for Black than White targets, likely in an attempt to avoid politically incorrect responses. Indeed, across both Studies 2 and 3, there was a weak but consistent tendency for criterion to be set higher for Black as compared with White targets in inclusion conditions. Decision makers wary of responding stereotypically to African American targets (i.e., high EMS participants) retained that higher threshold for Black as compared with White in exclusion mind-sets. As this wariness of responding stereotypically waned, the tendency to engage in criterion stereotyping of Black targets increased in an exclusion mind-set.

Importantly, motivation to control prejudice was not a panacea for all stereotypic responding. To the contrary, external motivation to control prejudice moderated only criterion stereotyping. Sensitivity stereotyping occurred equally, regardless of participants' motivation to control prejudiced responses. This pattern of data fits well with previous theory and data regarding sensitivity and criterion in the IED (see Yaniv et al., 2002). As criterion is responsive to participants' choice strategies (Swets, 1992; Swets et al., 2000), given that motivation to control prejudiced responses is a strategic motivation, the fact that EMS moderates criterion, but not sensitivity stereotyping, is sensible. Additionally, it seems that not all motivations to control prejudice are created equal. External motivation to control prejudice, but not internal motivation to control prejudice, uniquely predicts criterion stereotyping. It was only those low in EMS who showed a willingness to engage in criterion stereotyping in the third study.

## General Discussion

Across three studies and two separate sets of stimuli, we reliably found that inclusion and exclusion mind-sets lead to different proclivities to engage in sensitivity stereotyping and criterion stereotyping for decisions about members of stereotyped social groups. In Study 1, we found that sensitivity to male and female targets was equally high in an inclusion mind-set. In an exclusion mind-set, sensitivity to male targets remained relatively high, suggesting continuing individuation of these targets. Sensitivity to stereotyped female targets, however, showed a marked drop for participants in an exclusion mind-set, indicating increased perceptions of homogeneity among these female targets. Studies 2 and 3 replicated this sensitivity stereotyping, here in the domain of racial stereotypes, with Study 2 further indicating that the biases were confined to individuals lower in domain expertise. Criterion ste-

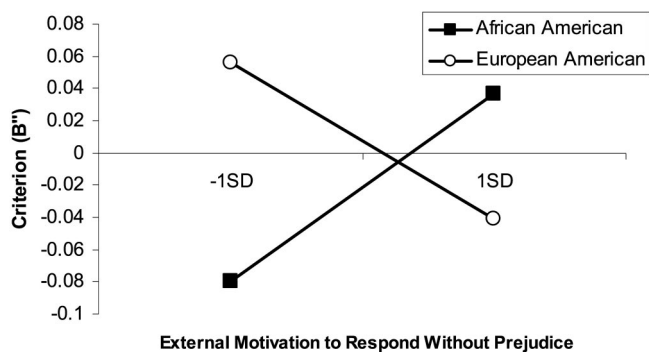


Figure 2. Mean exclusion mind-set criterion ( $B''$ ) to both African American and European American targets as a function of external motivation to respond without prejudice for Study 3.

reotyping showed an equally interesting pattern. In Study 1, an inclusion mind-set elicited quite comparable criteria for women and men, but an exclusion mind-set elicited a higher threshold for retaining women than men in the final choice set. Similarly, Studies 2 and 3 found that an exclusion mind-set elicited criterion stereotyping toward African Americans as compared with European Americans such that participants in an exclusion mind-set held a lower threshold for retaining African Americans than European Americans in the final choice set. Notably, Study 3 found that this criterion stereotyping under an exclusion mind-set occurred most strongly for individuals low in EMS.

### *Extending the Inclusion–Exclusion Discrepancy*

Overall, the current results fit well with the existing constellation of data regarding the IED, but these findings also extend the IED literature in meaningful ways. For example, Yaniv et al. (2002) found that inclusive and exclusive modes of thinking induce different response criteria, with exclusion mind-sets resulting in a lower criterion than inclusion mind-sets. The current studies clearly replicated the quite robust main effect of mind-set on bias. Similarly, we also replicated the previous work of Yaniv and Schul (2000) in showing a moderating role of expertise on sensitivity. However, going beyond previous findings, these studies extend the understanding of the IED by illuminating the potential effects of decision-making mind-sets on sensitivity. Clearly, we did not find any general main effect of task framing on sensitivity, and this pattern accords with the past work finding no differences in sensitivity across mind-set (Yaniv et al., 2002). However, we did find that mind-set can influence sensitivity levels under specific circumstances, namely, when social stereotypes are relevant to the decision that is being made. Specifically, members of social categories that are particularly likely to be treated categorically (i.e., members of stereotyped groups) are subject to drops in sensitivity under an exclusion mind-set.

### *Mind-Set Effects on Sensitivity and Criterion Stereotyping*

To our knowledge, these studies constitute the first demonstration that sensitivity and criterion stereotyping can be differentially induced by different task framing in decision making. Although past work by Banaji and colleagues found that false fame judgments are the result of criterion stereotyping (Banaji & Greenwald, 1995) and that both sensitivity stereotyping and criterion stereotyping are enhanced by positive mood (Park & Banaji, 2000), the current work reveals that different strategies for coming to a judgment can elicit differential treatment of members of stereotyped groups. Given that both of the strategies that we investigated are commonly used in everyday-life contexts (see Heller et al., 2002), the practical implications may be considerable. These findings that exclusive modes of thinking lead to sensitivity stereotyping (as compared with inclusive modes of thinking) become all the more striking when one considers how difficult it is to eliminate the IED. For example, Yaniv and Schul (1997, Study 2) had participants play a multiple-choice trivia game in which the correct answer to a trivia question was embedded in a list of 20 response alternatives. Yaniv and Schul paid participants for correct answers retained in the final choice set but paid them more for smaller choice sets, thereby offering a self-interested motivation not to

retain unacceptable cases in the final choice set. Despite this motive, the IED remained; the financial motivation was insufficient to eliminate the effect.

Despite clearly replicating sensitivity and criterion stereotyping across two separate domains and across three separate studies, the current work does not speak definitively to the mechanisms underlying the observed results. Our own logic has rested upon previous work by Levin et al. (2000), who suggested that inclusion and exclusion mind-sets elicit different levels of deliberation regarding the response options. Specifically, we hypothesize that insofar as an inclusion mind-set elicits higher levels of deliberation about the targets than an exclusion mind-set, one will observe less stereotyping in an inclusion mind-set. Although this explanation accords well with previous research and theory suggesting that deeper processing elicits individuation and reduces stereotyping (for a recent review, see Bodenhausen, Macrae, & Hugenberg, 2003), it is certainly not the only possible mechanism underlying these effects. One potentially interesting alternative is that the mind-set used by participants may itself act as a type of information to participants, suggesting the relative ease or difficulty of the task. Heller et al. (2002) found that participants were more likely to spontaneously adopt an exclusion mind-set when faced with difficult decisions. If difficult tasks are commonly associated with an exclusion mind-set, perhaps inducing participants to use an exclusion mind-set may have made the task seem more difficult, eliciting the use of stereotypes as judgmental heuristics to simplify this seemingly complex task. Another alternative is that inclusion and exclusion tasks may differ in the extent to which they induce a need for closure (Webster & Kruglanski, 1994). Although little research exists on this possibility, there is some evidence (see Levin et al., 2000) that individuals in an exclusion mind-set spend less time processing alternatives than do individuals in an inclusion mind-set. Although certainly not definitive, such an outcome may be indicative of exclusion mind-sets eliciting a stronger motivation for closure. If this is true, it could also explain the relatively higher levels of sensitivity and criterion stereotyping in exclusion conditions.

### *Implications for Social Decision Making*

Just as it seems to fly in the face of rationality to feel better about a drug that results in a 75% survival rate compared with one that results in a 25% mortality rate, it seems strange that an instruction to eliminate the unsatisfactory options produces quite different results compared with an instruction to select the satisfactory options. Whereas it has been well documented that the former instruction results in a larger final choice set, the present findings clarify that this IED is not the only way that task framing can influence decision-making processes and choice behavior. The exclusion frame produces not only a larger choice set but one that reflects both relatively poorer sensitivity to members of stereotyped social groups (whereas sensitivity to dominant groups remains largely intact) and a differential criterion for retention in stereotype-relevant categories.

Human lives are filled with important social decisions, many of which could be subject to different mind-sets. From deciding which potential partners to date, to which colleagues to promote, to which applicants to admit to graduate school, important life decisions can be approached via inclusion or exclusion frameworks.

The current work finds that framing a decision-making process slightly differently, despite the obvious logical equivalence of the two task frames, can lead not only to different decisions but also to different patterns of stereotyping. Understanding how these different mind-sets operate could allow decision makers to ameliorate the otherwise potent effects of stereotypes in important life decisions.

Returning to our earlier example of graduate admissions, the current findings suggest that if a graduate admissions committee approaches the admissions decision under an exclusion mind-set, then neither the interests of the well-qualified female candidates nor those of the selection committee will be well served. In fact, if the selection committee uses exclusive decision processes, distinctions between qualified and less qualified female candidates will become more blurred. Additionally, if the admissions committee holds a higher threshold for the female than the male applicants under an exclusion mind-set, not only will qualified female applicants be excluded but more women than men will be excluded from the list altogether. Our results suggest that the combination of such sensitivity and criterion stereotyping and the potential discriminatory selection patterns that may result are best attenuated by a mind-set of inclusion.

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## Appendix

## Names Used in the People in Politics and Law Questionnaire, Study 1

## Female Politicians and Judges

Elizabeth Cady Stanton  
 Ruth Bader Ginsburg  
 Susan B. Anthony  
 Margaret Thatcher  
 Madeleine Albright  
 Sandra Day O'Connor  
 Elizabeth Hanford Dole  
 Janet Reno  
 Carol Moseley-Braun  
 Nancy Pelosi

## Male Politicians and Judges

Richard Gephardt  
 Antonin Scalia  
 Tom DeLay  
 George Voinovich  
 Bill Frist  
 Tom Ridge  
 Henry Clay  
 William Rehnquist  
 Paul O'Neill  
 Tom Daschle

## Female Distractors

Janet Adams  
 Miriam Wegner  
 Angela Mitchell  
 Janet Ann Felty  
 Judy Smyth  
 Mary Johanneson  
 Kristina McLain  
 Rebecca Ann Heckman  
 Karen Shell  
 Shira Gabriel

## Male Distractors

Jeff Anderson  
 Jeff Valman  
 Harold Fox  
 Josh Muennich  
 Michael Cutting  
 Andrew Prior  
 James Baldwin  
 Mark Thomas Black  
 Bill Tach  
 Roy Lawrence

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