

Not as Happy as I Thought I'd be?  
Affective Misforecasting and Product Evaluations

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The authors introduce the concept of affective misforecasting (AMF) and study its impact on product evaluations. Study one examines *whether* and *when* AMF affects evaluations, finding that AMF impacts evaluations when the affective experience is worse (but not when better) than forecasted. Study two tests a process model designed to understand *how* and *why* AMF influences evaluations. The extent of elaboration is shown to underlie the observed effects. The studies demonstrate the robustness of the findings by controlling for alternative factors, specifically experienced affect, expectancy-disconfirmation, and actual performance, which might impact these judgments.

In daily life, we frequently anticipate how our decisions and choices will make us feel; from picking an ice-cream flavor to choosing a partner. Prior research confirms that consumers engage in affective forecasting (Gilbert et al. 1998; also termed hedonic forecasting, Mellers, Ritov, and Schwartz 1999; or affective prediction, Loewenstein and Schkade 1999); meaning they anticipate or forecast how they will feel in the future. Research also demonstrates that choices are often based on the feelings one anticipates will arise from the choice (Mellers et al. 1999; Shiv and Huber 2000). In fact, March (1978) proposes that all decisions involve the prediction of future tastes or feelings and that the ability to predict these affective states is a key feature in decision-making.

Unfortunately, people are often poor predictors of future affective states (Gilbert et al. 1998; Loewenstein and Schkade 1999), leading experienced affect to deviate from anticipated (forecasted) affect. We term this deviation or gap “affective misforecasting” (henceforth AMF). While considerable consumer research suggests that experienced affect impacts evaluative judgments like brand attitudes and consumer satisfaction, little is known about whether, when, how and why AMF impacts these evaluations. This research aims to address these issues.

In the following sections we review the AMF construct and use extant theory to develop a conceptual model and a set of hypotheses regarding the impact of AMF on evaluations. The hypotheses are tested in two studies. Study one examines *whether* and *when* AMF influences evaluative judgments. Study two tests a process model designed to understand *how* and *why* this occurs. We contribute to the literature by showing (1) that AMF has an asymmetric impact on evaluative judgments such that AMF influences evaluation when consumers feel worse than forecasted but not when they feel better than forecasted, (2) that this asymmetric impact of AMF is explained by a process of elaboration, and (3) that AMF is a unique construct that has an

impact on evaluation even when related constructs like expectancy disconfirmation, experienced affect and actual performance are controlled. Finally, the implications of this research and directions for future research are discussed.

## **AFFECTIVE MISFORECASTING**

Although anticipated feelings can impact choice and decision making, these affective forecasts are susceptible to a variety of errors and biases that reduce their accuracy (Gilbert et al. 1998; Loewenstein and Schkade 1999; Wilson and Gilbert 2003). Indeed, research finds that experienced affect often differs from anticipated affect and that affective misforecasting occurs. Affective misforecasting is defined as the deviation of (or difference between) experienced and anticipated affect. Marriage, for instance, involves making a forecast of how happy one is likely to feel about one's spouse "till death do you part"; divorce rates are evidence of the erroneous nature of this prediction.

### Dimensions of Affective Misforecasting

Affective misforecasting can be described along the dimensions of duration, direction and magnitude (c.f. Wilson and Gilbert 2003). Duration refers to the length of time one anticipates feeling a certain way. Direction refers to whether one feels better or worse than forecasted. Magnitude refers to the extent of deviation or the size of the gap between forecasted and experienced affect. For instance, one might anticipate being "down in the dumps" forever rather than for just a few days (misprediction of duration), anticipate feeling happy but feel sad instead

(misprediction of direction), or anticipate being overcome with joy but instead feel mildly happy (misprediction of magnitude).

The bulk of research on AMF in psychology concerns the misprediction of duration (also called the durability or impact bias). That research finds that people are notoriously inaccurate at predicting how long they will feel a certain way (Gilbert et al. 1998). In general, people overestimate how long they will feel bad (or good) after a negative (or positive) future event. A variety of sources of misforecasting have been identified (Patrick and MacInnis forthcoming; Wilson and Gilbert 2003).

Under-explored in the domain of affective forecasting, but central to the current research, is the influence of AMF of direction and magnitude on product evaluations. Thus, we examine whether people feel better than or worse than they had forecasted (misprediction of direction) and the extent of their misprediction (how much better or worse they feel) on their evaluations of products/consumption experiences.

#### Differentiating AMF from Experienced Affect and Expectancy-Disconfirmation

It is important to note that feeling worse or better than forecasted (i.e. the direction of AMF), should not be confused with feeling bad or good (i.e., the valence of experienced affect). Experienced affect is defined as the feelings one has at the time of rendering an evaluative judgment. Affective misforecasting refers to the *difference in affect* between this experience and what was forecasted. The two can be independent. For example, consumers who buy a new car can feel good (positive experienced affect) even though they feel worse than forecasted (e.g., because they didn't get the deal they wanted). Likewise, consumers who have gotten a cavity

treated may be in pain and experience negative affect but feel better than forecasted (e.g., because the prescribed painkiller worked). While in some cases consumers who feel worse (better) than forecasted do experience overall negative (positive) feelings, affective misforecasting of direction and experienced affect are conceptually distinct and hence can exert independent effects on evaluations.

It is also important to differentiate AMF from the concept of expectancy-disconfirmation used in the satisfaction literature. Since both AMF and expectancy-disconfirmation involve some type of misprediction and since expectancy-disconfirmation has already been established as an antecedent to post-purchase evaluations (Oliver 1993) one might argue that AMF is captured by the expectancy-disconfirmation concept. However, AMF and expectancy-disconfirmation are conceptually distinct. Specifically, expectancy-disconfirmation is based on predictions at the level of product attributes or product performance. AMF is based on predictions of the affective experience evoked by consumption. Thus, AMF focuses on affect, while expectancy-disconfirmation has a more cognitive bent.

The goal of consumption determines the relative importance of affective versus cognitive considerations in evaluative judgments (Pham 1998). Specifically, cognitive considerations outweigh affective considerations when the goals are functional (i.e., instrumental). This makes intuitive sense since activation of a functional goal focuses attention on the product and its performance and encourages a rational reasoned assessment of actualized product attribute performance relative to that expected (Fishbein and Ajzen 1975). Product evaluations are thus a function of the extent to which the product's attributes and benefits meets these functional goals (e.g., Bagozzi and Dholakia 1999; Voss, Spangenberg and Grohmann 2003). On the other hand, the reliance on affective (vs. cognitive) factors in evaluations is greater when the consumption

goal is hedonic (i.e., consummatory). This idea is supported by findings on the impact of subjective criteria such as feelings on post-purchase evaluations (Pham 1998; Westbrook and Oliver 1991). Thus, the affective route (AMF) is conceptually distinct from the cognitive route (expectancy disconfirmation) and is likely to impact evaluations when the consumption goal is hedonic as the goal focuses attention on the self and feelings, as opposed to the product and its attributes.

Furthermore, AMF also focuses on predictions while expectancy-disconfirmation focuses on expectations. Forecasts reflect what one predicts will happen; expectations reflect likelihood judgments about the probability of the occurrence of a given outcome. Predictions about what will happen and expectations about what is probable relate to Boulding et al's. (1993) discussion of "will expectations" versus "should expectations". Further evidence for their distinction comes from Boulding et al's finding that "will" and "should" expectations had different effects on evaluations of service quality. Notably here, however, we focus on forecasts (or "will expectations") that pertain to one's own affective experiences as opposed to other more generalized outcomes. Evidence that the gap between forecasted and experienced affect is distinct from expectancy disconfirmation should be evident if each exerts an independent impact on evaluations.

## **CONCEPTUAL MODEL AND HYPOTHESES**

The conceptual model driving this research is shown in figure 1. As shown, we posit that the interaction of direction and magnitude of AMF impacts evaluations. Specifically, we propose an asymmetric impact of AMF on evaluations, showing that the magnitude of AMF impacts

evaluations only when feelings are worse (vs. better) than forecasted. Study two is designed to investigate whether elaboration is the process underlying the impact of AMF on evaluation. We propose that when affect is worse (versus better) than forecasted consumers elaborate on the cause of their feelings. Such elaboration increases the informative value of AMF and makes it more diagnostic in its impact on evaluations. We demonstrate that these effects are observed even when controlling for other predictors of evaluative judgments (i.e., experienced affect, performance, and expectancy-disconfirmation).

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Insert figure 1 about here

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### **STUDY 1: THE ASYMMETRIC EFFECT OF AMF ON EVALUATIONS**

A primary objective of study one was to examine the direction and magnitude dimensions of AMF on evaluation. This issue is interesting because varying theoretical perspectives make different predictions about which of these dimensions impacts evaluations.

A large body of research supports a congruency perspective (Mayer et al. 1992) such that consumers tend to make evaluations in line with the valence of their feelings. Generalizing to an AMF context, one might expect that the direction of AMF alone impacts evaluations. Thus, consumers would render more positive evaluations of a product or experience when feeling better than forecasted and more negative evaluations when feeling worse than forecasted as shown in figure 2a. If true, one would predict that:

**H1a:** Consumers are likely to have more positive product evaluations when the outcome is better than forecasted and more negative product evaluations when the outcome is worse than forecasted.

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Insert figure 2 about here

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A second perspective is suggested by figure 2b. Specifically some research suggests that negatively (but not positively) valenced feelings provide *information value* (Schwarz and Clore 1988; Skowronski and Carlston 1989). Schwarz and Clore (1988) propose that in order to evaluate objects, people ask themselves “how do I feel about it?” Schwarz’ (1990) feelings-as-information model asserts that positive feelings inform the person that the environment is safe, reducing their motivation to scrutinize information and increasing their use of positive feelings as a heuristic in evaluation. In contrast, negative feelings suggest a problem and prompt systematic analysis and vigilance. As such, one attends to and elaborates on one’s feelings and the environmental circumstances that caused them.

This motivational impact of negative affect is further supported by research on the differential impact and diagnosticity of negative information in evaluative judgments. That research argues that affect of different valence may not have equal impact on evaluations. Specifically, negative information is more attention getting, more accessible in memory, and is weighted more heavily in forming evaluations than is positive information (Taylor and Fiske 1978; Kanouse and Reid 1972; Herr, Kardes and Kim 1991). Negative information requires more information processing as it is threatening in comparison with the more benign environmental

possibilities suggested by positive information (Schwarz 1990). These ideas have also been supported by work in neuropsychology (Ito et al. 1998). Although negative affect is not the same as feeling worse than forecasted, evidence for the proposed effect would extend research on the negativity effect by suggesting that like negative feelings, feeling worse than forecasted may also be attention getting, impact information processing, and have greater informative value by its presumed diagnosticity. This perspective of the selective reliance on affective information in evaluation is consistent with, and central to, the feelings-as-information paradigm (see Pham 2005 for discussion).

Consistent with figure 2b, this second perspective suggests that the impact of the magnitude of AMF on evaluation depends on (is moderated by) the direction of AMF. If consumers feel worse than forecasted, they pay attention to the extent (magnitude) of AMF, and use the information in forming evaluations. When feelings are worse than forecasted, the greater the magnitude of AMF, the greater the informative value of AMF, and the more negatively they will evaluate the product or experience. In contrast, when consumers feel better than forecasted they are not motivated to attend to the discrepancy. As such, the magnitude of AMF has a lesser opportunity to impact evaluations. Thus:

**H1b:** The magnitude of AMF is likely to have a greater impact on evaluations when feelings are worse than forecasted than when feelings are better than forecasted.

### Objectives, Design and Procedure

To test hypothesis 1, respondents were randomly assigned to one of four conditions in which feelings were better versus worse than forecasted and in which the magnitude of the AMF

was large versus small. We also included a neutral control group where forecasted affect was manipulated to be the same as experienced affect. Direction and magnitude of AMF were manipulated using a method adapted from Geers and Lassiter (2002).

Respondents read that they would participate in a study on the psychology of film appreciation. They were induced to believe that they would watch a film clip that was (a) great, (b) just OK, (c) neither good nor bad, (d) somewhat bad, or (e) very bad. Participants completed manipulation check items designed to assess their predicted affect after viewing the film and reported on expected film performance. The AMF manipulation was carried out by having respondents then watch a film clip (called “Don’t Shove”) shown in prior research to evoke neither positive nor negative affect (used in Geers and Lassiter 2000). Since the movie clip that participants actually viewed was identical and neutral in valence, the manipulation of forecasted affect described above created conditions in which consumers felt (1) much worse than forecasted (2) somewhat worse than forecasted, (3) as predicted, (4) somewhat better than forecasted, or, (5) much better than forecasted. Thus, there were five AMF experimental conditions, two ranging in the degree to which affect was better (much better, somewhat better) than forecasted, two ranging in the degree to which affect was worse than forecasted (much worse, somewhat worse), and one in which affect was the same as forecasted. Participants then evaluated the film and completed measures of experienced affect, performance and expectancy-disconfirmation.

*Independent Variables.* AMF was created by manipulating consumers’ forecasts of how good or bad the film they were about to see would make them feel. Forecasted affect was created by descriptions of the film, quotes from other students, and the movie’s rating on a 5 star system

purportedly based on the responses of 127 students who had watched it before. For example, participants in the much worse than forecasted condition read, “This film is very popular and has won many awards and received a lot of praise from other students who have watched it.” They also read five comments by other students (e.g., “Hilarious!” - Jack, Senior (Business), “Pretty Wild!!”-Todd, Junior (Engineering)). They were also told that the average review for this film by 127 students was five stars (supported by a visual of five gold stars similar to movie ratings on Amazon.com). Thus, actual feelings were much worse than forecasted because forecasted feelings were very positive, while in reality the film evoked only neutral feelings. An analogous system of the valence of quotes and numbers of stars was used to create conditions in which AMF was somewhat worse than forecasted, as forecasted, somewhat better than forecasted and much better than forecasted.

A pretest using 16 participants verified that information about the film created affective forecasts in the appropriate direction. Specifically the positive comments about the film made participants forecast feeling positive ( $M = 8.33$ ) while negative comments about the film made respondents forecast feeling less positive ( $M = 1.57$ ;  $F(1, 14) = 326.73, p < .05$ ; 1 = not at all positive and 9 = extremely positive). Pretest results also indicated that positive reviews made participants want to watch the film more than negative reviews did ( $M = 6.88$  vs.  $M = 2.57$ ,  $F(1,14) = 26.62, p < .05$ ). They also verified the believability of the reviews ( $M = 5.00$  vs.  $M = 6.00$ ,  $F(1,14) = 1.19, ns$ ) on nine-point scales.

*Manipulation Checks.* AMF was operationalized as the difference between forecasted and experienced affect. Forecasted and experienced affect were measured using identical feelings scales that tapped entertainment-related feelings relevant to the movie stimulus (Evrard and

Aurier 1994). Respondents were asked "how do you think you will feel after watching the film clip (forecasted affect) and "how do you feel now" (experienced affect). Response items included "happy", "calm", "excited", "cheerful", "joyful", "delighted", "pleased", "sad" and "bored" (the last two reverse-coded) anchored by "not at all" (score of 1) and "very much" (score of 9). Factor analysis revealed a single factor for forecasted affect and a single factor for experienced affect ( $\alpha = .92$ ,  $\alpha = .86$  for forecasted and experienced affect, respectively). AMF was operationalized as the averaged difference between each feeling item in the forecasted affect questionnaire with its associated item in the experienced affect questionnaire. The AMF scale was recoded from a 1 to 9 scale to -4 to +4 scale, such that a positive (negative) sign indicates that consumers felt better (worse) than forecasted; a zero that they felt exactly as forecasted. The score's sign indicates the direction of the AMF. Its deviation from zero represents magnitude.

*Dependent Variable.* Evaluation of the film clip was assessed by seven nine-point scaled attitude items anchored by unfavorable-favorable, negative-positive, bad-good, unpleasant-pleasant, and, dislike very much-like very much, and two nine-point scaled satisfaction items (e.g., 1 = very dissatisfied, 9 = very satisfied; 1 = not at all satisfied, 9 = extremely satisfied). A factor analysis yielded a single factor (eigenvalue = 6.03 with 86.10 % of the variance explained). A high score on the averaged index ( $\alpha = .97$ ) indicates more favorable evaluations.

*Control Variables.* Two additional control variables beyond experienced affect (described above) include product performance and expectancy-disconfirmation. Movie performance was rated on 8 performance dimensions (screenplay, direction, production, photography, editing, music, storyline and acting) using a seven-point product performance scale (Cronbach's  $\alpha = .96$ ).

Consistent with the expectancy-disconfirmation literature expectancy-disconfirmation was measured by asking participants to rate the same eight performance dimensions on a nine-point scale ranging from -4 (less than expected) to +4 (more than expected). Expectancy-disconfirmation was operationalized as the average of the 8 items ( $\alpha = .95$ ). Note that the objective of this study was not to test the impact of expectancy-disconfirmation on judgments (and/or its impact vis-à-vis AMF). Rather it was to show that AMF impacts judgments even when expectancy-disconfirmation is controlled. By keeping the product experience constant we aimed to minimize its impact.

## Results

*Manipulation checks.* A one-way ANOVA on the index of AMF including the five AMF groups yielded a main effect ( $F(4, 167) = 22.39; p < .05$ ). The signs and magnitudes of AMF were consistent with expectations and each group was significantly different from the other in AMF scores ( $M = -2.08$  for feeling much worse than forecasted;  $M = -.96$  for feeling somewhat worse than forecasted;  $M = .45$  for the control group;  $M = .91$  for feeling somewhat better than forecasted, and  $M = 2.37$  for feeling much better than forecasted).

*Effect of AMF on Evaluation.* Hypothesis 1 was assessed using a 2 x 2 ANCOVA, with direction (better vs. worse than forecasted) and magnitude (large vs. small gap) of AMF as the independent variables and post-viewing film evaluations as the dependent variable controlling for expectancy-disconfirmation, experienced affect, and product performance. A main effect of direction showed that evaluations were more positive when feelings were better ( $M = 4.18$ )

versus worse than forecasted ( $M = 3.96$ ,  $F(1, 134) = 4.18$ ,  $p < .05$ ). One might argue, however, that the ANCOVA provides a relatively insensitive test of the magnitude explanations evident in hypothesis 1b because the dichotomous magnitude variable had limited range (i.e., large vs. small). A potentially more sensitive test would utilize a continuous measure of magnitude, as collected by the manipulation check measure.

An analysis using that measure is reported in table 1a. Separate regressions are reported for the better vs. worse than forecasted conditions. Consistent with hypothesis 1b and figure 2b, we find that the impact of the magnitude of the AMF on evaluations is asymmetric. Specifically, AMF impacts film evaluations when feelings are worse than forecasted (model 1) but not when they are better than forecasted (model 2). This suggests that AMF has informative and diagnostic value when feelings are worse than forecasted, but not when they are better than forecasted.

The logic behind H1b was based on the fact that when feelings were worse than forecasted consumers would elaborate on why. To provide preliminary insight into this process explanation we conducted an analysis on differences in elaboration across the experimental conditions. The extent of elaboration was indicated by the number of words a participant used to describe their feelings after watching the film. An ANOVA with direction (better vs. worse than forecasted) as the independent variables and the number of words as the dependent variable indicated that participants in the worse than forecasted condition used significantly more words to elaborate on their experience than did participants in the better than forecasted condition ( $M = 47.60$  vs.  $M = 33.02$ ,  $F(1, 74) = 5.39$ ,  $p < .05$ ). This result lends further support to the theoretical logic driving hypothesis 1b.

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Insert table 1 about here

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## Discussion

Study one reveals that the magnitude of AMF does impact evaluations of a hedonic product beyond the effect explained by other known antecedents to evaluations, but only when feelings are worse than forecasted. This finding is consistent with the model proposed in figure 2b and is observed even when product experience, experienced affect and expectancy-disconfirmation are controlled. The explanation proposed for this asymmetric impact is based on the robust finding that negative information is both attention-getting and diagnostic and leads people to elaborate on these outcomes (Schwartz 1990). Although study one does offer some insight into the *process* by which AMF impacts evaluation, study two is designed to provide more convincing evidence for elaboration as the underlying process explanation for the influence of AMF on evaluations.

## **STUDY 2: THE UNDERLYING PROCESS OF ELABORATION**

The results of study one are consistent with the theoretical logic underlying the effect proposed by hypothesis 1b. Specifically, when feelings are worse than forecasted consumers are motivated to analyze the causes of their feelings (Hastie 1984; Wong and Weiner 1981) and make sense of inconsistencies (Maheswaran and Chaiken 1991); in this case between forecasted and experienced affect. Hypothesis 1b suggests that when AMF is worse than forecasted, greater

magnitude of the AMF gap causes consumers to place increasing diagnostic value on the fact that they felt worse than forecasted. The more they elaborate on the causes for their negative feelings the lower their product evaluations will be. This logic suggests that the extent of elaboration represents the process by which AMF impacts evaluations when outcomes are worse than forecasted.

If elaboration is indeed the process by which AMF impacts evaluative judgments, we should find evidence for the asymmetric effect observed in H1b only when respondents are allowed to elaborate on their feelings. When elaboration opportunity is constrained, and consumers have no capacity to process why forecasted and experienced affect differ, we should not find an impact of AMF on evaluative judgments. The reasoning would lead us to expect that:

**H2:** AMF impacts evaluations only when feelings are worse than forecasted and elaboration opportunity is high.

## Design and Procedure

To test hypothesis 2, affective misforecasting was manipulated to be better or worse than forecasted. Elaboration opportunity was manipulated using a cognitive load manipulation. Ninety-nine undergraduate students participated in this computer-based 2 X 2 between-subjects design experiment. The study manipulated whether experienced affect was better versus worse than forecasted and whether elaboration opportunity was high versus low. Participants were told that they would listen to a piece of music. The format of the study was similar to study one. About half read comments that indicated that the music they were about hear was very positive; the other half read comments that were very negative. Respondents were then asked to forecast

how they would feel after listening to the music. Elaboration opportunity was then manipulated as described below. Respondents listened to the same piece of music which was neutral in valence. They then reported their evaluation of the music, affective responses, and their responses to the control variables shown in figure 1.

*Manipulation of AMF.* As with study one, AMF was manipulated by varying the valence of forecasted affect and keeping experienced affect constant. Specifically participants were led to believe that they would be listening to a piece of music that was either (a) very good or (b) very bad. Using a manipulation similar to study one, participants made forecasts based on a set of quotes by other students about the music they were about to hear. The piece of music used was a song called “Soul Killer.”

Similar to study one, the objective was to use a stimulus, in this case a piece of music, which evoked a uniformly neutral response. The piece of music was selected through consultations with a music theorist and a practicing musician at a large university. These two individuals selected and evaluated five musical tracks that they believed would elicit a neutral affective response. A pretest conducted with nine participants from the same subject pool as the main study rated the five pieces of music on the same 15-item affect scale used in the final study. All the items were combined into an index of favorable affect (Cronbach alpha = .93). The selected piece of music elicited a relatively neutral response ( $M = 5.38$  on a nine-point scale).

*Manipulation Elaboration Opportunity.* Elaboration opportunity was manipulated by varying cognitive load (Shiv and Fedorikhin 1999). Respondents in the low elaboration opportunity (high cognitive load) condition were given a seven-digit number (3072328) and

asked to spend a few moments memorizing it. They were told to keep this number constantly in mind. They were also told that they would be asked to report the number later in the survey. Respondents in the high elaboration (low cognitive load) condition were given a two-digit number (25) with the same instructions. The load manipulations were conducted prior to experienced affect elicitation to accurately test the hypothesis that elaboration is the process underlying the influence of AMF on evaluation.

### Dependent Variables

*Forecasted and Experienced Affect.* Forecasted and experienced affect were indicated by a set of 15 feeling items (happy, excited, cheerful, joyful, delighted, pleased, energized, upbeat, interested, stimulated, depressed, bored and sad (last three reverse coded) measured on a scale anchored by 1 (not at all) to 9 (a great deal). The magnitude of AMF was created by computing the difference between each forecasted and experienced feeling item and then summing the differences ( $\alpha = .96$ ).

*Evaluation.* Evaluation of the piece of music was assessed by the same seven-item measure used in study one. All items loaded on a single factor (eigenvalue = 6.32) that explained 90.22% of the variance. Items were averaged to create an evaluation index ( $\alpha = .98$ ).

*Elaboration Opportunity.* The success of the elaboration opportunity manipulation was assessed by several indicators. Respondents were asked to report the seven-digit or two-digit

number. They were also asked three nine-point scaled questions regarding how hard, how stressful, and how much effort it took to remember the seven-digit (or two-digit) number.

*Control Variables.* Participants were asked a series of performance-related measures which the music theorist verified were appropriate for assessing the performance of music by a lay population. The measures included rhythm, harmony, tempo, arrangement, sound editing, sound quality, modality, pitch, instrumentation and lyrics. Factor analysis revealed a single factor (eigenvalue = 6.64, 66.44% variance explained); hence the items were averaged to create a composite index ( $\alpha = .94$ ). Expectancy disconfirmation was indicated by the same ten items used in study one, but was measured here on a nine-point scale (1 = better than expected; 9 = worse than expected). Again, factor analysis revealed a single factor (eigenvalue = 7.59, 75.94% variance explained) and an index was created ( $\alpha = .96$ ). Experienced affect was indicated by the 15 feeling items.

## Results

*Manipulation check of better versus worse than forecasted feelings.* Participants reported how differently they felt about the music after listening to it compared to what they anticipated they would feel on a 9-point scale (1 = feel better than expected; 9 = feel worse than expected). The results revealed a main effect of valence. Participants in the better than forecasted condition felt significantly better than expected ( $M = 2.93$ ) while participants in the worse than forecasted condition felt significantly worse than expected ( $M = 5.88$ ;  $F(1, 95) = 47.46, p < .05$ ). Pair-wise comparisons across the four conditions using AMF as the dependent variable revealed the

expected pattern of effects. Respondents felt significantly better than forecasted in the better than forecasted condition ( $M = -1.44$ ,  $M = -1.19$  for high and low elaboration conditions) compared to the worse than forecasted condition ( $M = 1.26$ ,  $M = 1.77$  for high and low elaboration conditions). All comparisons between the better versus worse than forecasted conditions were significant (all  $p$ 's < .05), indicating the success of the AMF manipulation.

*Manipulation check of Elaboration Opportunity.* Self-report measure of elaboration opportunity revealed that the manipulation of elaboration opportunity was successful. Participants in the low elaboration opportunity condition reported that it was harder to concentrate ( $M = 3.14$  vs.  $M = 1.38$ ,  $F(1, 95) = 34.48$ ,  $p < .05$ ), that the task was more stressful ( $M = 2.97$  vs.  $M = 1.46$ ,  $F(1, 95) = 22.06$ ,  $p < .05$ ), and that it required more effort ( $M = 3.34$  vs.  $M = 1.66$ ,  $F(1, 95) = 23.19$ ,  $p < .05$ ) than did participants in the high elaboration opportunity condition.

*The Impact of AMF Direction and Magnitude on Evaluation.* Four sets of regressions were conducted using evaluation as the dependent variable and AMF, experienced affect, performance, and expectancy-disconfirmation of performance as the independent variables (see table 1b). As predicted, the magnitude of AMF impacted evaluations only when feelings were worse than forecasted *and* participants were given the opportunity to elaborate (model 1), supporting hypothesis 2. The magnitude of AMF had no impact on evaluations in the remaining conditions.

In sum, study two provides further support that elaboration is the process underlying the impact of AMF on evaluations when feelings are worse than forecasted. When elaboration

opportunity was constrained, AMF had no impact on evaluations. Consistent with study one, the magnitude of AMF had no impact on evaluations when feelings were better than forecasted.

## GENERAL DISCUSSION

Prior research suggests that forecasts of how one is likely to feel after consumption drive consumer choice and decision-making. However, these affective forecasts are not always accurate, resulting in *affective misforecasting*. In this research we examine whether, when, why and how AMF affects product evaluations. We demonstrate that AMF impacts evaluations only when affective outcomes are worse (vs. better) than forecasted. Moreover, we suggest that elaboration is the process that underlies this effect.

### Theoretical and Managerial Implications

From a theoretical perspective, this research contributes to consumer behavior and marketing in a number of ways. First, while prior research has considered expectations and experiences as antecedents to evaluative judgments, we extend this research by considering whether and how the deviation between them impacts evaluations. In addition to introducing this theoretically relevant and novel construct (AMF) to the consumer behavior literature, we extend prior research on affective forecasting and misforecasting as studied elsewhere. We demonstrate for the first time that AMF impacts consumers' post-usage evaluations and identify the conditions under which this occurs. Third, our research extends the affect-as-information literature, suggesting that it is not only experienced affect but also the deviation between experienced and forecasted affect that has informational value in evaluations. Fourth, we add to

the growing literature on the diagnostic and selective impact of affective information in judgment and evaluation (see Pham 2005). Finally, we contribute to the product evaluation and satisfaction literatures by proposing a novel affect-based route to evaluative judgments. As such, we extend satisfaction research which shows affect as primarily a by-product of consumption by demonstrating a unique and independent affect-based route to evaluation.

This research raises some theoretically important issues. For instance, we find that consistent with prior research (Isen 2000; Mellers et al 1999; Pham 1998) experienced affect influences evaluations when feelings are better than forecasted and worse than forecasted. However, the affective misforecasting gap (the deviation of experienced affect from forecasted affect), has informative value only when feelings are worse than forecasted (the asymmetric impact of AMF). The distinction between the influence of experienced affect and that of AMF on evaluations is an important one that has both practical and theoretical implications.

A notable, albeit related issue, concerns the process by which AMF influences evaluations. We demonstrate here that when feelings are worse than forecast, AMF influences evaluation through an elaboration process. An important issue that warrants further investigation is the clarification of the role of cognition in the impact of AMF on evaluation. A large portion of the “affect-as-information literature implies that the influence of affect on evaluative judgments is non-conscious and that its influence is in fact diminished when respondents are made aware that they “inappropriately” rely on their feelings in making judgments (Schwarz and Clore 1988). However, when feelings are relevant and representative (Pham 1998) (as when they are worse than forecast), consumers readily use their feelings as information in their evaluations. Other research, outside of the affect-as-information paradigm, has similarly examined the role of cognition in affective judgments, demonstrating that cognitive load dampens the influence of

affect on evaluations (Drolet and Luce 2004). In the context of this research, we find that when feelings are worse than forecasted, consumers' utilize cognitive resources to factor AMF into their evaluative judgments. The debate regarding the conscious versus non-conscious influence of affect on judgment and decision-making remains an important one, to which the findings of this research contribute.

Some additional implications of this research are noteworthy. For instance, prior work on mood suggests that positive moods can have positive effects on evaluations (Isen 2000). However, positive moods may also induce positive affective forecasts. Indeed, research on the hot-cold empathy gap reveals that respondents' predictions made in a "hot" state often deviate from their experiences in a cold state (Loewenstein and Schkade 1999). To the extent that affective experiences do not match the positive mood-induced forecasts, feelings are likely to be worse than forecasted—and a negative effect of AMF on judgments may result.

The implications of this research for marketing practice point to the need to "manage" affective forecasts in marketing communications, as feeling worse than forecasted negatively impacts product evaluations. The management of such expectations is particularly relevant because marketing communications often imply extremely positive affective reactions to product/service usage. Affective forecast management is also relevant because consumers' optimistic biases may predispose them to anticipating more positive affective experiences than may be reasonable. A key question hence becomes the most appropriate mechanisms for management of consumers' affective predictions regarding future consumption.

One potential mechanism includes managing the affective forecast itself. MacInnis, Patrick and Park (forthcoming) discuss how consumers may feel different from forecasted because they represent the future erroneously, fail to consider critical details, are influenced by

other factors at the time, or fail to consider other things that might make them happy. In other cases, consumers feel differently from their predictions because they do not adequately or accurately imagine their affective reaction to the future outcome. Consumers may also fail to adjust their forecasts based on their current emotional state. In other cases, the actual outcome was as predicted, but simply did not produce the intensity of emotion imagined.

Each of these factors provides clues as to how affective forecast might be managed. For example, marketing communications may ask consumers to imagine product use in the context of a near (vs. distant) future where imagery contains more low level, concrete, and accurate construals of the future and the various factors affecting one's affective reaction. Communications might also portray a more realistic depiction of the likely affective response so as to not create forecasts of an unrealizable affective state. Alternatively, communications might attempt to minimize imagery-based processing. Prior research shows that the more consumers imagine an outcome, the more they expect it to occur. When product performance cannot deliver extremely positive affective experiences, marketing communications may wish to steer consumers away from images of unrealistic affective reactions and may discourage imagery-based elaboration of experiential and affective outcomes. The management of affective forecasts may be quite difficult as such forecasts can be impacted independent of marketing communications, via such sources as word of mouth or simple inferences of consumers based on similar experiences. Hence, tactics to manage them may be quite important.

## Future Research Directions

Research opportunities abound for further study of AMF. One immediate question concerns moderators of the effects shown here. For example, one might anticipate that AMF may play a more important role in the consumption of hedonic as opposed to functional products where affect is goal relevant (Pham 1998) and therefore is likely to play a greater role in the evaluation of the experience. Thus, the interplay between affective and cognitive information (Shiv and Fedorikhin 1999) and the deviations of each in informing evaluations is an important area of investigation.

Relatedly, one might examine the moderating role of time on the relationship between AMF and post-evaluative judgments. The extant research points to the role of the psychological immune system (Gilbert et al. 1998), which is a set of coping mechanisms that help consumers reconcile the errors of forecasting. Coping with AMF via the psychological immune system is a largely uninvestigated area of research. We might expect, for instance, that the operation of the psychological immune system would diminish the impact of AMF on product evaluations over time as the psychological immune system allows consumers to reconstruct their memory of the forecast, the experience, or their affective reactions to the experience. Identifying conditions that facilitate the operation of this system through marketing mechanisms, such as warranties or return policies might be an important area of future investigation.

The majority of work on information processing (e.g. Skowronski and Carlston 1989) and brain activation (e.g. Ito, Larsen, Smith, & Cacioppo, 1998) suggests a sensitivity to negative information or a negativity bias in which negative information is considered more diagnostic than positive information. Interestingly, however, the relative impact of positive and negative

affect on satisfaction judgments has been inconsistent across studies in the literature. Some studies (Westbrook and Oliver 1991, Phillips and Baumgartner 2002) have found that both positive affect and negative affect predict satisfaction. While others (Oliver 1993) have found that positive affect predicts satisfaction but negative affect has either a weak or no effect. We find that when feelings are worse than forecasted, these worse than forecasted feelings cause elaboration and are diagnostic in evaluation judgments. However, future research might study whether it is the reduced intensity of positive emotions, the increased intensity of negative feelings, or both, that predict evaluations.

Finally, individual differences in consumers' views of the future may also play a moderating role. For example, AMF may be less likely for defensive pessimists as opposed to strategic optimists (Norem 2004) because the former are likely to not only make more conservative forecasts but also engage in activities that mitigate the likelihood that experiences will be negative.

Indeed, one of the key characteristics that make humans unique amongst all living creatures is their capability to construct and conceive their future. Central to this characteristic is the study of affective forecasts and the affective misforecasts that can subsequently result. We therefore believe that the domain of affective forecasting and misforecasting is a rich and unexplored area of investigation for consumer research.

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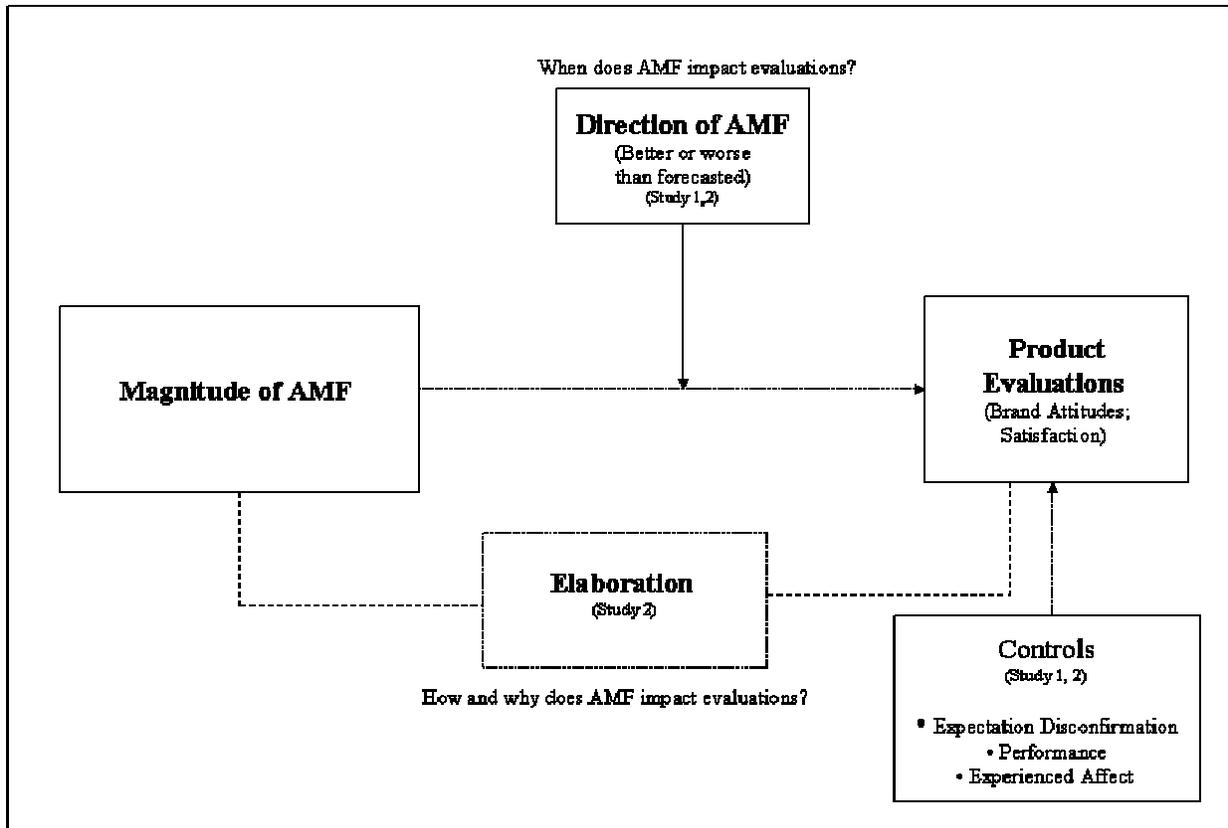
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TABLE 1  
REGRESSIONS OF THE IMPACT OF AMF ON EVALUATIONS

Independent Variables	Unstandardized Coefficients		Standardized Beta	R <sup>2</sup>
	Beta	Std Error		
<b>Table 1a: Study 1</b>				
<b>Model 1: “Feelings worse than forecasted”</b>				
Misforecasting gap	-.34	.09	-.31*	<b>.78</b>
Experienced Affect	.29	.07	.29*	
Performance	.49	.09	.45*	
Expectancy-Disconfirmation	-.00	.11	-.00	
<b>Model 2: “Feelings better than forecasted”</b>				
Misforecasting gap	-.16	.11	-.14	<b>.73</b>
Experienced Affect	.42	.09	.45*	
Performance	.48	.12	.43*	
Expectancy-Disconfirmation	-.06	.12	-.05	
<b>Table 1b: Study 2</b>				
<b>Model 1: “Feelings worse than forecasted – elaboration opportunity high”</b>				
Misforecasting gap	-.37	.15	-.31*	<b>.80</b>
Experienced Affect	.46	.15	.39*	
Performance	.39	.24	.32	
Expectancy-Disconfirmation	.09	.22	.08	
<b>Model 2: “Feelings worse than forecasted - elaboration opportunity low”</b>				
Misforecasting gap	-.32	.17	-.32	<b>.79</b>
Experienced Affect	.50	.19	.41*	
Performance	.51	.23	.35*	
Expectancy-Disconfirmation	-.03	.25	-.02	
<b>Model 3: “Feelings better than forecasted - elaboration opportunity high”</b>				
Misforecasting gap	.28	.18	.28	<b>.81</b>
Experienced Affect	.85	.23	.68*	
Performance	.21	.37	.18	
Expectancy-Disconfirmation	.34	.32	.35	
<b>Model 4: “Feelings better than forecasted - elaboration opportunity low”</b>				
Misforecasting gap	.01	.16	.01	<b>.82</b>
Experienced Affect	.42	.22	.25	
Performance	.84	.17	.74*	
Expectancy-Disconfirmation	.04	.15	.03	

\*  $p < .05$

**FIGURE 1**  
CONCEPTUAL MODEL



**FIGURE 2**

**POSSIBLE IMPACT OF THE DIRECTION AND MAGNITUDE OF AMF ON EVALUATIONS**

Figure 2a:  
Affect Congruency View

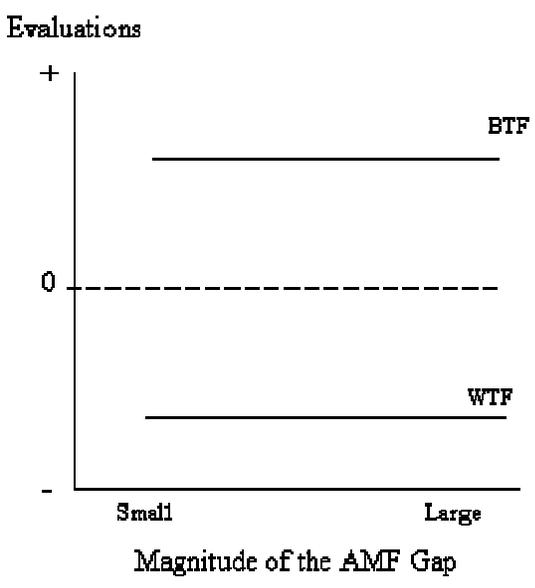
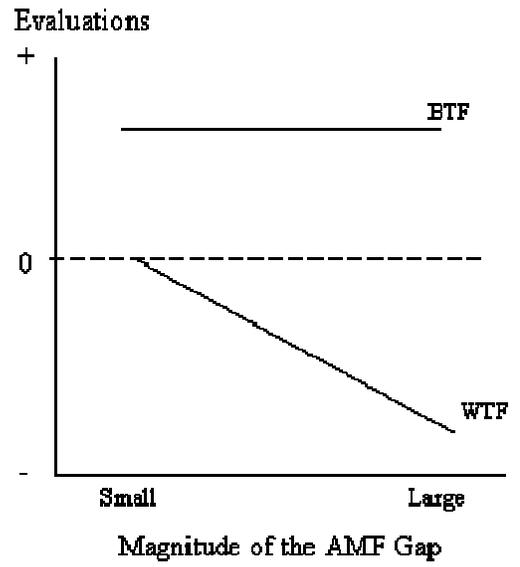


Figure 2b:  
Affect as Information and Motivation View



WtF= worse than forecasted  
BTf= better than forecasted

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