Motivated Reasoning in Outcome-Bias Effects

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In this research, we examine the conditions under which outcomes bias judgments, and we provide insights on the processes underlying such bias effects. A series of three studies identified motivated reasoning as a major determinant of when outcomes would bias judgments. The processes underlying outcome bias effects also varied depending on the motivational goal. Accuracy goals minimized outcome bias based on objective elaboration. Defense goals enhanced outcome bias by promoting selective processing of the outcome when it was preference consistent. Finally, impression goals increased the perceived diagnosticity of outcomes and biased the subsequent systematic processing resulting in outcome-biased judgments.

Recent theorizing in dual process models has focused on three distinct types of goals. Accuracy, defense, and impression goals have been shown to guide message processing (Chen, Shechter, and Chaiken 1996): (*a*) the accuracy goal is to discern the validity of attitudes; (*b*) the defense goal is to hold attitudes that support current existing beliefs; and (*c*) the impression goal is to express attitudes that will satisfy interpersonal and social goals.

In this research, we document the effects of outcomes on subsequent judgments under accuracy, defense, and impression motives. In addition, different motives may moderate the effect of heuristics on judgments and also influence the underlying systematic processes. Accuracy induces objective elaboration and, hence, heuristic cues have no impact on judgments. Defense goals promote selective elaboration, and heuristics influence judgments only when they support existing attitudes. Impression goals lead to biased systematic processing, and socially relevant heuristics bias subsequent responses. We examine how these three different motivational contexts affect "outcome bias" in judgment formation.

Outcome Bias: The Case for Motivated Reasoning

Outcome bias effects occur when people make inferences consistent with the outcome of a performance rather than the performance itself even when the outcome may be determined by an arbitrary rule (Allison, Worth, and King 1990; Mackie, Worth, and Allison 1990). Past research examining the impact of motives on outcome bias presents diverse findings. First, in the context of accuracy motives, outcomes have been shown to act like heuristics and to bias inferences under low-accuracy motives. In contrast, their impact on judgments is dampened under high-accuracy motives (Allison et al. 1990). However, no process measures have been documented under accuracy goals. Second, under defense motives, mixed results have been reported. Allison et al. (1995) observed outcome bias both when the outcome was consistent with prior attitudes and when it was inconsistent. They suggested that outcomes are more dominant than prior attitudes and hence ruled out defensive processing of outcomes. In contrast, Mackie and Ahn (1998) reported outcome bias when outcomes portrayed the in-group in a positive (vs. negative) light, suggesting defensive processing of outcomes. Yet another study reported outcome bias only when people were favorable (vs. unfavorable) toward the process that generated the outcome (Mackie et al. 2001). This study documented that outcome bias occurs in the defense of the outcome-generating process. However, outcome bias was not explicitly examined in the defense of existing preferences for the target. In sum, the examination of constructs similar to defense goals has yielded mixed findings. Finally, in the context of impression goals, outcome bias is yet to be examined. Hence, we conducted three studies to (*a*) understand the processes underlying the impact of accuracy motives on outcome bias, (*b*) resolve the mixed findings relating to outcome bias under defense motives, and most important, (*c*) investigate outcome bias under impression motives. First, we derive the hypotheses relating to the impact of the three different motives on judgments, and then we present the hypotheses for the elaboration processes underlying these effects. In studies 1 and 2, accuracy versus impression motives were compared, and in study 3, defense versus impression motives were compared.

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Hypotheses

Judgments. Impression-motivated individuals are concerned with satisfying interpersonal goals. Hence, their attitudes are likely to reflect the "shared reality" of others' expectations (Chen et al. 1996; Ratner and Kahn 2002). Since outcomes represent the opinion of others in a social context, impression-motivated individuals are likely to be influenced by outcomes. Hence, under impression goals, judgments will be more favorable for positive (vs. negative) outcomes.

Defense motives induce selective systematic processing that supports the maintenance of existing beliefs but undermines information that is inconsistent with the desired conclusion (Ditto and Lopez 1992). Under defense motives, people rely on heuristics that help them reach a desired conclusion but discount heuristics that endorse the opposing view (Giner-Sorolla and Chaiken 1997). Since positive outcomes are consistent with prior favorable preferences, defense-driven participants are expected to exhibit outcome bias when the outcome is positive. However, when the outcome is negative, outcome represents information that is counter to prior favorable preferences and hence it is expected to be discounted and have minimum impact on judgments.

In contrast, for accuracy, based on the view that outcomes are heuristics, outcome bias was not expected (Worth, Allison, and Messick 1987). Since accuracy-based systematic processing induces objective elaboration of information, the effect of heuristics such as outcomes will be minimized. Under accuracy motives, judgments will be equivalent for positive and negative outcomes.

H1: (*a*) Under impression motives, judgments will be more favorable when the outcome is positive (vs. negative); (*b*) under defense motives, judgments will be more favorable when the outcome is preference consistent (vs. preference inconsistent).

The above theorizing suggests that, while both impression-motivated and defense-motivated individuals will show outcome bias for positive outcomes, impression-motivated individuals will use positive outcomes, due to the valence, but defense-motivated individuals will use positive outcomes because they are preference consistent. Hence, judgments for positive outcomes will be equivalent across these two goals. The difference between impression and defense motives will be evident in the case of negative outcomes. Impression-driven individuals will incorporate negative outcomes in their judgments, leading to unfavorable judgments. However, defense-motivated individuals will not be influenced by the preference-inconsistent negative outcome. Thus, for negative outcomes, judgments will be less favorable under impression (vs. defense).

H2: When the outcome is negative, impression-motivated (vs. defense-motivated) participants will have less favorable judgments.

Outcome-Related Thoughts. The extent of elaboration of the outcome and the valence of message elaboration would highlight the processing differences among the various motives. For impression-motivated participants, the social relevance of their opinion is important, so they would elaborate on the outcome in detail. In contrast, under accuracy, outcome is goal irrelevant and hence will be minimally elaborated. Thus, impression-motivated (vs. accuracy-motivated) participants would engage in more outcome-related thinking.

H3: Impression motives (vs. accuracy motives) will lead to more outcome-related thoughts.

Existing preferences foster defense motives and induce selective processing differently under preference consistency (vs. inconsistency; Jain and Maheswaran 2000). Preference-inconsistent (vs. preference-consistent) information is examined in detail. In accord, a preference-inconsistent outcome will be scrutinized in detail and will lead to more outcome-related thoughts. But, preference-consistent information receives less scrutiny and will be minimally elaborated. Hence, we predict a limited processing of outcome. Also, inconsistent outcomes may lead to a greater scrutiny and reexamination of the message, resulting in more message thoughts. Thus, the two key indicators of defense processing are enhanced outcome-related and message-related thoughts in inconsistent outcome (vs. consistent outcome) conditions.

H4: Under defense motives, more outcome-related thoughts and more message-related thoughts will be generated when the outcome is preference inconsistent (vs. preference consistent).

Valence of Message-Related Thoughts. Impression-motivated participants will be guided by social goals and, hence, their systematic processing should be biased toward satisfying these goals. The valence of message elaboration is an indicator of biased processing. Identical messages were presented, and only the outcome was varied. If outcome were to bias systematic processing, then message elaboration would be based on the outcome. So, favorable (vs. unfavorable) message elaboration when the outcome is positive (vs. negative) would indicate outcome-biased processing. In contrast, accuracy-motivated individuals are likely to engage in objective elaboration and, hence, outcome is not expected to have an effect on systematic processing. Defense-motivated participants have been shown to selectively focus on preference-consistent information and counterargue preference-inconsistent information (using existing knowledge or stimuli; Jain and Maheswaran 2000). The message (i.e., performance information that leads to the outcome) is favorable in all conditions and is preference consistent for defense-motivated participants. So, any message-related elaboration would be positive across all conditions. A preference-consistent (i.e., positive) outcome will be congruent in valence with the positive message elaboration. A preference-inconsistent (i.e., negative) outcome will be counterargued and refuted and, hence, have no effect on the valence of subsequent message elaboration. Hence, under defense goals, outcomes are not expected to direct message elaboration.

H5: Impression-motivated biased processing will be evident in more favorable message-related thoughts when the outcome is positive (vs. negative).

Perceived Diagnosticity of Outcomes. Finally, outcomes, by virtue of being the result of a comparative process, tend to have a sense of social validity associated with them. Hence, impression-motivated individuals might expect others to incorporate outcomes in their judgments, making outcomes a highly diagnostic cue. Ahluwalia (2002) also suggests that individuals who are driven by accountability, in an attempt to avoid appearing foolish, are likely to consider all the available information. This should increase the perceived diagnosticity and usage of information (e.g., outcomes) that may be considered less diagnostic under high-accuracy motives.

H6: Perceived diagnosticity of outcomes will be higher under impression motives (vs. accuracy motives).

STUDY 1

Design and Procedure. Eighty-nine undergraduate students participated individually in two purportedly unrelated studies for course credit and were randomly assigned to a 2 (motive: accuracy vs. impression) × 2 (outcome: positive vs. negative) study. The first study was the motive-priming task and contained either the accuracy or the impression primes. Based on pilot testing, three priming scenarios each were written for accuracy and impression goals. The accuracy scenarios emphasized objective behavior (Chen et al. 1996). For example, in one scenario, participants imagined being a reporter seeking facts. The impression scenarios emphasized the need to think and act in accordance with the social situation (e.g., going out for lunch with a person who might invite you for a job interview). A second study featured the outcome bias manipulation. All participants read an article, ostensibly published in a trade magazine, briefly describing the results of product tests for personal digital assistants (PDAs). The description rated the target brand X-3000 in five attributes on a 10-point scale (where higher numbers indicated better performance). The X-3000 PDA was scored in the range of 6.5–7.5 on each of the criteria (ease of use, display, software compatibility, weight and dimensions, and value for money). In the positive (negative) outcome, participants read that the X-3000 PDA succeeded (failed) in meeting the magazine's qualifying standard of scoring at least 6.0 (8.0) points on each of the five criteria. Hence, the X-3000 PDA passed (failed) the product test. Then, the participants filled out dependent measures, manipulation checks, and suspicion probes.

Dependent Measures

Evaluations and Cognitive Responses. Participants indicated their evaluations of X-3000 on three scales anchored favorable/unfavorable, good/bad, and desirable/undesirable. Unless otherwise mentioned, all dependent variables and manipulation checks for the three studies were assessed using nine-point scales. Next, the participants listed all the thoughts that occurred to them while reading the product survey (Chen et al. 1996). Two judges, blind to the hypotheses, coded the responses as message-related (M), outcome-related (O), and irrelevant thoughts. These were further classified as positive, negative, or neutral thoughts (+, −, 0). The agreement was 91%, and the dissent was resolved through discussion. The following examples illustrate this coding scheme: "Good value for money" (M+), "This PDA seems too heavy for me" (M−), "How big is the display?" (M0), "This product passed the test—it must be good" (O+), "How can I trust a product that fails the product test?" (O−), "What other brands have been tested?" (O0), "Is this article online?" (irrelevant).

Manipulation Checks. All participants correctly recalled the outcome by answering the question: what was the result of X-3000's product test (pass/fail)?" Outcome perceptions were also assessed by asking participants to indicate the extent to which the outcome of the product test was negative–positive, unfavorable–favorable, and failure–success. Three accuracy items examined the participant's thinking about the advantages and the disadvantages of the product as well as the extent of their thinking about the accuracy of the information. Three impression items assessed the extent to which participants thought about (*a*) their friends' opinion of the product, (*b*) other magazines readers' thoughts about the product, and (*c*) discussing the product with others.

Results and Discussion

The analyses were based on 2 (motive) × 2 (outcome) between subjects ANOVA. Study 1 was designed to test hypotheses 1*a*, 3, and 5.

Manipulation Checks. An ANOVA on the three-item outcome check revealed only a main effect of outcome ($M_{positive} = 6.11$, $M_{negative} = 3.62$; $F(1,85) = 91.58$, $p < .001$; $\alpha = .75$). An ANOVA on the valenced index of outcome-related (positive minus negative) thoughts converged, indicating a main effect of outcome ($M_{positive} = .84$, $M_{negative} = -.63$; $F(1,85) = 40.62$, $p < .001$). The ANOVA on the three accuracy items confirmed the efficacy of the manipulation ($M_{accuracy} = 6.01$, $M_{impression} = 4.70$; $F(1,85) = 26.18$, $p < .001$; $\alpha = .72$). The three impression-related items indicated that participants in the impression (vs. accuracy) prime condition thought more about social concerns ($M_{impression} = 5.33$, $M_{accuracy} = 4.53$; $F(1,85) = 12.34$, $p < .01$; $\alpha = .74$).

Evaluations. An ANOVA on the evaluation index ($\alpha = .86$) revealed a main effect of outcome ($F(1,85) = 5.82$, $p < .05$) and the predicted outcome by motive interaction ($F(1,85) = 4.15$, $p < .05$). Consistent with hypothesis 1a, under impression goals, positive (vs. negative) outcomes lead to more favorable evaluations ($M_{positive} = 5.68$, $M_{negative} = 3.88$; $F(1,85) = 10.01$, $p < .01$). Thus, our

key prediction (hypothesis 1*a*) that impression goals will enhance outcome bias was supported. In addition, the evaluations of accuracy driven participants did not vary across outcomes ($F < 1$). See table 1 for means.

Outcome-Related Thoughts. Supporting hypothesis 3, an ANOVA on the outcome-related thoughts revealed only a main effect of motive. Impression-motivated (vs. accuracy-motivated) individuals elaborated more on the outcome ($M_{impression} = 1.76$, $M_{accuracy} = .91$; $F(1,85) = 25.13$, $p < .001$).

Message-Related Thoughts. A valenced index of message-related thoughts (positive minus negative) served as the critical indicator of biased processing. An ANOVA on this index revealed a main effect of outcome ($F(1,85) = 5.98$, $p < .05$) that was qualified by a reliable interaction with motive ($F(1,85) = 5.36$, $p < .05$). Consistent with hypothesis 5, under impression motives, positive (vs. negative) outcomes led to more favorable message-related thoughts ($M_{positive} = 1.14$, $M_{negative} = -.52$; $F(1,85) = 11.46$, $p < .01$). Thus, the same message was interpreted either positively or negatively depending on the nature of the outcome, indicating that outcomes affect evaluations by biasing systematic processing. In contrast, under accuracy, the valenced message index did not vary as a function of outcome ($F < 1$), indicating that their systematic processing was independent of the outcome. No significant effects were observed on total number of message-related thoughts (F's < 1), suggesting that motivation to elaborate remained constant across the three types of motive but that the nature of elaboration varied depending on the motive.

Consistent with past research, accuracy motives attenuated outcome bias effects. The cognitive responses suggested that increased message information minimized the influence of outcome. In contrast, impression-motivated individuals tended to agree more with the outcome. More important, the cognitive responses indicated that systematic processing was biased in the direction of the outcome. Specifically, the valence of message-related thoughts was outcome consistent. When the outcome was positive (vs. negative), more favorable message-related thoughts were generated. Two issues that emerged from study 1 need further attention. The impression-motivated participants in study 1 did not have an explicit social target that they were trying to impress. So, in study 2, we provided an explicit and immediate social goal, ruling out potential demand artifacts and establishing the robustness of our findings. Second, the perceived diagnosticity of the outcome for impression-motivated individuals was measured.

STUDY 2

Design and Procedure. Ninety-nine undergraduate students participated individually in the study for course credit and were randomly assigned to a 2 (motive: accuracy vs. impression) × 2 (outcome: favorable vs. unfavorable) design. A cover story and instructions, based on Ahluwalia (2002), were used to manipulate accuracy and impression motives.

TABLE 1

MEANS OF KEY DEPENDENT MEASURES: STUDY 1

	Accuracy motive		Impression motive	
	Positive outcome	Negative outcome	Positive outcome	Negative outcome
Evaluations	4.80	4.65	5.68	3.88
Message-related thoughts	3.81	3.91	4.05	3.48
VMT	.04	.00	1.14	−.52
Outcome-related thoughts	.95	.86	1.73	1.78
VOT	.63	−.41	1.04	−.87

NOTE.—Cell sizes range from 22 to 23. VMT = valenced message-related thoughts. VOT = valenced outcome-related thoughts.

The participants learned that the university was considering making PDAs available to incoming freshmen. Accuracy-motivated participants were asked to evaluate the information very closely. They were told that very few students were being surveyed and, hence, their opinion was critical. To minimize concerns of identification that could foster accountability or presentation issues, accuracy participants did not identify themselves on the questionnaire.

Impression-motivated participants learned that the committee wanted their opinions and the reasons for their evaluations. They were informed that, on a later date, they may need to provide written justification for their evaluation and discuss their reasons with a member of the committee. To increase the credibility as well as to enhance impression and presentation concerns, participants identified themselves on the questionnaires.

In a pretest, impression-motivated (vs. accuracy-motivated) participants were more concerned about justification ($M_{impression} = 6.19$, $M_{accuracy} = 3.06$; $F(1,30) = 17.70$, $p < .001$; $r = .77$). Accuracy-motivated participants generated equivalent counterarguments and support arguments ($M = 1.94$ vs. 2.18; $F < 1$), confirming the efficacy of the accuracy manipulation. However, under impression, more support arguments (vs. counterarguments) ($M = 3.37$ vs. .56; $F(1,30) = 41.52$, $p < .001$) were reported. An ANOVA on the three-item outcome manipulation index revealed only a main effect of outcome ($M_{positive} = 6.98$, $M_{negative} = 3.63$; $F(1,30) = 114.23$, $p < .001$; $\alpha = .86$).

Dependent Measures

The dependent measures were identical to those of study 1. In addition, we also measured perceived diagnosticity, using three items (extremely irrelevant [relevant], not at all [very] useful, not at all [very] indicative; Klar 1990) and the weight given to outcomes using two items (no [a lot of] weight and not at all [very] important).

Results and Discussion

A 2 (motive) × 2 (outcome) between-subjects ANOVA was used for analyses. Hypotheses 1*a* and 6 were tested in study 2.

Evaluations. An ANOVA on the evaluation index ($\alpha = .85$) yielded a main effect of outcome ($F(1,95) = 16.18$, $p < .001$) and a significant interaction ($F(1,95) = 8.33$, $p < .01$) of outcome and motive. Replicating hypothesis 1a, impression-motivated participants were outcome biased such that positive (vs. negative) outcomes led to more favorable evaluations ($M_{positive} = 6.76$, $M_{negative} = 3.19$; $F(1,95) = 23.63$, $p < .001$). See table 2 for means.

Perceived Diagnosticity of Outcomes. In accord with hypothesis 6, an ANOVA on the perceived diagnosticity index ($\alpha = .93$) yielded only a main effect of motives, indicating that impression-motivated (vs. accuracy-motivated) participants viewed outcome as more diagnostic ($M_{impression} = 5.87$, $M_{accuracy} = 3.94$; $F(1,95) = 9.61$, $p < .01$). Similarly, an ANOVA on outcome weight ($r = .79$) converged with a main effect of motive such that, under impression (vs. accuracy), outcomes were given more weight ($M_{impression} = 5.38$, $M_{accuracy} = 3.24$; $F(1,95) = 15.66$, $p < .001$).

While studies 1 and 2 addressed accuracy and impression motives, no insights were provided about the selective-processing tendencies of defense-motivated individuals. Further, while priming makes the motives temporarily accessible, it raises the question whether the results will be robust when the goals are chronically accessible.

Self-monitoring tendencies were used to induce impression and defense goals because of the motivational nature of this construct (Chen et al. 1996). Similar to impression-driven individuals, high self-monitors (HSMs) are concerned with the contextual relevance of their attitudes rather than the maintenance of their internal values (Johar and Sirgy 1991; Snyder 1987). Hence, regardless of an initial preference, they are more likely to rely on subsequent information that fits their impression goals (vs. prior internal values). In contrast, low self-monitors (LSMs) focus more on the extent to which their actions conform to internal values than on the situational relevance of their opinions (Snyder 1987). Hence, given prior preferences, LSMs are more likely to rely heavily on them when processing subsequent information. Thus, reliance on internal (i.e., existing) inputs is expected to make LSMs defense motivated. In contrast, HSMs are expected to be less influenced by existing preferences and to focus on promoting their social goals. This approach of using preference consistency and self-monitoring is derived by combining motives (Chen et al. 1996). A combination of defense and accuracy (LSM), given the nature of LSMs, should lead to defensive tendencies, where as combining defense with impression (HSM), given the socially conscious nature of HSMs, should lead to impression-motivated reasoning. Thus, self-monitoring and strong preferences provide a framework for examining the motivated use of outcomes under defense and impression goals.

TABLE 2

MEANS OF KEY DEPENDENT MEASURES: STUDY 2

	Accuracy motive		Impression motive	
	Positive outcome	Negative outcome	Positive outcome	Negative outcome
Evaluations	5.33	4.74	6.76	3.19
Perceived diagnosticity of outcome	3.86	4.01	6.43	5.32
Weight given to outcome	3.08	3.40	5.24	5.52

NOTE.—Cell sizes range from 24 to 25.

STUDY 3

Design and Procedure. One hundred and eleven undergraduate students participated individually in the study for partial course credit. They were randomly assigned to the experimental 2 (motive: defense vs. impression) × 2 (outcome: positive vs. negative) design.

In a two-part study, part 1 created a preference for the target brand, and part 2 consisted of the outcome manipulation and dependent measures. Two fictitious brands of PDAs, X-3000 and C-2000, with the same price and manufacturer, were used. The target brand, X-3000, was the new brand to be introduced shortly, and C-2000 was noted as the brand being currently marketed. In part 1, participants received favorable information about X-3000. Respondents imagined themselves in a buying situation and picked one of the two brands. They also rated the two brands on three items anchored by Bad/Good, Undesirable/Desirable, and Unfavorable/Favorable. Finally, to facilitate rehearsal, an elaboration task probed the reasons for their preference.

In part 2, participants received an outcome manipulation using a "Company Decision Report" purporting to be the results of a final prelaunch product test. The outcome manipulations were similar to those in study 1. Since the preference for X-3000 was favorable, the decision to launch X-3000 was positive and preference consistent. However, the decision not to launch X-3000 was negative and preference inconsistent. Participants then completed the dependent measures. Cognitive responses were coded, as in study 1. The judges agreed on 88% of the thoughts, and discrepancies were resolved by discussion. Self-monitoring was used to operationalize impression and defense motives. Given the existing preferences, the HSMs were expected to be impression motivated and the LSMs were expected to be defense motivated.

Manipulation Checks. Manipulation checks for outcome perceptions, accuracy motives, impression motives, and message perceptions were identical to those of study 1. Preference consistency was assessed based on the extent to which participants thought that the company's decision about X-3000 agreed with their earlier preference,using two items anchored "disagrees/agrees with my earlier belief about X-3000" and "is inconsistent/consistent with my earlier

preference for X-3000" (Jain and Maheswaran 2000). A manipulation check for defense motives used two items that assessed the extent to which participants thought about their previous opinion about the product and the details described in the first message when evaluating the product. A median split on the 25-item self-monitoring scale yielded high and low self-monitors ($M = 8.30$, low self-monitors; $M = 16.85$, high self-monitors; Chen et al. 1996; Snyder 1974).

Results and Discussion

The results were analyzed using a two-way between-subjects ANOVA. Study 3 was designed to examine these issues and test hypotheses 1*a*, 1*b*, 2, 4, and 5.

Manipulation Checks. The 2 × 2 ANOVA on the three-item outcome check revealed only a main effect of outcome ($M_{positive} = 5.42$, $M_{negative} = 3.93$; $F(1, 107) = 22.81$, $p < .001$; $\alpha = .82$), confirming the efficacy of the outcome manipulation. In addition, an ANOVA on valenced outcome-related thoughts yielded only a main effect of outcome ($F(1, 107) = 81.07$, $p < .001$), indicating more favorable outcome-related thoughts when outcome was positive (vs. negative). The ANOVA on the two-item preference-consistency check indicated only a main effect of outcome. Participants in positive (vs. negative) conditions thought the outcome to be more consistent with their prior preference ($M_{positive} = 5.58$, $M_{negative} = 3.82$; $F(1, 107) = 9.10$, $p < .01$; $r = .91$). The three accuracy items did not vary as a function of self-monitoring ($F < 1$; $\alpha = .76$). The ANOVA on the impression check confirmed that high (vs. low) self-monitors thought more about social concerns ($M_{high} = 5.33$, $M_{low} = 3.82$; $F(1, 107) = 8.31$, $p < .01$; $\alpha = .93$). In contrast, an ANOVA on the defense check indicated that low (vs. high) self-monitors thought more about their existing preferences ($M_{low} = 5.61$, $M_{high} = 4.23$; $F(1, 107) = 13.74$, $p < .001$; $r = .65$). Thus, LSMs with an existing preference were defense motivated and relied on their internal values.

Evaluations. The ANOVA on the evaluation index ($\alpha = .91$) revealed significant main effects of outcome ($F(1, 107) = 27.51$, $p < .001$) and motive ($F(1, 107) = 9.98$, $p < .01$). More important, the interaction between outcome and motive was also significant ($F(1, 107) = 4.47$, $p < .05$). Consistent with hypothesis 1*a*, under impression goals, positive (vs. negative) outcomes led to more favorable judgments ($M_{positive} = 6.39$, $M_{negative} = 4.05$; $F(1, 107) = 24.41$, $p < .001$). In support of hypothesis 1*b*, under defense motives, the positive (vs. negative) outcome led to more favorable evaluations ($M_{positive} = 6.73$, $M_{negative} = 5.72$; $F(1, 107) = 3.81$, $p < .05$). Thus, under defense goals, a preference-consistent outcome led to outcome bias. Hypothesis 2 proposed that defense-motivated participants discounted negative outcomes, whereas impression-motivated participants incorporated both positive and negative outcomes in their judgment. To examine this proposition, we compared the effects of impression and defense goals within each outcome. In support of hypothesis 2, when the outcome was negative, impression-motivated participants had less favorable evaluations than defense-motivated participants ($M_{impression} = 4.05$, $M_{defense} = 5.72$; $F(1, 107) = 11.53$, $p < .001$). These findings show that the negative outcome had greater impact under impression goals than under defense goals. In contrast, the evaluations under impression goals and defense goals were equivalent for positive outcomes ($MM_{impression} = 6.39$, $M_{defense} = 6.73$; $F < 1$). See table 3 for means.

Outcome-Related Thoughts. An ANOVA on the total number of outcome-related thoughts yielded a reliable outcome by motive interaction ($F(1, 107) = 4.13$, $p < .05$). Hypothesis 4 predicted that defense-motivated participants would scrutinize in detail the preference-inconsistent negative outcome and report more outcome-related thoughts. In accord, follow-up analyses indicated that defense-driven participants engaged in selective processing by elaborating more on the outcome when it was preference inconsistent (vs. consistent; $M_{negative} = 1.89$, $M_{positive} = 1.32$; $F(1, 107) = 5.79$, $p < .05$). Under impression, outcome-related thoughts were invariant ($F < 1$).

Message-Related Thoughts. No significant effects emerged on the total number of message-related thoughts ($p > .15$). Hypothesis 4 also predicted higher elaboration of the message for the defense-motivated participants in the preference-inconsistent (vs. preference-consistent) condition. This particular prediction was not supported. The simple effects comparison of the amount of message-related thoughts between preference-consistent and preference-inconsistent conditions showed a directional effect, but it was not reliable ($M_{negative} = 4.29$, $M_{positive} = 3.71$; $F(1, 107) = 2.71$, $p = .10$). An ANOVA on valenced message-related thoughts revealed significant main effects of outcome ($F(1, 107) = 10.87$, $p < .01$) and motive ($F(1, 107) = 19.80$, $p < .001$). The predicted two-way interaction was significant ($F(1, 107) = 20.74$, $p < .001$).

TABLE 3

MEANS OF KEY DEPENDENT MEASURES: STUDY 3

	Defense motivation		Impression motivation	
	Positive outcome (PC)	Negative outcome (PIC)	Positive outcome (PC)	Negative outcome (PIC)
Evaluations	6.73	5.72	6.39	4.05
Message-related thoughts	3.71	4.29	3.82	3.68
VMT	1.57	2.00	1.61	−1.07
Outcome-related thoughts	1.32	1.89	1.68	1.57
VOT	1.14	−.41	1.21	−.78

NOTE.—Cell sizes ranged from 27 to 28. PC = preference consistent and PIC = preference inconsistent. VMT = valenced message-related thoughts. VOT = valenced outcome-related thoughts.

As anticipated in hypothesis 5, under impression motives, positive (vs. negative) outcomes led to significantly more favorable message-related thoughts ($M_{positive} = 1.61$, $M_{negative} = -1.07$; $F(1, 107) = 31.12$, $p < .001$). These findings support the view that impression-motivated participants engaged in biased systematic processing. In contrast, valenced message-related thoughts were positive and did not vary by outcome ($F < 1$) for defense-motivated participants, supporting their use of the message to reinforce preferences.

We replicated outcome-biased processing for impression individuals. Defense-motivated individuals exhibited outcome bias only when the outcome was preference consistent. Their selective processing led to more detailed scrutiny of the preference-inconsistent (vs. preference-consistent) outcome and more outcome-related thoughts. In sum, the results from study 3 suggest that, while defense-motivated participants form judgments consistent with their preference, impression-motivated participants form judgments consistent with the valence of the outcome.

However, our prediction that defense participants would exhibit greater scrutiny of the message for preference inconsistent outcomes was not supported. One possibility could be that all types of motives induced high levels of systematic processing. Alternately, the outcome was easily refutable and warranted no enhanced scrutiny of the message. In contrast, a hard-to-refute outcome may lead to greater scrutiny of the message.

GENERAL DISCUSSION

Our findings contribute to the literature on outcome bias and dual process models. Past research on outcome bias has primarily focused on the effects of accuracy motives. In addition, mixed findings have been observed for defense motives, and impression motives have not been examined. We extend the extant literature on outcome bias by a systematic investigation of outcome bias under multiple motives. Studies 1 and 2 suggested that outcome bias was eliminated under accuracy goals. Study 3 showed that outcome bias was selectively observed for defense motives only when outcomes promoted defense goals. Most important, all three studies documented impression-driven outcome bias. Study 1 primed impression goals, study 2 made the impression target explicit, and study 3 featured impression goals as chronic tendencies. All three studies converge and demonstrate the robustness of outcome bias for impression goals across multiple contexts. Together, these three studies show that outcome bias is observed when outcomes support motives.

The findings also extend research on dual process models. Empirical documentation of the persuasive impact of different motives and the underlying process is limited. We add to research on motivated reasoning by examining the role of a socially relevant heuristic cue like outcome. We show that heuristics such as outcomes could be used under high motivation, depending on the nature of the motivation. Also, while past research has assumed that heuristic cues are attenuated when they are incongruent with product information, we show that it is only true for accuracy motives. Under impression motives, socially relevant heuristics (e.g., outcomes) can override product-related information. However, some outcomes might be socially unacceptable and hence might not be used under impression motives (e.g., an explicitly unfair outcome). Future research could examine such interaction between the socially acceptability of an outcome and impression motives.

The observation that heuristic cues can bias systematic processing has been documented under accuracy motives only when the message was ambiguous (Maheswaran 1994). For example, when a product description was ambiguous, novices evaluated the product more favorably when the country of origin was favorable (vs. unfavorable). Past research on outcome bias has featured moderately favorable performance information. This research suggests that outcomes could be diagnostic enough to override even unambiguous performance information. We show that, depending on the underlying motives, unambiguous information can also be biased. Thus, our studies suggest that the heuristic cue's ability to influence message relevant thinking is dependent on both the motive and the type of message.

Several observations need further investigation. In study 3, preference and self-monitoring were used to create defense and impression goals. When given a preference, high self-monitors were both impression motivated and defense motivated. However, in subsequent judgments, they focused on impression-relevant outcomes. This suggests that, when defense is combined with a chronic impression goal, for highly situation-sensitive high self-monitors, impression dominates. Past research has considered low self-monitors to be accuracy motivated (Chen et al. 1996). However, we show that, when given a prior preference, a chronic reliance on internal inputs may lead to defense-driven rather than accuracy-driven processing. This combination of motives approach raises the interesting question of when a specific motive is dominant. This research assumes that a single motive is dominant. But, perceivers may be guided by multiple goals. For example, low self-monitors may bring both defense and accuracy goals to a preference-consistent context. Future research could assess the relative intensity of the different motives. The study of combination of motives is unique to the current research and warrants further investigation.

One interesting finding is that defense-motivated individuals were more favorable when the outcome was positive (vs. negative). This pattern is only likely when the preference is positive. If people were to have a negative preference (a dislike), this effect would be reversed and people would discount the positive (preference-inconsistent) outcome. In our studies, argument quality was held favorable across conditions. However, it would be informative to vary argument quality (Jain and Maheswaran 2000). We would expect accuracy-motivated individuals to be persuaded by strong arguments (vs. outcome). But impression-driven individuals may rely on outcomes over strong arguments. Defense-motivated consumers would selectively rely on strong arguments or outcomes that support their preference.

Some potential limitations in the present context need discussion. Defense motives were operationalized using preference-consistency procedures based on Jain and Maheswaran (2000) and low self-monitoring. Perhaps, the defense-motive operationalization used in study 3 limits the generalizability of our findings. A more conventional operationalization of defense (e.g., commitment: Ahluwalia 2002) would provide unambiguous evidence for outcome bias under defense motives and the underlying process mechanisms. While our research manipulated defense motives as triggered by preference consistency and low self-monitoring (in study 3), further investigation on the activation of defense would be useful. Second, the Jain and Maheswaran (2000) preference findings correspond to our findings based on defense motives. This suggests that consistency motives may be one type of defense motive. While defense is often invoked with strong attachment to the target, consistency motives are also on the continuum of varying degrees of defense (Ahluwalia 2002). While a lower degree of defense (e.g., preference consistency) could foster outcome bias, a stronger tendency to defend (e.g., brand commitment) should only strengthen it. However, mechanisms underlying stronger defense motives like commitment may not generalize to preference consistency. Also, strong (vs. weak) preferences might lead to greater levels of defense motives and, hence, lead to more selective use of outcomes. Future research could address such operationalizations of defense goals.

In study 3, preference was created for the target brand by providing favorable relative information with another brand. Subsequent procedures polarized the preference for the target brand. Thus, preference was created by providing performance ratings. For the outcome manipulation, study 3 relies on new performance information. It may be useful to manipulate preference independently of the performance ratings.

In general, outcome-based marketing strategies appear to be useful in understanding how consumers deal with survey results, competition, and awards that are given to products. Several product categories (e.g., wine, cars, restaurants, movies) rely on awards to distinguish brands. *Consumer Reports* is just one of many examples of survey performance and results that consumers use to evaluate products and make purchase decisions. Providing information that a brand has met the safety standards set by a credible industry or consumer association may lead to favorable judgments. Our studies show that motivational contexts may influence the effectiveness of outcome strategies. For example, featuring outcomes in advertising may not be effective in categories where consumers engage in accuracy-related information search (e.g., buying houses). Presenting a preference-consistent outcome, like passing a crash test for cars, may be useful to induce loyalty among current users. Finally, the findings validate the use of outcome strategies in categories where the consumption is public (e.g., luxury cars, movies, restaurants).

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