

Seeing Approach Motivation in the Avoidance Behavior of Others: Implications for an Understanding of Pluralistic Ignorance

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Four studies tested the hypothesis that observers tend to interpret others' actions as approach motivated even when they recognize that their own identical choices were motivated by avoidance. Study 1 found that voters in the 2000 U.S. Presidential election who chose a candidate primarily because of their aversion to the alternative thought that others who voted for the same candidate liked him more than they themselves did. In Studies 2, 3, and 4 participants who learned that others made the same choice as themselves between 2 unappealing flavors of soda or jelly beans estimated that the others would pay more than they would for their common choice. The relevance of these findings for an understanding of pluralistic ignorance is discussed.

The circumstance in which people infer that the perceptions, beliefs, and feelings guiding their own actions differ from those guiding the identical actions of their peers is known as pluralistic ignorance (Allport, 1924; D. T. Miller & McFarland, 1987, 1991; O'Gorman, 1986; Prentice & Miller, 1996). A familiar example of the phenomenon is bystander nonintervention (Latané & Darley, 1970). One reason bystanders hesitate to intervene in emergency situations is that they interpret the inaction of others differently than their own inaction. Despite knowing that their calm public facade belies their conflicted, uncertain, and confused internal state, they assume that the public presentations of others correspond to equally calm interiors, thereby implying that there is no cause for alarm. In addition to the misinterpretation of situations, pluralistic ignorance can also lead to the perpetuation of unsupported social norms (Kuran, 1995; D. T. Miller & Prentice, 1994) and to the arousal of unwarranted feelings of alienation (Prentice & Miller, 1993).

This article examines the antecedent conditions of pluralistic ignorance. Our account focuses on the motivational structure of situations in which pluralistic ignorance arises. Specifically, we propose that pluralistic ignorance arises when behavior is guided primarily by avoidance rather than approach motivation (Lewin, 1935; N. E. Miller, 1944). We argue that this circumstance produces pluralistic ignorance because people tend to interpret others' actions as reflecting approach motivation even when they recognize that their own (identical) behavior is avoidance motivated. By way of example, consider once more the bystander situation. Bystanders to an emergency typically do not choose to remain passive because they lack any motivation to intervene but rather because their motivation to avoid embarrassment is stronger than

whatever approach motivation they might have. But this is not how bystanders understand the inaction of their fellow bystanders. They assume that the inaction of their coactors represents a more affirmative and less avoidance-based stance.

The present account is more encompassing than that of D. T. Miller and McFarland (1987, 1991), who hypothesized that pluralistic ignorance derives from people's belief that fear of embarrassment controls their behavior more than it controls others. According to D. T. Miller and McFarland, when people find themselves doing or not doing something out of fear of embarrassment (e.g., not intervening to help a potential victim), they are inclined to attribute the same behavior in others to some other factor (e.g., their belief that no intervention is warranted). From the present perspective, pluralistic ignorance can arise when people act out of any form of avoidance motivation, of which fear of embarrassment is but one type.

In summary, we propose the following two hypotheses. First, people tend to see the choices of others as motivated more by approach tendencies toward the chosen option than by avoidance tendencies away from the foregone option. Second, this misperception occurs even when people see their own identical choice as avoidance oriented. To test these propositions, the present studies focus on choices among various commodities: politicians, sodas, and jelly beans. Each study seeks to show that when people's choice of a particular commodity reflects avoidance motivation, they tend to assume that the same choice by others reflects approach motivation. In brief, the present studies seek to show that people see themselves as both choosing and rejecting options, but they see others as only choosing options.

Study 1: Choosing and Rejecting Presidential Candidates

The first test of our hypothesis focused on the choice voters faced in the 2000 U.S. Presidential election, featuring Democrat Al Gore and Republican George W. Bush. We were interested in this election because there was much discussion of the widespread lack of enthusiasm for both candidates. With monotonous regularity, media commentators reminded us that voters in this election saw themselves as forced to choose the lesser of two evils. Col-

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umnist Maureen Dowd (2000) spoke for many when she observed, "If there was any enthusiasm in the citizenry, it was negative enthusiasm. Gore people scorned Bush more than they admired Gore. Bush people scorned Gore more than they admired Bush" (p. 15).

Study 1 was designed to determine if voters' perceptions of similarly voting others depended on the motivation behind their own vote. Specifically, it tested the hypothesis that voters who saw their preferred candidate as the lesser of two evils would be inclined to see others who voted for the same candidate as liking him more.

Method

Participants

Participants were 448 Princeton undergraduates randomly selected from the campus phone book. They were contacted by phone and asked if they would participate in a brief survey concerning the upcoming Presidential election.

Procedure

The phone interviews were conducted during the week immediately preceding the election. The caller introduced himself as a student conducting a survey about the election and asked the participant for which candidate he or she was intending to vote (Bush, Gore or other). Those who chose either Bush or Gore (those who indicated "other" were thanked and asked no further questions) were then asked whether their preference "says more about how positively you feel about Bush/Gore or how negatively you feel about Gore/Bush?" Finally, participants were asked, "How does the appeal Bush/Gore has for you compare to the appeal that he has for other Princeton students who intend to vote for him?" The response options were "He has more appeal to me," "He has the same appeal to me," or "He has less appeal to me."

Results and Discussion

As expected, and consistent with media portrayals, there were a substantial number of scorn-motivated participants. Specifically, of the 265 participants who intended to vote for Gore, 59% defined themselves as Bush rejectors, and of the 148 participants who intended to vote for Bush, 47% defined themselves as Gore rejectors. Most relevant to the hypothesis are the assumptions that the 231 scorn-motivated and the 180 admiration-motivated voters made about the motivation of their identically acting peers. Consistent with the prediction, Bush and Gore scorners saw themselves as less like their similarly voting peers than did Bush and Gore admirers, $\chi^2(1, N = 411) = 16.6, p < .001$. First, whereas 51% of Bush and Gore admirers thought that their candidate had the same appeal for them as their like-voting peers, only 31% of Bush and Gore scorners thought this was the case. Second, whereas 50% of Bush and Gore scorners thought that their candidate had less appeal for them than their like-voting peers, only 23% of Bush and Gore admirers thought this to be true.

The results of the present study indicate that college students' perceptions of the similarity between themselves and their peers who shared their voting intentions depended on the students' reasons for their choice. When students saw their choice as more of a rejection of the nonpreferred candidate than an embrace of the preferred candidate, they saw similarly voting peers as more ad-

miring of their common candidate than they were. In essence, these would-be voters were experiencing pluralistic ignorance. They did not like the candidate that they were voting for, but they assumed that his other supporters did. This was especially the case for Gore supporters, who were more likely to label themselves as Bush scorners than as Gore admirers. A very different case emerged with procandidate supporters. They saw others as neither more nor less admiring of their candidate than they were. The emergence of an assumed self-other difference among scorn-motivated voters is especially impressive in light of the widespread media belief that it was a lesser-of-two-evils election so that voters were voting for the candidate that they disliked less rather than the candidate that they liked most.

Despite the strength and high real-world relevance of these findings, the necessarily low internal validity of the study prevents the drawing of strong inferences. To remedy this we used experimental designs in the studies that follow and manipulated the extent to which participants saw themselves as choosing or rejecting. The hypothesis guiding these studies is that people who choose one option over another primarily out of aversion to the foregone option will tend to see the identical choice by others as reflecting a more positive choice.

Study 2: Choosing and Rejecting Sodas

The focus of choice shifted from presidential candidates to sodas in Study 2. By shifting the domain of choice we were able to manipulate the absolute as well as the relative appeal of the options and thus examine more directly the hypothesis that people perceive themselves to be more avoidance motivated than others. Study 2 presented participants with choices between a neutral- and a positive-flavored soda (an approach-motivated choice) and a neutral- and a negative-flavored soda (an avoidance-motivated choice). We hypothesized that participants making an avoidance-motivated choice, in contrast to an approach-motivated choice, would assume that others making the same choice liked the preferred (neutral) soda more than they themselves did.

Method

Participants

Participants were 58 Princeton undergraduates who signed up to participate in a "soda taste test." They participated individually.

Materials

Seven different soda flavors were used for this experiment: cola, diet lemon-lime, ginger ale, creme soda, diet orange, grape, and pineapple. Each was the generic brand from a local supermarket chain.

Procedure

Upon arrival to the lab, participants were seated at a table that contained seven numbered transparent cups, each containing a different flavor of soda. Participants were told that the experimenter would be assessing their preferences for different soda flavors through a variety of methods. The experimenter then explained that the first part of the experiment required them to taste the seven sodas in front of him or her and assign each of them "a rating from 0 to 10, where 0 is very bad, 10 is very good, and 5 is neutral." Once the instructions had been given, the participants started

tasting the sodas and verbally reporting their rating to the experimenter after each one.

Upon completion of the rating procedure, the experimenter explained that the participants would next taste and rate a subset of the sodas again, but in a different format. Specifically, participants were told that they would now be presented with pairs of sodas and asked to indicate which one they preferred and how much they would be willing to pay for a can of each soda, with a specified average price of 50¢. Participants also were told that they would be asked to estimate how much they thought a typical Princeton student would spend on each can of soda. Allegedly to assist them in making the latter estimate, the experimenter indicated that they would be informed of the percentage of past participants who had selected each option. Participants were then presented sequentially with four pairs of sodas, told the percentage of their peers who had made the same choice, and administered the dependent measures. At the completion of the procedure, participants were probed for suspicion and debriefed.

Manipulation of Motivational Frame

The pairs of sodas presented to participants were constructed on the basis of the participants' earlier ratings. Of the four pairings presented to participants, two were critical to testing the experimental hypothesis. In the two critical trials, counterbalanced across participants, the experimenter presented the soda that the participant had rated most neutral and the soda that he or she had rated either least liked or most liked. The purpose of the critical trials was to present participants with both an avoidance-motivated choice (least liked vs. neutral flavor) and an approach-motivated choice (most liked vs. neutral soda). In the noncritical trials, participants were presented with the pairs of sodas that included their third and fourth and their fifth and sixth rated sodas. To create the impression that other people had made the same choices as them the experimenter told participants on the two critical trials that "more than 94% of our past participants made the same choice as you." On the noncritical trials, participants were told that either 46% or 54% "of our past participants made the same choice as you."

Results

The impact of the experimental manipulations could only be interpreted meaningfully for participants whose soda selections were consistent with their previous ratings of those sodas. Six participants failed to meet this criterion, either choosing the neutral flavor over the positive flavor or choosing the negative flavor over the neutral flavor, and were excluded from the analysis. The elimination of these participants left 52 participants for the final analysis. A preliminary analysis of the effect of presentation order revealed no significant main effect or interactions involving this variable, and thus it was dropped from all further analyses.

Manipulation Checks

Using the participants' initial ratings, the experimenter constructed soda pairings of a well liked and a neutral soda (positive pairing) and a disliked and a neutral soda (negative pairing). The success of the manipulation was confirmed by the prices participants indicated that they and others would pay for the two sodas within each pairing. In the case of the positive pairing, participants indicated that they and others would be willing to pay substantially more for the most liked soda than the neutral soda ($M_s = 74.1¢$ vs. $50.7¢$), $F(1, 51) = 134.00$, $p < .001$, and in the case of the negative pairing, participants indicated that they and others would be willing to pay substantially more for the neutral soda than the

least liked soda ($M_s = 59.7¢$ vs. $32.3¢$), $F(1, 51) = 161.27$, $p < .001$.

Own Versus Other's Willingness to Pay

The pricing estimates were submitted to a 2 (perspective: self vs. other) \times 2 (motivational frame: avoidance vs. approach) within-subjects analysis of variance (ANOVA). The main prediction was that participants would assume that identically choosing others perceived the choice options more similarly in the approach-motivational frame (positive pairing) than in the avoidance-motivational frame (negative pairing). This prediction was supported by a significant Perspective \times Motivational Frame interaction, $F(1, 51) = 49.44$, $p < .001$.¹ For a fuller understanding of how participants saw themselves in relation to identically acting others in the two motivational frames, we now consider separately participants' perceptions of the chosen and rejected options.

Chosen flavor. As with the composite analysis, price estimates generated for the chosen flavors were analyzed using a 2 (perspective: self vs. other) \times 2 (motivational frame: approach vs. avoidance) within-subjects ANOVA. Most relevant to our hypothesis was the emergence of a significant Motivational Frame \times Perspective interaction, $F(1, 51) = 31.13$, $p < .001$. As hypothesized, participants estimated that they and the typical student would pay a similar amount for the chosen flavor in the approach frame ($M_s = 75.1¢$ vs. $73.1¢$) but that they would pay less than the typical student for the chosen flavor in the avoidance frame ($M_s = 53.8¢$ vs. $65.3¢$; see Table 1).²

Rejected flavor. A 2 (perspective: self vs. other) \times 2 (motivational frame: approach vs. avoidance) within-subjects ANOVA was also conducted on the pricing estimates provided for the rejected sodas. Paralleling participants' responses to their chosen sodas, participants' pricing estimates generated for the rejected flavor also revealed a significant Perspective \times Motivational Frame interaction, $F(1, 51) = 35.88$, $p < .001$. As the top panel of Table 1 indicates, participants estimated that they and the typical student would pay a similar amount for the rejected flavor in the approach frame ($M_s = 51.1¢$ vs. $50.3¢$) but that they would pay less than the typical student for the rejected flavor in the avoidance frame ($M_s = 27.3¢$ vs. $37.2¢$).

Discussion

By manipulating motivational frames, Study 2 provided more direct evidence than did Study 1 that people are inclined to see

¹ We present the analyses for chosen and rejected options separately here and in Studies 3 and 4 for simplicity of presentation. When decision type (chosen vs. rejected) is included as a factor in the ANOVAs, no 3-way interactions emerge.

² In all analyses of pricing estimates in this study, as well as in Studies 3 and 4, two main effects also emerged (see Table 1). First, a main effect of perspective emerged indicating that participants estimated that others would spend more than they would. Second, a main effect of motivational frame emerged indicating that participants estimated that both they and others would pay more for the options in the approach frame than in the avoidance frame. All p s for these main effects were significant at the .001 level. Because these main effects are not highly relevant and because they are qualified by the more relevant 2-way interaction, we have not reported them in the body of this article.

Table 1
Stated Price (in Cents) for Each Item in Studies 2–4 as a Function of Perspective, Motivational Frame, and Decision Type

Study	Approach frame				Avoidance frame			
	Chosen		Rejected		Chosen		Rejected	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
2								
Self	75.1 _c	19.4	51.1 _c	11.1	53.8 _c	11.1	27.3 _a	14.4
Other	73.1 _e	14.9	50.3 _c	10.3	65.3 _d	14.4	37.2 _b	10.3
3								
Self	77.6 _e	41.6	57.3 _c	31.2	59.8 _c	31.6	19.9 _a	16.2
Other	74.4 _e	30.4	55.6 _c	24.1	66.6 _d	37.6	33.6 _b	14.1
4								
Self	75.9 _e	33.2	43.7 _c	16.5	46.3 _c	17.8	15.2 _a	13.8
Other	67.3 _{e,d}	27.2	41.7 _c	12.4	61.9 _d	28.4	33.7 _b	18.1

Note. Within each study, means that share a subscript are not significantly different at a Bonferroni-adjusted alpha of .002.

others as making less avoidance-motivated choices than themselves. When participants chose a highly rated soda over a neutral soda, they assumed that the others who made the same choice did so for the same reason: Both they and others liked the one they chose and felt neutral about the one they rejected. This was not the case when participants chose a neutral soda over a negatively rated soda. Here participants assumed that others liked the chosen soda more than they themselves did and that others disliked the rejected soda less than they did. What participants saw as clearly an avoidance frame for themselves seemed more like an approach frame for similarly choosing others.

Study 3: Choosing and Rejecting Jelly Beans

Study 3 closely paralleled Study 2 with the exception of how participants learned about the commonness of their choices. Rather than presenting participants with this information via the supposed percentage of former participants who chose similarly, as in Study 2, Study 3 presented it to participants via the supposed choices of particular coacting others. Providing information in this manner permitted more direct self–other comparisons as well as a greater range of dependent measures. It was hypothesized that participants who made choices identical to a coactor would conclude that the coactor liked the chosen object more and disliked the rejected object less than they did when the choice was avoidance motivated but not when the choice was approach motivated.

Method

Participants

Seventy-four Princeton undergraduates were recruited via phone and electronic mail to participate in a 1-hour experiment on jelly bean tasting for which they received course credit.

Procedure

Participants arrived at the laboratory in pairs. The experimenter began by telling the previously unacquainted participants that they would be taste testing a variety of jelly bean flavors. He went on to explain that the

purpose of the research was to understand how people construct their own preferences and interpret the preferences of others. The experimenter further explained that there were two conditions in the experiment. In one condition, both participants tasted the jelly beans in the same room, enabling them to observe each other's expressions as they tasted the jelly beans. In a second condition, participants tasted the jelly beans in separate rooms and were merely provided with information about the taste preferences of the other participant. It was this second condition, the experimenter announced, to which the participants had been randomly assigned.

Following this explanation, participants were seated in separate rooms and given an unrelated questionnaire to fill out, ostensibly to permit the experimenter to introduce the other participant to the initial part of the tasting procedure. After 10 min had elapsed, the experimenter returned to the participant's room, directed the participant to put the questionnaire aside, and started the main tasting procedure.

The use of jelly beans rather than sodas, as in Study 2, streamlined the procedure (as well as eliminated the need to refrigerate the stimuli). As in Study 2, participants were given seven Jelly Belly flavors to taste (Dr. Pepper, espresso, tropical punch, blueberry, peach, lemon, and kiwi). Rather than rating the flavors as participants did in Study 2, participants were asked to rank order the seven flavors. Participants were allowed to taste flavors more than once to ensure the reliability of their rankings. Following this initial ranking, participants completed two tasks, the order of which was determined by experimental condition.

Pricing task. One of the tasks involved a pricing procedure that closely paralleled that of Study 2. Participants were asked to taste two pairs of jelly beans, one that included their first and third ranked flavors and another that included their fourth and seventh ranked flavors. Adopting the procedure used in Study 2, the experimenter asked participants to choose between the two flavors and to indicate how much they would be willing to pay for a quarter pound of each variety, bearing in mind that a typical quarter pound of jelly beans costs 50¢. Once this information was collected, the experimenter told the participant that the other participant had selected the same choice from each pair and asked the participant how much he or she thought the other person would be willing to spend for a quarter pound of each variety.

Selection task. The other task paralleled the first in a number of respects. In it participants were also provided with a pair of previously ranked flavors (in this case their third and fourth ranked flavors) and asked which of the two they preferred as well as which they thought the other participant would prefer. In this task, however, the experimenter told participants that they would actually take home a bag of the kind of jelly

beans that they chose. The experimenter further explained that because the other participant could not be interrupted, the participant should also choose one of the two flavors for the other person. When the participant had answered these questions, the experimenter excused himself from the room for the remainder of the experiment. Participants were debriefed following whichever task came second in their session.

Results

As in Study 2, the impact of the experimental manipulations could only be meaningfully interpreted for participants whose choices in the main tasks were consistent with their previous rankings.³ Eighteen participants failed to meet this criterion and were excluded from the final analysis, leaving a final sample of 56. A preliminary analysis of the effect of order of jelly bean presentation revealed no significant main effect or interactions involving this variable, and thus it was dropped from all further analyses.

Manipulation Checks

Using the participants' rankings, the experimenter constructed jelly bean pairings that included a well-liked flavor and a neutral flavor (positive pairing) and a disliked flavor and a neutral flavor (negative pairing). The success of the manipulation was confirmed by the prices participants indicated that they and others would pay for the two flavors within each pairing. In the case of the positive pairing, participants indicated that they and others would be willing to pay substantially more for the most liked flavor than the neutral flavor ($M_s = 76.0¢$ vs. $56.5¢$), $F(1, 55) = 87.90$, $p < .001$, and in the case of the negative pairing, participants indicated that they and others would be willing to pay substantially more for the neutral flavor than the least liked flavor ($M_s = 63.2¢$ vs. $26.8¢$), $F(1, 55) = 78.71$, $p < .001$.

Own Versus Other's Willingness to Pay

As in Study 2, we hypothesized that participants would predict that a similarly choosing other had perceived the choice options more similarly to them in the approach-motivational frame than in the avoidance-motivational frame. This prediction was confirmed by a Perspective (self vs. other) \times Motivational Frame (avoidance vs. approach) interaction, $F(1, 55) = 26.82$, $p < .001$. For a fuller understanding of how participants saw themselves in relation to similarly acting others in the two motivational frames, we now consider separately participants' perceptions of the chosen and rejected options.

Chosen flavor. A 2 (perspective: self vs. other) \times 2 (motivational frame: approach vs. avoidance) within-subjects ANOVA yielded the predicted interaction between motivational frame and perspective, $F(1, 55) = 8.91$, $p < .01$. As hypothesized, participants estimated that they and the other participant would pay a similar amount for the chosen flavor in the approach frame ($M_s = 77.6¢$ vs. $74.4¢$) but that they would pay less than the other participant for the chosen flavor in the avoidance frame ($M_s = 59.8¢$ vs. $66.6¢$).

Rejected flavor. A 2 (perspective: self vs. other) \times 2 (motivational frame: approach vs. avoidance) within-subjects ANOVA conducted on the pricing estimates for the rejected flavor also revealed a significant Perspective \times Motivational Frame interaction, $F(1, 55) = 48.67$, $p < .001$. As the middle panel of Table 1

indicates, participants estimated that they and the other participant would pay a similar amount for the rejected flavor in the approach frame ($M_s = 57.3¢$ vs. $55.6¢$) but that they would pay less than the other participant for the rejected flavor in the avoidance frame ($M_s = 19.9¢$ and $33.6¢$).

Revealing Preferences of Self and Predicting Preferences of Other

In the other segment of the procedure participants were asked to indicate which of the two neutral flavors (the third and fourth ranked) they would personally prefer and which they thought the other person would prefer. We hypothesized that participants, when predicting the preference of the other prior to learning of his or her choices in the positive and negative pairings (i.e., when this task preceded rather than followed the pricing task), would assume that the other would make the same choice as they did (i.e., choose the participant's third ranked over their fourth ranked flavor). On the other hand, we hypothesized the opposite pattern when participants knew of the choices the other made before predicting the other's relative preference for the two neutral flavors. We based this hypothesis on the assumption that participants would infer that the other participant liked what he or she chose (the fourth ranked over the seventh ranked) more than what he or she rejected (the third ranked in favor of the first ranked).

We tested this hypothesis by comparing the relative frequency with which participants thought that the other participant would select the third ranked choice over the fourth ranked choice. Consistent with predictions, the majority (69.2%) of participants predicted that the other would make the same choice as they did (i.e., choose the participant's third ranked over their fourth ranked flavor) when they were asked for their prediction prior to learning of the choices that the other made in the positive and negative pairings. However, only a minority (20.0%) of participants made this prediction when they knew that the other, like them, previously had chosen the fourth ranked flavor in the negative pairing and had rejected the third ranked flavor in the positive pairing, $\chi^2(1, N = 56) = 13.78$, $p < .001$.⁴ Ironically then, given no information about the other, participants predicted he or she would have similar preferences, but given information that the other had previously expressed preferences identical to theirs, they inferred

³ It should be noted that the exclusion of these participants provides an even more rigorous test of our hypothesis that participants in the avoidance frame will judge similar-choosing others as having different motivations.

⁴ Not all of our participants personally selected their third ranked choice over their fourth ranked choice, but the vast majority (46 of 56) did so, with those not doing so being evenly split between the two conditions. All of the participants who selected the fourth ranked option also selected this option for the other person. Restricting the analysis to only those participants who selected their third ranked over their fourth ranked flavor revealed a pattern of results very similar to that reported in the body of this article. The vast majority (93%) predicted that the other would make the same choice when they were asked for their prediction prior to learning of the choices that the other made in the positive and negative pairings, whereas only a minority (40%) did so when they made their prediction after learning that the other, like them, had chosen the fourth ranked flavor in the negative pairing and had rejected the third ranked flavor in the positive pairing, $\chi^2(1, N = 46) = 14.61$, $p < .001$.

that the other's subsequent preferences would be different than their own.

Discussion

The results of Study 3 replicated those of Study 2 using a different measure of preference and a different object of choice. Study 3 also showed that the tendency to assume that similar choices by self and others reflected different tastes was not limited to cases where the information about others came in aggregate form but included circumstances where the relevant target was a fellow participant. Consistent with our reasoning about the origins of pluralistic ignorance, participants in the avoidance-motivation condition, informed that they had responded identically to another, inferred that the other liked the chosen flavor more than they did. However, when not told of the other's previous choices, participants assumed that the other would share their preferences.

Study 4: Perceiving Dissimilarity in Similarity

Studies 2 and 3 focused on participants' estimates of the similarity between their reactions and those of others to flavors of jelly beans (Study 3) and sodas (Study 2) that they either had both chosen or both rejected. We inferred participants' beliefs about self-other similarity in flavor preferences from the similarity in the amounts that they indicated that they and the others would pay for the identical flavors. The more similar the price, the more similar participants were assumed to believe their tastes were to those of others. Study 4 sought to assess assumptions of self-other similarity more directly. Specifically, it tested the hypothesis that participants would claim to have both more similar taste preferences and more similar general qualities with similarly choosing others when the choices were made in an approach-motivational frame than when the choices were made in an avoidance-motivational frame.

Method

Participants

Fifty-five Princeton undergraduates enrolled in psychology courses were contacted through electronic mail to participate in a 1-hour "jelly bean tasting" experiment as partial fulfillment of a course requirement. Participants were assigned to experimental sessions in groups of three.

Procedure

Once all three participants had arrived the experimenter gave a brief description of the experiment. As in Study 3, participants were told that the researchers were investigating both how people construct their own preferences and how they interpret the preferences of others. Mirroring the cover story used in Study 3, participants were also told that they would be in a control group and would be seated in three separate rooms so that they could not see each other and would only learn about the others' choices from the experimenter. Following this brief explanation, the experimenter took the participants to their rooms and gave each of them a large questionnaire packet to work on while he supposedly had the other participants (referred to as Participants A and B) taste the jelly beans.

After 10 min, the experimenter went to each participant, in turn, and explained that he or she was to taste each of seven different flavors of jelly beans and to rate each flavor on an 11-point scale ranging from 0 (*very bad*) to 10 (*very good*). The jelly beans used in this experiment were the

Jelly Belly flavors Dr. Pepper, island punch, espresso, peach, grapefruit, buttered popcorn, and jalapeño cinnamon. Participants tasted and rated one jelly bean of each flavor in a fixed order.

On the basis of the ratings provided by the participant, the experimenter then presented the participant with a pair of jelly beans. The pair contained one flavor the participant had previously given a neutral rating (e.g., a rating of 5) and one flavor that he or she had previously given either a very positive rating or a very negative rating. After tasting each jelly bean in the pair, participants were asked to choose which of the two they preferred and to indicate how much they would be willing to spend for a quarter pound of each flavor, bearing in mind that a typical quarter pound of jelly beans costs 50¢. After choosing their preferred flavor and pricing both their chosen and rejected flavors, participants were told that Participant A had made the same choice they had. Participants were then asked to estimate how much they thought that Participant A would be willing to spend (relative to the neutral 50¢) for a quarter pound of each flavor. The participants were then presented with a second pair of jelly beans that included the same neutral jelly bean that was in the first pair along with the contrasting (positive or negative) jelly bean not tasted in the first pairing. Once participants had made their choice, the experimenter told them that Participant B had expressed the same preference. (The order of the two pairings was counterbalanced between participants.) The experimenter then gave participants a final questionnaire that included the following six questions: (a) "How similar are your jelly bean preferences to those of Participant A?" (1 = *not at all* to 9 = *completely*); (b) "How similar are your jelly bean preferences to those of Participant B?" (1 = *not at all* to 9 = *completely*); (c) "Are your jelly bean preferences more similar to Participant A or to Participant B?" (d) "How similar personally are you to Participant A?" (1 = *not at all* to 9 = *completely*); (e) "How similar personally are you to Participant B?" (1 = *not at all* to 9 = *completely*); and (f) "Are you personally more similar to Participant A or Participant B?" When this final questionnaire was completed, materials were collected and the participant was debriefed, probed for suspicion, and excused.

Results and Discussion

Six of the participants were excluded from the analysis because their choice of jelly bean flavors in the experimental task was inconsistent with their initial rankings. Three other participants were excluded because they expressed suspicion about the information the experimenter gave about the other participants' choices. These exclusions left a final sample of 46.

Manipulation Check

Using the participants' ratings, the experimenter constructed jelly bean pairings that compared a well-liked flavor with a neutral flavor (positive pairing) and a disliked flavor with a neutral flavor (negative pairing). The success of the manipulation was confirmed by the prices participants indicated that they and the other would pay for the two flavors within each pairing. In the case of the positive pairing participants indicated that they and the other would be willing to pay substantially more for the most liked flavor than the neutral flavor ($M_s = 71.6¢$ vs. $42.7¢$), $F(1, 45) = 98.73$, $p < .001$, and in the case of the negative pairing participants indicated that they and the other would be willing to pay substantially more for the neutral flavor than the least liked flavor ($M_s = 54.1¢$ vs. $24.4¢$), $F(1, 45) = 149.04$, $p < .001$.

Own Versus Other's Willingness to Pay

As in Studies 2 and 3, we predicted that participants would assume that identically choosing others perceived the choice op-

tions more similarly in the approach-motivational frame than in the avoidance-motivational frame. A significant Motivational Frame \times Perspective interaction, $F(1, 45) = 29.47, p < .001$, confirmed this prediction. For a fuller understanding of how participants saw themselves in relation to similarly acting others in the two motivational frames, we now consider separately participants' perceptions of the chosen and rejected options.

Chosen flavor. With respect to evaluations of the chosen flavor, the pricing estimates for self and other, as predicted, differed depending on the motivational frame, $F(1, 45) = 13.70, p < .001$. As in Studies 2 and 3, participants estimated that they would pay significantly less than the other participant for their mutually chosen flavor in the negative pairing ($M_s = 46.3\text{¢}$ vs. 61.9¢). Unlike in Studies 2 and 3, however, participants also indicated that they would pay marginally more for their mutually chosen flavor in the positive pairing ($M_s = 75.9\text{¢}$ vs. 67.3¢). It is not clear what produced this unexpected effect, but given the robustness of the overall pattern of results in this and the previous two studies, we are disinclined to accord this single anomalous finding much import.

Rejected flavor. With respect to the rejected flavor, the predicted Motivational Frame \times Perspective interaction also emerged, $F(1, 45) = 60.89, p < .001$. As in Studies 2 and 3, participants estimated that they and the other participant would pay similar amounts for their mutually rejected flavor in the positive pairing ($M_s = 43.7\text{¢}$ vs. 41.7¢) but that they would pay less than the other for their mutually rejected flavor in the negative pairing ($M_s = 15.2\text{¢}$ vs. 33.7¢ ; see the bottom panel of Table 1).

Perceived Self–Other Similarity

Although participants were told that they had made similar choices to each of the other participants in one of the two pairings, we predicted that they would not see themselves as equally similar to the two other participants. Specifically, we predicted that participants would see themselves as more similar to the participant who allegedly made the same choice as they did in the positive pairing. Consistent with this prediction, participants rated themselves (on 9-point scales) as sharing more similar tastes in jelly beans with the person who had made the same choice in the positive pairing ($M = 5.2$) than with the person who made the same choice in the negative pairing ($M = 4.1$), $t(45) = 3.02, p < .01$. Further, when asked to indicate which of the other two participants shared more similar preferences with them, a large majority of participants selected the person who had made the same choice in the positive pairing (71.7% vs. 28.3%), $\chi^2(1, N = 46) = 8.70, p < .01$.

Participants were also asked to indicate the degree of personal similarity they saw between themselves and the other two participants. When asked to whom they were more personally similar, a large majority indicated that they had more in common with the person who had made the same choice in the positive pair than with the person who had made the same choice in the negative pair, (73.9% vs. 26.1%), $\chi^2(1, N = 46) = 10.52; p < .01$. The asymmetry in perceived self–other similarity was also evident in participants' responses to the 9-point rating scales of perceived similarity. Participants described themselves as somewhat more personally similar to the person who made the same choice in the positive pairing than to the person who made the same choice in

the negative pairing ($M_s = 4.5$ vs. 4.2), $t(45) = 1.47, p < .15$. Taken together, the similarity findings support the hypothesis that the degree of similarity people feel with others who have made choices similar to their own depends on the motivation behind those choices. When their choices reflect avoidance motivation, people are less certain that others' identical choices bespeak a similarity of taste, presumably because they are less certain that the choices of others were similarly motivated.

One alternative account for the similarity findings deserves mention. Specifically, the observed pattern could reflect participants' belief that the choices they and others made in positive frames were more diagnostic of their preferences, and possibly their personality more generally, than those they made in negative frames. Holding such a belief would be reasonable were people to assume that the choice of a very appealing flavor over a neutral flavor was more distinctive than the choice of a neutral flavor over a very unappealing flavor. Unfortunately, the present data do not permit a direct examination of this possibility. On the basis of indirect evidence, however, it seems unlikely. Recall the finding in Study 3 that approximately 70% of the participants in Study 3 who knew nothing of the preferences of another participant expected him or her to share their preference for the flavor they ranked third over the flavor they ranked fourth. Given that participants did not even find this relatively idiosyncratic preference to be very distinctive, it seems highly improbable that they would consider their preference for their first ranked flavor over their fourth ranked flavor to be so. To rule out this possibility conclusively, however, more research is required.

Additional research is also necessary to rule out the more general possibility that the perceived similarity effects found in Study 4 reflected participants' perception that the selection of a neutral option over a negative option is less diagnostic of a person's tastes than the selection of a positive option over a neutral option. One possible step in this direction would be to include a condition in which participants were asked to reject (rather than choose) one of the two options. Whether the task is to choose or reject one option over another should not affect participants' judgment of the person with whom they thought they had more in common. Participants should still assume, according to the present analysis, that they had more in common with someone who rejected a neutral option in favor of a positive option than with someone who rejected a negative option in favor of a neutral option. On the other hand, if Study 4's results reflect the fact that people find the selection of neutral options to be inherently more ambiguous than the selection of either positive or negative options, then we should expect a reversal of the Study 4 results when participants are charged with rejecting, as opposed to selecting, one option. For in this latter condition, the selection of the neutral option would occur in the positive frame rather than in the negative frame.

General Discussion

This paper began by asking when it is that similarly acting people assume that their behavior means something different than that of others. According to the present analysis, one circumstance is when people's course of action represents the lesser of two evils and speaks more to what they wish to avoid than to what they wish to do. We propose that there is a pervasive tendency to assume that

others' choices are approach rather than avoidance motivated. So strong is this tendency that people reveal it even when they interpret their own identical actions as avoidance motivated.

Why Do People See Approach in Avoidance?

One possible explanation for people's tendency to see others' behavior as reflecting approach rather than avoidance is that positive (approach–approach) choices are more common in everyday experience than are negative (avoidance–avoidance) choices. The claim that assuming approach motivation is rational would seem especially relevant in those cases where observers lack knowledge about the content of the choice options and thus have little else to base judgments on besides their a priori models of behavior (Trope & Liberman, 1993). This would be relevant in the present context if participants knew of others' flavor preferences but had neither tasted nor rated the flavors themselves. However, participants had firsthand knowledge of the choice options in the present studies, and hence it seems unpersuasive to claim that they were merely basing inferences on general knowledge about the relative commonness of approach motivation. It is still possible, of course, that people's a priori beliefs about the greater commonness of approach motivation are so strong that they influence people's judgments even in situations that contradict their personal experience (i.e., when avoidance motivation led them to the identical choice). That people would anchor on their base rates despite having such salient contrary personal information seems unlikely, however. As a large body of research indicates (Kahneman & Tversky, 1973; Nisbett & Ross, 1980), perceivers generally err by relying too little rather than too much on base rates in relation to personal experience.

A second possible explanation for the self–other asymmetry observed in the present studies points to something more basic than an overreliance on base rates. Specifically, people may simply perceive a stronger unit relationship (Heider, 1958) between actors and their chosen courses of action than actors and their foregone actions. Indeed, considerable research on the feature-positive effect documents the difficulty people have in using nonbehaviors as positive cues for making judgments (Fazio, 1987). This analysis fits well with the present results. For example, it seems intuitively compelling that observers would see a stronger unit relationship between a voter and his or her chosen candidate than between the voter and his or her rejected candidate—no matter how unappealing the latter is. The hypothesis that observers perceive differentially strong unit relations between people and their choices than between people and their nonchoices also fits with other circumstances in which pluralistic ignorance arises. Consider the example with which we began—bystander emergencies. In this situation there certainly would seem to be a stronger unit relation between a person and his or her action (not intervening) than between a person and his or her foregone action(s) (e.g., intervening or running away).

The obvious next question is why might people be associated more strongly with the actions they take than with those they forego. We offer two possibilities. First, although the present studies were designed so that the number of chosen and rejected objects were equivalent in number and salience, in many if not most situations the set of rejected or avoided actions will be much larger and indeterminate than the set of chosen actions. Furthermore, that which a person has chosen to do is typically linked more

closely with the person in time and space than is that which a person has chosen not to do. For both of these reasons, chosen objects, to use Gestalt language, will tend to be the figure and rejected objects the ground.

A second reason for perceiving a stronger unit relation between people and their actions than between people and their foregone actions is the greater ease of categorization the former affords. Consider the case of a person who chooses option X when faced with a choice between it and some other option Y. Although this action could be coded as a counterchoice (not-Y) as well as a choice (X), the former, because it involves negation, would seem a more effortful categorization. In this respect, the process we describe here evokes comparisons with the correspondence bias (Jones, 1990; Gilbert & Malone, 1995). Just as observers' default assumption is that another's behavior reflects dispositional rather than situational forces (Gilbert, 1991; Quattrone, 1982), so it may be that observers' default assumption is that another's behavior reflects approach rather than avoidance motivation. In effect, the layperson may accord avoidance motivation the epistemological status of a situational cause, a possibility consistent with Kelley's (1971) proposal that the layperson ascribes avoidance motivation to external causes and approach motivation to internal causes. Indeed, in his original analysis of approach–avoidance motivation, N. E. Miller (1944) linked approach tendencies with internal forces and avoidance tendencies with external forces. According to N. E. Miller, the tendency of avoidance tendencies to decrease more sharply with increasing distance from the goal (the point of danger) than approach tendencies (the latter with respect to the location of some positive incentive) reflects the fact that avoidance tendencies are more dependent on external cues, usually ones near the goal, whereas approach tendencies are more dependent on internal cues, such as drive states, which do not vary with distance from the goal.

People's inclination to attribute behavior to approach tendencies, like their inclination to attribute behavior to dispositional tendencies, then, may reflect their general lay dispositionism (Ross & Nisbett, 1991). In a further parallel, here too we find an actor–observer divergence. In the first instance, we find observers attributing another's action to his or her disposition even when they attribute the same action of their own to situational forces (Jones & Nisbett, 1971). In the second instance, we find observers attributing another's action to his or her approach tendencies even when they attribute the same action of their own to avoidance tendencies.

In describing the asymmetry found in the present studies as an actor–observer divergence, a word of caution is in order. The divergence may be limited to situations where there exists an attributional ambiguity with respect to motivational valence. That is, where the action could result from either approach or avoidance motivation. The claim that people are less inclined to attribute the motivationally ambiguous behavior of another than that of their own to avoidance motivation need not imply that people also think that negative stimuli generally exert a more powerful influence over the self than others. For example, it is possible that people might indicate that their choice of grape soda over pineapple soda reflected a stronger dislike of pineapple soda than another's identical choice and also indicate that a request for an evaluation of pineapple soda alone would reveal no difference between self and other. Stated more generally, the actor–observer difference re-

vealed in the present studies may be limited to choice paradigms and not extend to judgment paradigms (Gilovich, Griffin, & Kahneman, 2002). Moreover, even within choice paradigms it remains to be seen whether the actor–observer divergence found here will be obtained when the choice is between options that are both manifestly aversive or that both simultaneously elicit avoidance and approach motivations.

Revisiting the Spawning Grounds of Pluralistic Ignorance

The quest for parsimony compels a reexamination of previous accounts of pluralistic ignorance (D. T. Miller & McFarland, 1991; D. T. Miller & Prentice, 1994). According to the present analysis, many of the supposed preconditions for the emergence of pluralistic ignorance may not, in fact, be necessary. First, pluralistic ignorance, contrary to previous accounts, does not appear to require that people's public behavior misrepresent their private feelings. For example, Bush and Gore scorers cast no less authentic votes than Bush and Gore admirers. Although Bush and Gore scorers might have experienced more pluralistic ignorance had their public behavior exaggerated their liking for their candidate, some pluralistic ignorance could be expected to arise even without such misrepresentation. As the present results suggest, observers will assume others are acting more out of comfort or desire than avoidance regardless of whether or not they look comfortable. Observers do not have to see the actors' comfort to assume that they are comfortable.

Second, pluralistic ignorance, again contrary to previous accounts, does not appear to require fear of embarrassment to be the source of avoidance behavior. Fear of embarrassment is a potent source of avoidance motivation in many social situations, but it is not the only fear that can produce avoidance, and it certainly is not operative in the present studies. Many other fears—such as the fear of embarrassing someone else, the fear of being materially exploited, and the fear of change or uncertainty—can produce avoidance behavior and hence contribute to pluralistic ignorance. Finally, the presence of fear itself may be an unnecessary condition for pluralistic ignorance because other factors can also produce aversion or avoidance motivation. For example, in the present studies it is not fear but taste aversion that guides actors' actions and results in their drawing different inferences about their actions and those of others.

Implications

The present findings have implications for various psychological processes, but we will limit our discussion to three: the misinterpretation of preferences, the misinterpretation of motivation, and the misinterpretation of one's relation to others.

Misinterpreting Preferences

If people fail to consider that another's course of action could reflect avoidance, there is a good possibility that they will misperceive that person's preferences. As an illustration, consider an example from our own campus. The most common social activity on our campus is what is known as "Going to the Street"—the "Street" being a frat-row like conglomerate of 11 eating clubs, where beer is free and the University has no jurisdiction. Despite

its apparent popularity, many students admit that their patronizing of the Street reflects nothing more than it being "the only game in town." Nevertheless, it is difficult for outsiders to realize that the phenomenon of the Street reflects students' wish to avoid the complete absence of a social life rather than a more pro-Street motivation. Furthermore, even ambivalent habitués of the Street assume that others do so without misgivings (Prentice & Miller, 1993). The consequence of this misinterpretation, both by outsiders and insiders, is that little is done to provide alternative social venues. The perpetuation of the status quo may well be one of the most common consequences of the failure to recognize that people's actions often reflect the perceived unattractiveness of alternatives rather than the appeal of the status quo (D. T. Miller & Prentice, 1994).

Misinterpreting Motivation

By assuming that people's actions represent something affirmative rather than something defensive, people may also draw inappropriate inferences about another's motivations or goals. The motivational ambiguity behind the defection response in the Prisoner's Dilemma (PD) game illustrates this well. Opting for the defection or competitive response in the PD or similar games can reflect either the motivation to exploit the other player or the motivation to defend against possible exploitation by the other player. Despite the plausibility of both motivations, considerable research shows people are more likely to interpret this response as aggressive than defensive (Rapoport, 1973). This inference is often assumed to reflect cynicism, but it may simply be another example of people's tendency to assume that people's actions are aimed at attaining a particular end state (i.e., the exploitation of the other) rather than at avoiding a particular end state (i.e., being exploited by the other). People's proclivity to see behavior as approach rather than avoidance motivated means that they will code many defensive acts as aggressive even when they see their own identical response as defensively motivated, thereby ensuring escalating conflict in PD or similarly structured interactions (Kelley & Stahelski, 1970; D. T. Miller & Holmes, 1975).

Vorauer and Ratner's (1996) research on participants' analyses of unrealized romantic encounters provides another example of what may follow from people's high threshold for attributing avoidance motivation to another. According to this research, people are inclined to interpret the failure of an object of romantic interest to approach them as evidence of that person's lack of interest rather than that person's social inhibition. Although at the same time, they acknowledge that the reason they had not approached the other is inhibition.

Illusory Deviance

The tendency for people to more readily see others as moving toward objects than moving away from other objects also has implications for group cohesion. Members of groups engaged in avoidance actions will see themselves as less in step with one another than those engaged in more affirmative actions. To the extent that people perceive all behaviors by others as approach focused, they will tend to feel more isolated and alienated in those contexts in which they see their own behavior as avoidance based (Prentice & Miller, 1993, 1996). Another consequence of seeing

oneself as both avoidance and approach motivated and others as primarily approach motivated is that people will come to see themselves as more generally avoidance motivated than others (McFarland & Miller, 1990). This belief, in turn, will render it even less likely that people will infer from their own avoidance motivation that others' identical actions are also motivated by avoidance.

Summary

The choice of one action over another reveals that the chosen action had greater subjective utility for the actor than did the nonchosen action, but it does not reveal why this is the case. It could be that the chosen and rejected option(s) differed on the degree of utility they held for the actor, but it could also be that they differed in the degree of disutility they held for the actor. For many purposes, knowing whether it is the presence of perceived utility in the chosen action or the presence of perceived disutility in the rejected action that guides people's action is unimportant. In other cases, however, it will matter whether someone's choice was utility or disutility dominated (Higgins, 1998). For example, the outcome of a negotiation is likely to be very different depending on whether the adversaries see one another's actions as seeking to maximize the utility of their actions (e.g., to get the upper hand or free ride) or to minimize disutility (e.g., to negate any exploitation by the other). According to the present results, the distinction between utility- and disutility-dominated choices is insufficiently appreciated by observers, as they are disposed generally to see others' choices as utility rather than disutility dominated. Furthermore, the strength of this tendency is so strong in people that it persists even when they recognize that their identical choices are disutility or avoidance motivated.

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