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C. Whan Park

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LOOKING THROUGH THE CRYSTAL BALL

Affective Forecasting and Misforecasting in Consumer Behavior

DEBORAH J. MACINNIS, VANESSA M. PATRICK, AND C. WHAN PARK

Abstract

A recent addition to the literature in psychology concerns individuals' forecasts of the affective states they predict will arise in the future. Affective forecasts are extremely relevant to marketing and consumer behavior as they impact choice as well as a set of other marketing-relevant outcomes. Interestingly, however, affective forecasts are often erroneous because they are susceptible to a variety of errors and biases that reduce their accuracy. As a result, experienced affect differs from forecasted affect, and affective misforecasting (hereafter AMF), occurs. This chapter reviews the literature on affective forecasting, indicates the importance and relevance of this area of research to consumer behavior and marketing, and identifies the factors that lead to errors in affective forecasting and hence result in affective misforecasting. Our review is designed to both illustrate the relevance of affective forecasting and misforecasting to marketing and consumer behavior and to identify novel research directions for future work in this research domain.

Considerable research in consumer behavior has examined consumers' affective experiences (Holbrook and Batra, 1987; Edell and Burke, 1987; Bagozzi and Moore, 1994) and how they influence information processing (Isen, 1999), product evaluation (Howard and Gengler, 2001; Meloy, 2000), and choice (Pham, 1998; Bagozzi et al., 2000; Luce et al., 1999). Notably, however, consumer researchers have focused on feelings experienced *at the time of processing or choice* as opposed to feelings *anticipated to occur in the future*. The omission of anticipated affect in the consumer behavior literature is significant, especially since research elsewhere alludes to its potential relevance to our field. This chapter focuses on issues concerning the role of consumers' processing of affect anticipated to occur in the future.

All normally functioning human beings have a "model of the future" that forms the basis for goal setting, planning, exploring options, making commitments, and having hopes, fears and desires (Trommsdorff, 1983; Markus and Nurius, 1986; Nurmi, 1991; Snyder, 2000; Bandura, 2001). One way in which people think about the future is to attempt to *predict* what the future has in store (Johnson and Sherman, 1990). Research dealing with prediction of the future has been examined in the context of decision making under uncertainty (Nisbett and Ross, 1980; Kahneman

and Tversky, 2000), the predictions of future activities, events, and behaviors (Carroll, 1978; Sherman, Zehmer et al., 1983; Vallone, Griffin et al., 1990; Buehler, Griffin et al., 1994), the prediction of future self-concepts (Markus and Nurius, 1986; Markus and Ruvolo, 1989), the effects of temporal perspectives on prediction (Liberman and Trope, 1998; Trope and Liberman, 2000), and the role of imagery (Anderson, 1983), positive illusions (Taylor and Brown, 1988), and optimistic biases in prediction (Weinstein, 1980; Armor and Taylor, 1998).

A recent addition to the literature in psychology represents the intersection of work on affect and prediction and concerns a phenomenon called *affective forecasting* (Gilbert et al., 1998). Interestingly, although research suggests that affective forecasting occurs in a wide variety of circumstances, it also indicates that these forecasts are often erroneous as they are susceptible to a variety of biases that reduce their accuracy (Kahneman and Snell, 1992; Loewenstein and Adler, 1995; Snell, Gibbs, and Varey, 1995; Loewenstein and Frederick, 1997; Mitchell, Thompson et al., 1997; Gilbert, Pinel et al., 1998; Read and Leeuwen, 1998; Frederick and Loewenstein, 1999; Gilbert, Brown et al., 2000; Loewenstein, O'Donoghue et al., 2000; Loewenstein and Schkade, 2000; Wilson, Wheatley et al., 2000). Specifically, experienced affect differs from forecasted affect, and *affective misforecasting* (hereafter AMF) occurs.

In this chapter, we review the literature on affective forecasting and misforecasting. We indicate the importance and relevance of these two research domains to consumer behavior and marketing and identify novel research directions for future work in these areas.

Affective Forecasting

Since the term “affective forecasting” may be new to some readers, below we present an overview of the concept, including a definition, clarification of terms, and a discussion of the dimensions along with affective forecasting can be described.

What Is Affective Forecasting?

Definition

Affective forecasting, defined as the prediction of one's own future feelings, reflects the intersection of research on prediction, affect, and the self. Although it falls within the domain of prediction of the future, it is differentiated from research on prediction of self-related *behavioral* outcomes such as the predictions of usage (Folkes et al., 1993; Nunes, 2000), or the prediction of future behavior/intentions (Sherman, 1980; Morwitz and Fitzsimons, 2004) by its focus on self-relevant affective outcomes. By its focus on affect, it also differs from the prediction of *cognitive* outcomes such as expectations regarding future outcomes (Cadotte et al., 1987, Stayman et al., 1992).

The Meaning of Affect

The term *affect* is used broadly in this literature to include a variety of affective experiences including *visceral (or bodily) feelings* (such as thirst, sexual drive, pain, and hunger; Loewenstein, Nagin, and Paternoster, 1997; Loewenstein, 1996),¹ *preferences or tastes* (Loewenstein and Adler, 1995), *generalized valenced feeling states* (e.g., feeling good or bad), and *specific emotional states* (Simonson, 1992; Bagozzi, Baumgartner et al., 1998; Shiv and Huber, 2000; Perugini and Bagozzi, 2001; Raghunathan and Irwin, 2001; Crawford, McConnell et al., 2002).

To further illustrate the meaning of affect, consider, for example, the view of Mellers and

McGraw (2001) who identify specific emotions forecasted in a choice task, the occurrence of which depends on whether the frame of reference is on the chosen or nonchosen option and whether the outcome of that option is good or bad. *Elation* or *happiness* is predicted when a good outcome is associated with the chosen option. *Disappointment* is forecasted when a bad outcome is associated with that same chosen option. Individuals forecast *regret* when a good outcome accrues to an option not chosen, and they forecast *rejoicing* when a bad outcome is predicted to accrue to a nonchosen option (see also Zeelenberg et al., 1996). Other emotions are also relevant and include affective states already examined in the literature such as anticipated *satisfaction* (Shiv and Huber, 2000), and *guilt and shame* (Patrick, MacInnis, and Matta, 2004), as well as other emotions (e.g., disgust, relaxation, rage, ecstasy) that have not yet been the topic of empirical study.

The Dimensions of Affective Forecasting

Forecasts of affective experiences can be described in terms of several dimensions that reflect (a) what will I feel, (b) how much, and (c) for how long (see the lower right-hand box in Figure 2.1). The dimension of valence deals with the specific feeling forecasted (will I feel good or bad? happy or sad?). The dimension of *intensity* deals with the strength of the feeling (e.g., will I feel a bit relaxed or totally relaxed?). Finally, the dimension of *duration* deals with the length of the affective experience (will I feel happy for just an hour or for a week?).

The Relevance of Affective Forecasting: Why Should We Care?

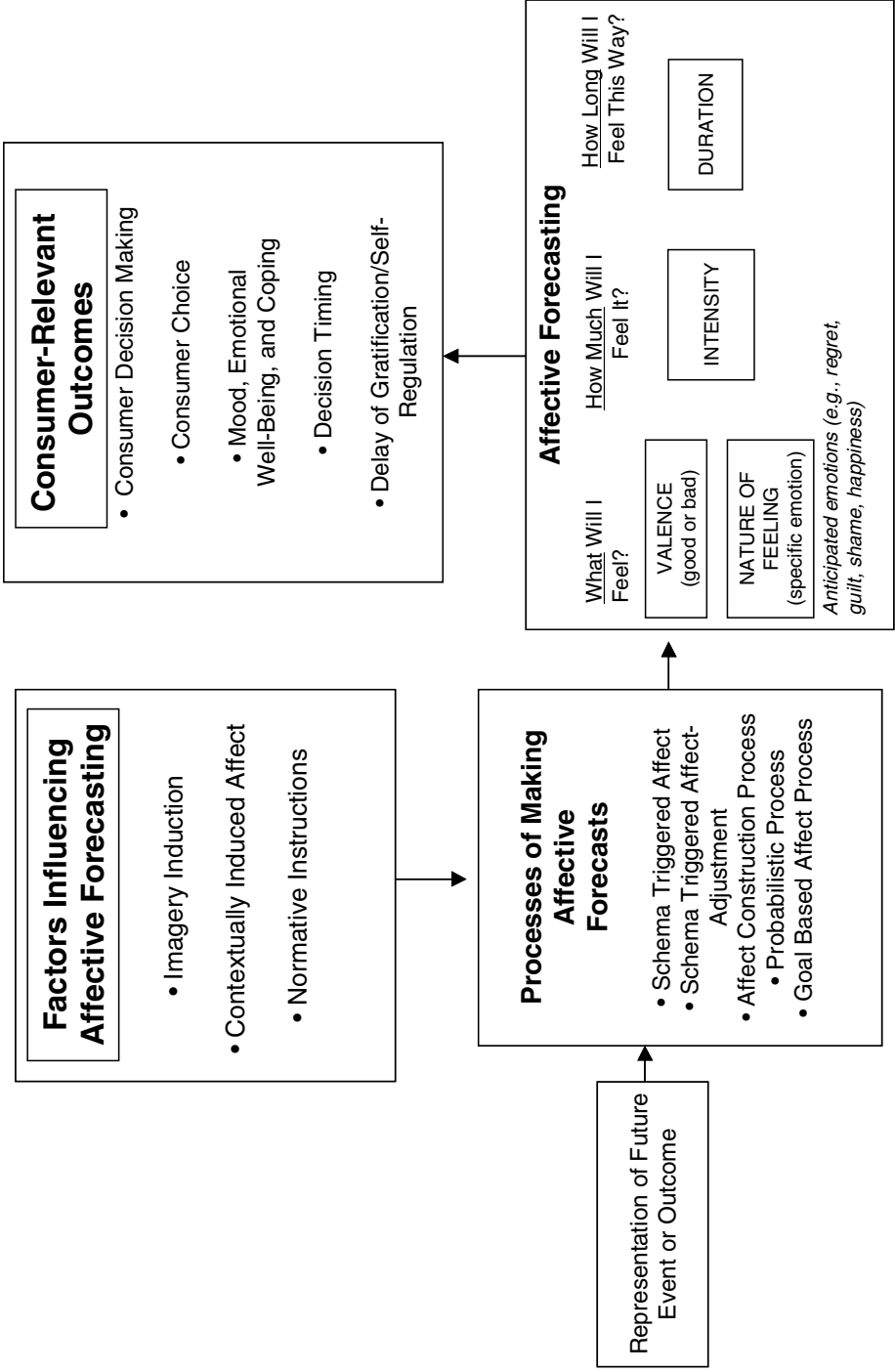
Affective forecasting is relevant to several domains of consumer behavior and marketing. Following Figure 2.1, we consider its relevance to several (nonexhaustive) domains, including (a) consumer decision making, (b) consumer choice, (c) mood, emotional well-being, and coping, (d) decision timing, and (e) delay of gratification and self-regulation.

Relevance to Decision-Making Theory

From a theoretical perspective, ideas regarding affective forecasting offer some fundamentally different views on decision theory based on the notion of utility. Mellers (2000) argues that in its original conception, Bernoulli defined “utility” as an affective forecast—that is, “the anticipated pleasure or psychological satisfaction of wealth rather than wealth per se” (p. 910) and that this expected (or forecasted) utility (pleasure/satisfaction) drives decision making. However, in the early nineteenth and twentieth centuries, the notion of utility as anticipated affect was replaced by indifference curves that used interval meaning based on ranked-ordered preferences, not unobservable psychological experiences. This transformation, though allowing for the development of axioms and mathematically testable principles, removed affective forecasting from the realm of classical decision making.

As research on classical decision-making theory advanced, deviations from the classic utility-maximizing model were observed, leading to observations about risk propensities in the gain and loss domain as specified by Prospect Theory (Kahneman and Tversky, 1979). Lopes (1984, 1987, 1990) further modified classical decision theory by suggesting that anticipatory feelings such as hope, fear, optimism, pessimism, and related feelings about risk and uncertainty explain decision outcomes. Recent work has taken into account anticipated emotions, such as affective forecasts of regret, rejoicing, and satisfaction (Bell, 1982; Loomes and Sunden, 1982; Ritov and Baron,

Figure 2.1 Affective Forecasting and Its Relevance to Consumer Behavior and Marketing



1990). The incorporation of these forecasted affective experiences into decision theory seems to bring us full circle to the original meaning of utility as defined by Bernoulli.

Relevance to Consumer Choice

As suggested by Figure 2.1, affective forecasting is also relevant to marketing and consumer behavior given its direct implications for consumer choice. Prior research suggests that choice may be *predicated on* the affect we anticipate will arise from choice. As such, *affective forecasts may be a central driver of choice outcomes*. For example, the consumption of symbolic products is predicated on feelings of anticipated security, comfort, belonging, and pride. We purchase functional products such as dishwashers or sprinkler systems on the basis of the feelings of relief we will have at having some one or some thing do chores that would otherwise fall on our shoulders. Consumption of self-help books and psychological therapy are anticipated to reduce feelings of helplessness, guilt, anger, depression, and anxiety. Medication is anticipated to result in the reduction of pain. Experiential products and services (spas, river rafting, movies, vacations, art, and pets) are consumed for the anticipated joy, relaxation, excitement, and pleasure they will evoke.

Several studies empirically demonstrate the influence of affective forecasts on choice. Zeelenberg et al. (1996) examine the extent to which predictions of *regret* influenced decision making. They convincingly argue that prior research which suggests that consumers avoid risk in decision making has confounded risk with forecasted affect of regret. In a series of studies, they independently manipulate risk and feedback designed to evoke the potential for regret. Their results show that in contrast to previous studies, there are certain circumstances in which people seek (not avoid) risk, and that *what consistently affects choice is not perceptions of risk per se but consumers' desire to avoid regret*.

Simonson (1992) also showed that anticipated *regret* influences decision making. He demonstrates that anticipating the regret associated with the choice of two items can affect which option is chosen as well as the timing of the decision. With regard to the latter, consumers were more likely to prefer to buy an item on sale today if asked to anticipate the regret they would feel if they waited for better sales in the future but later discovered that the present sale was better. With regard to the former, consumers asked to anticipate the regret associated with a purchase were more likely to choose a better known, though more expensive, brand than a lesser known and less expensive brand.

The anticipation of other emotions has also been linked to choice. For example, Mellers and McGraw (2001) showed that anticipated *pleasure* predicts choice and that it improves the prediction of choice beyond that explained by utilities alone.

Richard, van der Pligt, and de Vries (1996) found that affective forecasts add to the predictive power of attitudes and other factors in the prediction of behavioral intentions—an antecedent to choice. To demonstrate this effect, they selected consumption contexts where consumers were expected to like a product (e.g., junk food, alcohol, marijuana) but anticipate *feeling bad* after its consumption. They found that behavioral intentions regarding the consumption of these products were significantly impacted by the anticipated negative feelings following their consumption, over and above the effects of attitudes, perceived behavioral control, and subjective norms.

Relevance to Mood, Emotional Well-Being, and Coping

As Figure 2.1 suggests, another way in which affective forecasting is relevant to consumer behavior is with regard to mood-induction and consumer well-being. Human beings have a fundamental motivation to seek pleasure and avoid pain. Moreover, the *anticipation of future feelings can evoke*

pleasure and pain in the present. Indeed, as Loewenstein (1987) quotes from Bentham (1789/1948), “anticipation, like consumption itself, is an important source of pleasure and pain” (p. 666).

Anticipating pleasure may thus have positive mood-altering properties, making one feel good at the moment. Analogously, anticipating pain may induce depressive affect. As evidence, Andersen and Lyon (1987) found that anticipating negative outcomes that were also viewed as inevitable induced depression, anxiety, and hostility in the present. Given the voluminous research on the impact of mood on product evaluation and choice, it is interesting to consider whether affective forecasts of different valence, intensity, or duration may lead to different choices or outcomes owing to their mood-altering properties. Interestingly, research has not examined the extent to which the impact of mood on evaluations and choices is induced by affective forecasts or whether and how mood based on affective forecasts influences product evaluation and choice.

Given its potential mood-altering effects, *the forecasting of positive future affect may also facilitate coping with negative current states* (see Figure 2.1). Indeed, research in medicine shows that individuals who forecast the reduction of negative emotions and the possible occurrence of positive ones show greater pain endurance, more proactive and more positive self-care practices, delayed illness timing, less severe illnesses, and illnesses of shorter duration (see Snyder, 2000; Taylor et al., 2000; Groopman, 2004). Affective forecasting of positive emotions may also help consumers cope with more mundane problems. Since consumer products are often touted as solutions to health, beauty, and relationship problems, consumer goods may be viewed as sources of positive future feelings that facilitate coping with failing health, beauty, and relationships or even with negative feelings caused by the discrepancy between actual and normatively appropriate behavior. In line with this notion, Raghunathan and Trope (2002) examined the effects of current positive versus negative mood on the willingness and ability to cope with negative but relevant information (e.g., information about the effects of caffeine consumption on one’s health for a heavy drinker of coffee). They found that positive mood provides a “buffer” or a “resource” (what they termed the mood-as-a-resource hypothesis) that helps consumers cope with negative (but self-relevant) information. Although research has not substantiated a link between affective forecasting and coping in a *consumer domain*, the research above suggests its potential impact.

Relevance to Decision Timing

Another potential outcome relevant to affective forecasting and consumer behavior concerns the impact of the valence of affective forecasting on decision timing. Loewenstein (1987) argues that we sometimes delay consumption (e.g., deferring a vacation, storing a bottle of fine wine for a special occasion) so as to *savor* the possibility of a good future experience. Relatedly, Chew and Ho (1994) suggest that consumers may delay scratching numbers off a lottery ticket to savor the good feelings that accompany the possibility of a win. Anticipation of future positive affect may well delay consumption of objects assumed to elicit positive affect so as to invoke a state of savoring. On the other hand, anticipation of negative future affect may either hasten choice and consumption so that negative anticipated emotions can be quickly gotten over with (e.g., gulping bad-tasting medicine) or lead to procrastination and delay to avoid the negative affect (e.g., putting off balancing one’s check book).

Relevance to Delay of Gratification/Self-Regulation

A related issue concerns the role of affective forecasting in delay of gratification as it pertains to consumer self-regulation. Many consumers are beset by problems of self-regulation as evidenced

by overeating, compulsive shopping, gambling, drug use, smoking, and alcoholism. In many cases, problems exist despite consumers' rational knowledge that their consumption means foregoing a larger and more important long-term goal. Hoch and Lowenstein (1991) call these "time-inconsistent preferences" since the immediate behavior consumers want to engage in is inconsistent with the longer-term goal they would like to achieve. Time-inconsistent preferences occur when the *desire* for a given behavior (e.g., eating, drinking, smoking) is greater than the *willpower* the consumer has to forego this behavior in light of a larger goal (e.g., weight loss, sobriety, nicotine free living). Recent research has verified that desire and willpower are indeed related to time-inconsistent preferences, at least in the domain of economic spending (Karlsson, 2003).

Time-inconsistent preferences create a conflict between near-term and far-term forecasted affect. Anticipated bliss at delving into a piece of chocolate cake may be forecasted in the near term, with guilt, regret, and anger at oneself forecasted in the longer term. Denial of the near-term goal produces a forecast of negative emotions, with positive emotions from the denial anticipated in the far term. As it pertains to consumer self-regulation, interesting opportunities exist for research which examines factors that enhance self-regulatory capacities by reducing the anticipated positive emotions associated with the near-term goal and enhancing the positive emotions associated with the long-term goal.

Research in psychology on delay of gratification (e.g., Metcalfe and Mischel, 1999) suggests that when near-term positive forecasted emotions are activated (or are "hot") delay of gratification is quite difficult. Metcalfe and Mischel (1999) suggest that, in order to reduce activation of these "hot" nodes, the stimulus evoking the "hot" affect must be either externally obscured or involve an internal reallocation of attention to the stimulus. Note that the very act of affective forecasting involves attention to the emotion presumed to arise from the stimulus or outcome. While reallocation strategies may involve elements of the "cool" system that are unrelated to the hot system, another strategy is to shift attention to a different element in the hot system. Here *delay of gratification may be achieved by focusing attention on the anticipated positive emotions associated with the achievement of the far-term goal* (e.g., pride from being able to stay away from the chocolate cake).

A second strategy noted for delaying gratification is to *reconstrue the meaning of the near-term hot stimulus so as to make it affectively negative as opposed to positive*. Within an affective forecasting paradigm, one way of reconstruing the meaning of the stimulus (e.g., chocolate cake is good because it tastes great) is to link it to the negative far-term emotion anticipated to arise from its consumption (chocolate cake is bad because it will make me feel guilty). Although prior research has not examined affective forecasting as it applies to the delay of gratification and self-regulation, we believe there are opportunities for extensions in this area.

Processes of Making Affective Forecasts

Although research on the process by which affective forecasts are made is still in its infancy, we develop below a conceptualization of potential processes, several of which have received support from the literature. These processes vary in terms of the nature and extent of *elaboration* (e.g., automatic vs. constructed through deliberate processing), and are illustrated in Figure 2.1.

One process by which affective forecasts may arise is through *schema-triggered affect* (Fiske and Pavelchak, 1986). When the memory of an object or outcome (e.g., a vacation) is well-entrenched and organized in a schema, the affect attached to the schema is automatically retrieved when the schema is activated. This affect is not derived by a conscious process but is generated automatically from accessed memory. Consumption experiences or outcomes that are well entrenched in memory (e.g., some experiential products and services like vacations, pets, or

dentist appointments) tend to automatically elicit affect as soon as they are accessed in memory, particularly if the affect attached to these schemas is extreme. With schema-triggered affect, the automatic activation of affect as a by-product of a well-developed schema may be used as a basis for predicting one's affective reaction to a similar (schema-consistent) outcome.

The *schema-triggered affect adjustment process*, also called a *heuristic-based process* (Snell and Gibbs, 1995), presumes greater elaboration than the schema-triggered affect process just described. The primary distinction is that affect automatically activated from a schema is adjusted and edited through cognitive elaboration for its intensity and/or its valence. For example, Snell and Gibbs (1995) propose that, when predicting how much they will like something in the future, consumers should use their current liking for the entity and then adjust it based on lay theories about the impact of time, experiences, or the situation in which it is to be evaluated.

The *affect construction process* suggests that forecasted affect is constructed from elaboration of the consumption of the product or service. For example, Phillips, Olson, and Baumgartner (1995; Phillips 1996) propose that consumers develop "consumption visions" or mental images of themselves interacting with a product and imagine the various outcomes arising from this interaction. Patrick and MacInnis (2002) document this imagery process associated with affective forecasting of future feelings associated Spring Break. Gilbert et al. (2002) offer a view that augments the imagery process just described with adjustments for time and context. They suggest that individuals first imagine the event to be experienced in the future, though they typically do not incorporate into their imagery the temporal context in which they future event will happen. Individuals then develop "proxy reactions," to that event, which are in turn adjusted for how their feelings might change if the event were displaced in time.

At even greater levels of elaboration, consumers may even consider the probability of a given outcome; the affect predicted to arise in the future depends on the perceived probability that a given event will occur. For example, the forecast of satisfaction is based on an assessment of the perceived probability by which consumption of a given product or service (e.g., floor wax) will lead to an outcome desired by consumers (e.g., shiny floors). Mellers and McGraw's (2001) decision affect theory is reflective of this *probabilistic process*. These authors suggest that consumers first predict the pleasure and pain of future outcomes, weigh these feelings by the probability that they will occur, and then choose the option that is likely to give them the greatest pleasure. The notion of anticipated pleasure weighted by an outcome's probability might be called optimism or hopefulness. Decision affect theory might be conceptualized within the context of a multi-attribute attitude model, where the attributes are the anticipated feelings and the belief strengths are the probabilities that they will occur.

A *goal-based affect* process suggests that consumers first specify an affective goal—specifically, an emotional state that they *wish to feel* in the future (e.g., relaxation) and then mentally construct images of which consumption options will best deliver that affective state (e.g., a vacation to Hawaii? to the mountains? to Europe?) Here, anticipated affect reflects an ultimate goal in a means–end chain. Indeed, well-being or happiness may well be regarded as ultimate affective states that drive all of human behavior (Lyubomirsky and Tucker, 1998; Lyubomirsky 2001). Many experiential consumption experiences such as going to the movies, attending sports games, book readings, etc. are driven by affective goals regarding specific emotions we would like to experience. This process resembles the above affect construction process described above as it involves considerable elaboration. However, here consumers first ask themselves, "how do I want to I feel?" and then compare the forecasted and desired affective experience so as to determine whether or not to engage in consumption (should I watch this movie or not?), or choose between competing options (should I watch this movie or that one?).

As Figure 2.1 suggests, each of the above process models shares in common the idea that affective forecasts are predicated on a representation of a future event and an invocation of the affective reactions to this event. Notably, these models of the process of affective forecasting are tentative, and research has not established the nature of the process or the extent to which the process varies as a function of a set of moderating variables. Hence considerable opportunity exists for developing and validating process models of affective forecasting.

Inducing Affective Forecasting

Given the potential relevance of affective forecasting to consumers and marketers as described above, a critical question concerns how marketers can stimulate (and influence) affective forecasting. Although little research has been done on this topic, thoughts about potential research directions are described below and depicted in Figure 2.1.

Imagery Induction

Since affective forecasting involves a mental representation of an event and potentially an imagined response to that event (see Figure 2.1), factors that influence the representation and imagery of the event and one's emotional reaction to it may also induce affective forecasting. Prior research on imagery shows that factors that induce imagery include the presentation of case versus base rate information, imagery instructions, and concrete words (MacInnis and Price, 1987; Park and Young, 1986; Pham, Meyvis, and Zhou, 2001). Although research has examined these factors as predictors of imagery, their use as predictors of the affect forecasted to arise from these imagined experiences has not yet been examined. The exception is Phillips (1996), though even her study relates only indirectly to affective forecasting. She reported that consumers had more detailed consumption images, more favorable ad attitudes, more positive attitudes toward acting, and more favorable behavioral intentions regarding a vacation to Aruba when exposed to an ad that had more rather than less visual detail about the experience of being in Aruba. Instructions to imagine had no effect on these outcomes, and the provision of verbal detail had mixed effects on the results. Advertising is potentially an effective way to induce imagery for future consumption, which may in turn result in affective forecasts.

In addition to externally stimulated imagery, affective forecasts may be impacted by individual differences in capacities to generate images. MacInnis (1987) reviews research on and scales developed to assess a number of different individual difference variables in imagery processing. Among these variables are (a) imagery vividness, which refers to the ability with which one can evoke clear images, (b) imagery control (i.e., the extent to which one can manipulate, transform, and hold images in mind at will), (c) involvement in fantasy, and (d) propensities toward daydreaming. Any one of these individual difference factors may impact the nature and extent of affective forecasting.

Interestingly, individual differences may alter the impact of externally stimulated imagery on affective forecasting. Pham, Meyvis, and Zhou (2001) found that consumers who were described as high on chronic imagery vividness capacity were less responsive to vivid and salient information in advertising as their internally generated images seemed to create an immersion in the imagery experience which overrode the use of imagery-evocative external cues. Although this study did not deal with affective forecasting, the results do suggest that the impact of externally provided imagery inducements on the nature or intensity of affective forecasts may be moderated by individual differences in imagery vividness.

Contextually Induced Affect

Feelings experienced at the time of the forecast may also influence affective forecasting. Patrick et al. (2004) demonstrated that ambient mood influenced consumers' forecasted affective states for neutral but not positive or negatively valenced future experiences.² Furthermore, Raghunathan and Corfman (2004) found that experienced anxiety and sadness impact the way consumers think about future events. These authors found that sadness leads to seeking pleasurable stimuli and preferring to complete a pleasurable activity before an important/urgent one, whereas anxiety leads to increased attentiveness and a preference for completing a more important activity before a pleasurable one.

Normative Instructions

Finally, Baron (1992) shows that normative instructions about how one *should* feel influence affective forecasts and the choices that result from them. Advertisements that present normative arguments about how one should feel (e.g., you should feel good about campaigning against tobacco advertising because each year 20,000 people die from smoking-related diseases) may heighten the intensity of the feelings consumers anticipate from future choices (e.g., decisions to join an antitobacco crusade).

Whereas the previous sections suggest that affective forecasting may be quite relevant to marketing and consumer behavior, a question of equal import concerns the *accuracy* of these forecasts. As described below, considerable research in psychology suggests that affective forecasts are rarely accurate. Next we explore research on why this is so and what implications it has for consumer-related outcomes such as satisfaction and repeat purchase behavior.

Affective Misforecasting

Affective misforecasting refers to the difference (or gap) between forecasted and actual (experienced) affect. Because there is uncertainty regarding how one will feel in the future, it is natural that the affect we experience from consumption may not mirror the affect we had anticipated we would feel. Indeed, Loewenstein and Schkade (2000) note that the misforecasting of future tastes or feelings is measured in any number of units—the misforecasting of marital bliss—divorce; the misforecasting of long-term career preferences—burnout; and the misprediction of consumer purchases—dissatisfaction.

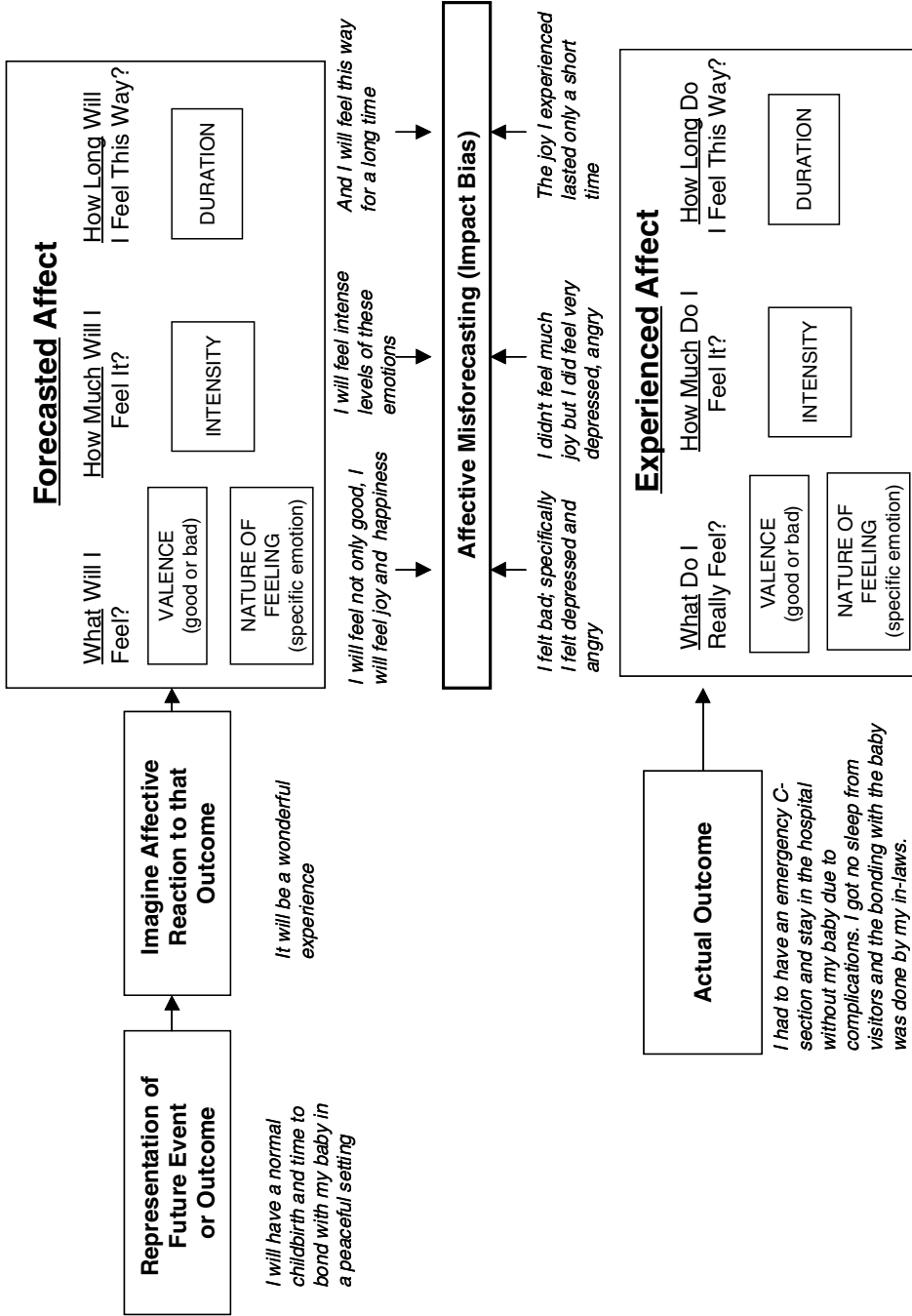
Indeed, research has long examined the psychological issues associated with a time perspective. A variety of studies conducted in psychology, the behavioral sciences, and political science point to one consistent theme, namely, that the value of outcomes change over time (e.g., Loewenstein and Prelec, 1993; Metcalfe and Mischel, 1999; Trope and Liberman, 2003). The study of affective misforecasting contributes to this literature by examining how actual feelings (outcomes) differ from predicted feelings as a result of the temporal distance between the time of prediction and the time of experience.

Before moving to consideration of the importance of affective misforecasting and why it occurs, we wish to note that, like affective forecasting, affective misforecasting can be described in terms of a set of dimensions.

Dimensions of Affective Misforecasting

Since consumers can make forecasts of valence or specific emotions, the intensity, and the duration of a projected affective response, affective misforecasting can occur along any of these dimensions, as shown in Figure 2.2.

Figure 2.2 Affective Forecasting and Affective Misforecasting: An Illustrative Example



Valence and Specific Emotions

First, consumers can misforecast the general affective *valence or the specific feelings* that will arise in the future. As shown in Figure 2.2, for example, our consumer predicted that she would feel good (specifically, feel joy and happiness) after the birth of her child. In contrast, she actually felt bad (angry and depressed).

Prior research suggests that in many circumstances people are relatively accurate at predicting the *general valence* of their future affective states (Baron, 1992). Consumers are typically able to predict that receiving a surprise gift is likely to make them feel positive, not negative, while a visit to the dentist will make them feel negative, not positive.

Consumers' accuracy in predicting *specific emotional* states has, however, revealed mixed results. Some research finds that consumers' affective forecasts of specific emotions are quite accurate; whereas others find that they are not.

Robinson and Clore (2001) found evidence that consumers *were accurate* in the prediction of specific emotions. They asked people to read descriptions of emotion-generating pictures (smiling babies, war scenes) and asked them to predict how the actual pictures would make them feel. These predictions were compared with the reports of people who actually viewed the pictures. The predictions and actual emotional experiences converged. In addition, a cluster analysis of the predicted and actual emotions also revealed similar structures. Note however, that here the accuracy of affecting forecasting was based on the similarity of *two groups* in their predicted and experienced affect, not the accuracy of a *given individual's* affective forecasts.

Larsen et al. (2001) found that when anticipating future events people tend to overlook negative emotions and focus on the positive emotions, suggesting potentially differential accuracies for the prediction of positive versus negative emotions.

Other research suggests that for certain situations, *predicted and actual experiences do not coincide at all*. For example, Woodzicka and LaFrance (2001) found that in sexual harassment situations, imagined responses and actual responses differed such that imagined victims predicted feeling angry while actual victims felt fear and intimidation.

Overall, this research suggests that affective misforecasting of specific emotions can indeed occur, though its occurrence may be contingent on a set of moderating factors (some of which we explore later in this chapter).

Intensity of Affect

As Figure 2.2 shows, another dimension of affective misforecasting concerns the misforecasting of *intensity*. The misprediction of intensity can be conceptualized in terms of the degree to which consumers *underpredict or overpredict* how they will feel. In Figure 2.2, for example, our consumer underpredicted how much depression and anger she would feel and overpredicted how much joy she would feel.

Considerable evidence supports the misforecasting of affective *intensity*. Moreover, the misprediction of intensity may occur for positive or negative emotions. To illustrate, Mitchell et al. (1997) compared people's affective forecast of a future positive event, for example, a three-week bicycle trip or a trip to Europe, with appraisals of emotions actually obtained on the trip. These authors found that participants' forecasted emotions were more positive than the emotions they actually experienced. Mellers (2000) found *mixed results* regarding the accuracy of the prediction of pleasure. Her *laboratory studies* revealed accuracy in the prediction of affective reac-

tions to various outcomes, while her *real-world studies* (pregnancy and dieting) revealed an overprediction of displeasure associated with these experiences.

Gilbert, Morewedge, Risen, and Wilson (2004) found that people overestimate how much regret they will feel (misprediction of intensity). In Study 1, participants played a modified version of the TV game show “The Price Is Right.” They were shown two identical sets of products and were asked to order them by price. They were allowed two different orders; with each order representing their best guess. Participants were then told to choose one of the two orders that they thought was the best arrangement. If they chose a set and it had the correct order they would win a big prize; if incorrect they would win a small prize. Half of the consumers were “experiencers” who were told that the set they chose was arranged incorrectly and that they did not win the attractive prize. These participants were told that they had lost by either a narrow or a wide margin. Participants in both conditions reported how much regret and disappointment they actually felt. The remaining half of the participants were “forecasters” who were asked to forecast how much disappointment and regret they would feel if they lost by a small margin or a wide margin. Compared to experiencers, forecasters overestimated how much regret they would feel in the narrow margin condition and overestimated how much disappointment they would feel in both the narrow and wide margin conditions. A second study replicated these results for subway riders who either forecasted or experienced missing a train by a narrow or wide margin. This overestimation of anticipated regret led Gilbert et al. (2004) to suggest that people who pay for options designed to reduce anticipated regret may be “buying emotional insurance that they don’t need” (p. 346).

Buehler and McFarland (2001) asked students to indicate the letter grade they expected to receive in a class. They were then asked to predict how they would feel immediately after receiving a final grade that was one level higher, the same as, or lower than they expected. Subjects’ actual feelings were monitored by a take-home questionnaire opened and completed immediately after they learned what their grade actually was. The results showed that individuals misforecast how bad they would feel from a lower grade and how good they would feel from a higher grade.

Duration

Recent research on affective misforecasting concerns the misprediction of *duration*. That research indicates that individuals are *notoriously inaccurate at predicting the duration of their affective states* (Gilbert, Pinel et al., 1998; Gilbert, Driver-Linn et al., 2002). Specifically, people tend to overestimate how long they will feel bad (or good) after a negative (or positive) future event. Gilbert and colleagues refer to this bias as the *durability bias*, though they later coined the term *impact bias* to reflect the extent to which individuals overestimate the impact of a future event on affective states. Figure 2.2 provides an example of the misprediction of duration.

As evidence of the misforecasting of duration, Gilbert et al. (1998) asked untenured assistant professors to estimate how happy or sad they would be a few years after receiving or not receiving tenure at their academic institutions. Associate professors at those same institutions were also asked to indicate their current level of happiness. Although assistant professors projected that they would feel elated or devastated for getting or failing to receive tenure, and believed that their happiness or unhappiness would last a long time, there was actually no difference in the level of happiness of those at the same institution who had received or been denied tenure. Although, again, the comparison here is between two different groups of individuals, not the same individual when forecasting and experiencing emotions, these results suggest that individuals will likely overestimate the impact of tenure on the duration of feelings of happiness or unhappiness.

In another example of the misprediction of duration, Gilbert et al. (1998) asked voters to predict how happy or unhappy they would be at the outcome of the national election if their candidate won or lost. One month after the election, however, voters were just as happy as they had been before the election regardless of whether their preferred candidate won or lost.

Drivers of Affective Misforecasting

Considerable research in psychology has attempted to explain *why* AMF occurs. As Figure 2.3 shows, AMF is presumed to result from a number of different biases. As shown there, some of these biases are associated with the process of *affective forecasting*—specifically (1) the representation of the future event or outcome, (2) one’s imagined reaction to that outcome, and/or (3) the affective forecast itself. Others are linked to what actually happens, specifically (4) the *outcome* actually experienced or (5) the *affect generated from that experienced outcome*.

The discussion that follows mirrors Figure 2.3, and hence first describes the factors associated with the initial representation of the event. Then it moves to the imagined reaction to the outcome, the affective forecast itself, the actual outcome, and finally the affect experienced from that outcome.

Factors Associated with the Initial Representation of the Event

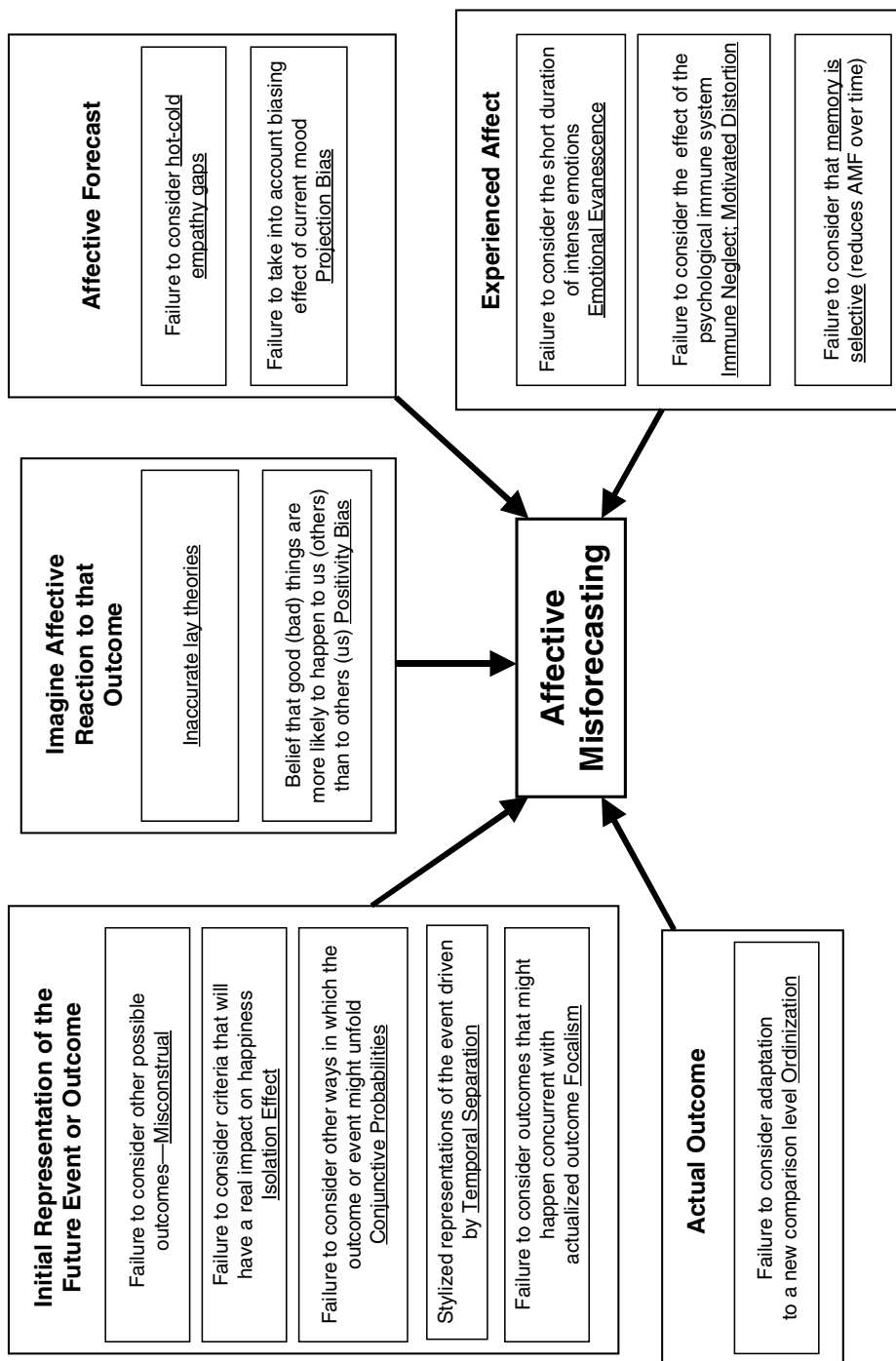
Several researchers have tied AMF to the manner in which the future outcome is represented in working memory. Biases thought to occur during this initial event representation include (a) misconstrual, (b) the isolation effect, (d) the failure to consider conjunctive probabilities, (d) temporal separation, and, (e) focalism (see Figure 2.3). We describe each in turn below.

Misconstrual. People often have in mind *one way* in which an outcome might turn out, and they *fail to consider other possible outcomes*. In fact, Griffin and Ross (1991) review evidence that people are unaware that their views of the future are an abstraction of reality that *they* have constructed rather than a representation of some objective reality. Thus, for example, when individuals imagine their upcoming vacation, they may not consider that their envisioned dream vacation could be ruined by rain, a fight with one’s spouse, or food poisoning. Another example of misconstrual is shown in Figure 2.2 where our consumer imagines a normal birth, not considering that the actual outcome (an emergency C-section) could be different.³

Isolation Effect. The isolation effect refers to errors in affective forecasting driven by the *failure to consider criteria that will have a real impact on happiness*. Dunn, Wilson, and Gilbert (2003) illustrate this bias. College students were asked to forecast how happy they would be in one year if they lived in one dorm versus another. The authors hypothesized that students would focus on physical features that differentiated the dorms from each other and use *these* differences as a basis for predicting their future happiness. The dorms were being considered in isolated terms—in terms of their physical features, not other factors that might be considered and that might really predict happiness. After they were contacted a year later, their happiness was in reality more a function of the *social aspects* as opposed to the physical characteristics that distinguished the dorms.

Conjunctive Probabilities. One reason AMF may occur is that consumers *ignore the assessment of conjunctive probabilities* in their representation of the future outcome. When consumers

Figure 2.3 Identifying the Sources of Affective Misforecasting



think about the future, they conceptualize outcomes that are the result of a series of event occurrences. For example, an individual who imagines spending part of her vacation lounging in the sun on her balcony develops a scenario that includes a set of concurrent events (sunshine, a balcony, a balcony facing the sun, lounging chairs, etc.). This representation is based on a set of cumulative probabilities regarding each individual outcome. It is also contingent on her feeling relaxed on vacation, which is in turn a function of whether the plane gets off without a hitch, whether her baggage arrives at the airport, whether the hotel she wishes to stay at can still accommodate her, and so on. As Kahneman and Tversky (1982) note, however, “the cumulative probability of at least one fatal failure in the sequence of images could be overwhelmingly high, even though the probability of each individual cause of failure is negligible” (pp. 207–208). Consider as another example the consumer in Figure 2.2 who anticipates feeling joy at the birth of her baby. She may not consider the number of contingent outcomes that connect going to the hospital with the outcome of joy from childbirth. Any number of things that intervene between the act and the outcome could go wrong such as an exceedingly painful labor, bad nursing staff, an uncomfortable room, distress of the baby, or the doctor’s unavailability. The occurrence of any one of these factors could alter the affect experienced from childbirth and, as such, result in AMF.

Temporal Separation. As shown in Figure 2.3, affective misforecasting may also arise when the time between the affective forecast and its experience is lengthy. When thinking about the distant future, people tend to create *stylized representations* of the future (Loewenstein and Schkade, 1999). When these mental images are conjured, they may be atemporal (i.e., the time the event is likely to occur is not specified) and people fail to adjust for the temporal component of the event (Friedman, 1993; Gilbert, Gill, and Wilson, 2002). Liberman and Trope (1998) describe two types of mental “construals.” High-level construals involve thoughts about an event or outcome that are schematic, abstract, decontextualized, semantic, structured, and parsimonious while low-level construals involve thoughts about events or outcomes that are nonschematic, individualized, concrete, and contextualized, involve concrete actions, and present complex, rich, and detailed images. The authors predict that (a) high (vs. low) levels of construals are used when the distance between an anticipated event is far (near) and that (b) when high-level construals are used, positive outcomes seem more positive and negative outcomes seem more negative than when low-level construals are used. Thus, the time at which the outcome is imagined (in the near or distant future) can affect the intensity of the affective forecast and hence impact the magnitude of AMF.

Independent of the representation of the event but related to temporal separation, Suh, Diener, and Fujita (1996) have found that recent events have a far more powerful influence on experience than events that are in the distant past. Thus, the closer the affective forecast to the time of experience (i.e., the shorter the temporal horizon), the greater the likelihood that the experience will conform to the forecast.

Focalism. A final factor linked to the representation of the future event shown in Figure 2.3 is *focalism*. Wilson et al. (2000) demonstrate that affective forecasts are sometimes wrong because people fail to consider the myriad factors that may occur along with the actual outcome that may also influence their future feelings. For example, we may predict that we will feel considerable enjoyment and family bonding when swimming in the pool with family at the end of a hot summer day. However, we likely fail to consider other factors that occur at the end of the day that may also influence our feelings of enjoyment and bonding. We may not consider how tired we will be, the mosquitoes that will come out during the evening, the fact that the kids will be irritable from having spent the whole day at home, and so on. Wilson et al. (2000) label this bias “focalism”

because when we think about how a future event will make us feel, we tend to focus only on that event, not the other thing that may also happen *at that time* that could alter how we may feel.

Wilson, Wheatley, Meyers, Gilbert, and Axsom (2000; see also Schkade and Kahneman, 1998) provide empirical evidence that focalism influenced the affective misforecasting of duration. They asked college students to predict how happy or sad they would feel if their team won or lost a big upcoming football game. Before they made their projections, half of the students were asked to fill out a “future diary” in which they wrote all of the things that would likely happen in the three days after the event. The theory was that getting respondents to focus on other things that might affect their feelings would minimize the affective misforecasting gap. As predicted, participants who completed the diary had less extreme predictions about how happy they would be if their team won and how sad they would be if their team lost than did participants in the no-diary condition. Relatedly, Buehler and McFarland (2001) found that individuals had more unrealistic affective forecasts regarding their feelings on Christmas Day when they focused only on the upcoming holiday and not other factors that surrounded it. Naturally, because it is often impossible to know beforehand what things are going to happen to us in the future that might affect how we feel, the impact of focalism may be quite powerful.

Factors Associated with the Imagined Affective Reaction to the Outcome

Figure 2.3 shows that affective misforecasting is also tied to factors associated with the imagined affect we predict will arise from a future experience. These factors include (a) the use of inaccurate lay theories and (b) the positivity bias.

Inaccurate Lay Theories. We may mispredict how much pain/pleasure we are likely to feel because we hold *inaccurate theories* as to whether certain outcomes will indeed evoke specific affective reactions. If the theory is wrong, the affect we predict will arise in the future may also be wrong.

Consider, for example, how inaccurate theories about variety seeking can result in AMF. Consumers have lay theories about variety seeking (Read and Lowenstein, 1995). Specifically, they forecast a negative affective reaction to the repeated consumption of the same item and forecast that they would be happier if they chose a different item over repeated consumption occasions. However, theories about satiation are sometimes wrong. Read and Lowenstein (1995) told participants that they would be returning to the lab on three consecutive Mondays and asked them to plan a menu of which of a set of snacks they would like to have when they returned on each occasion. Subjects’ menus included a variety of assorted snacks, with participants apparently using a theory that variety was better than no variety. However, when they returned to the lab, participants were often disappointed with the choice they made for themselves. For example, people who chose tortillas and cheese on their first visit predicted that they would prefer chips on the next occasion—because they would be better off seeking variety. However, these individuals were less happy with their choice (of chips) when it replaced the snack they chose on the first occasion (tortillas and cheese). Since they would have preferred their favorite snack all the time, their theory that “variety is good” was not able to predict future preferences accurately.

Conversely, consumers can also have inaccurate theories that cause them to underpredict satiation. A worked-up executive may imagine bliss at a vacation where she does nothing but read. However, she may be quite unhappy with a vacation that provides little external stimulation because she underpredicted how much variety she really needs on vacation (see also Ratner and Kahn, 1999).

People hold inaccurate theories regarding many things besides variety. McFarland, Ross, and DeCourville (1989), for example, examined the theory that many women have regarding the relationship between mood and menstruation. Although many women believe that their moods are worse during menstruation, daily measurements of mood showed that this theory was not borne out by the data.

Positivity Bias. Research has also shown that while individuals tend to be relatively accurate in making predictions about their *environment and others*, they tend to be remarkably biased in their predictions about *themselves*, predicting that good things are much more likely to happen to them than to other people (e.g., Matlin and Stang, 1978; Weinstein, 1980; Perloff, 1987). This phenomenon has been labeled the *optimistic or positivity bias*. A number of studies have shown that when thinking about the future individuals estimate the likelihood that they will experience a wide variety of *pleasant* (goal-congruent) events *more so than will their peers* (see Fiske and Taylor, 1991). For example, Carroll (1978) found that when subjects imagined the outcome of an upcoming football game, they were more likely to imagine their own team winning. Similar effects have been reported by Hirt and Sherman (1985) and Sherman, Zehner, Johnson, and Hirt (1983). We have a tendency to believe, for example, that we are much more likely than our peers to get a good first job, get a good salary, or have a gifted child (Weinstein, 1980). Conversely, when asked about the chances of experiencing a wide variety of *negative* (goal incongruent) events, including having an automobile accident, being victim of a crime, or being depressed, most people believe that they are *less likely* than their peers to experience such outcomes.

A focus on a positive future may incline consumers to focus on outcomes that are desirable. Unfortunately, a focus on the ideal or desirable sets up the potential for misprediction since outcomes that are desirable need not be those that are likely. As such, we would expect that the more consumers imagine desirable rather than realistic outcomes, the greater the magnitude of the affective misforecasts for goal relevant emotions.

Factors Associated with the Forecast of Affect

As Figure 2.3 shows, several factors associated with the forecast of affect itself have been linked with affective misforecasting: (a) the hot-cold empathy gap and (b) the projection bias.

Hot-Cold Empathy Gap. Research on the *hot-cold empathy gap* proposes that people have difficulty predicting future affect if their current affective state differs from the state they will ultimately be in when the experience actually takes place. When in a “cold” (nonaffect-laden) state people often have difficulty imagining how they would feel or what they might do if they were in a “hot” state—for example, angry, hungry, in pain, or sexually excited. It may also be the case that, when in a “hot” state people frequently have difficulty imagining that they will inevitably eventually cool off (Loewenstein and Schkade, 2000). See Figure 2.4.

Projection Bias. The *projection bias*, also called the *presentism bias*, is said to occur at the time of forecasting and involves using present affect as a “proxy” for future feelings. Loewenstein et al. (2000) suggest that people “project” their current emotions onto the future and that a person’s immediate emotions or visceral states can have an immense influence on how they perceive their future affective states (see also Kahneman and Tversky, 1982; Schwartz, 1990; Damasio, 1994). Patrick, Fedorikhin, and MacInnis (2004) have investigated the influence of ambient mood on affective predictions and find that mood has a “coloring” influence on affective forecasting for

Figure 2.4 The Hot-Cold Empathy Gap

		Future state	
		<i>Cold</i>	<i>Hot</i>
Current State	<i>Cold</i>	<p>Accurate prediction of influence of affect</p>	<p><i>Ex: Plans made after a meal to eschew dessert tomorrow</i></p> <p>Severe underestimation of the impact of effect</p>
	<i>Hot</i>	<p><i>Ex: Shopping on an empty stomach</i></p> <p>Overprediction of influence of affect</p>	<p>Underestimation of the impact of affect</p>

neutral future events. The presentism bias explains why people who are in a good mood (those who feel happy or joyous) overestimate the probability of good outcomes, whereas those in a bad mood overestimate the probability of negative future outcomes (e.g., Nygren, Isen, Taylor, and Dulin, 1996).

Wilson and Gilbert (2003) note that there are good reasons why this projection bias is strong. “In order to [reduce the bias] people would have to be aware that their judgment is biased, be motivated to correct the bias, be aware of the precise direction and magnitude of the bias, and be able to correct their responses accordingly” (p. 361).

Factors Associated with the Actual Outcome

Figure 2.3 shows that at least one factor associated with the outcome itself can also be linked to affective misforecasting.

Ordinization. Affective misforecasting can sometimes be tied to a process called *ordinization*, or the failure to consider that novel experiences may become ordinary when they are repeated over and over. Because they become ordinary, they may fail to have the same affective impact that they had when they first occurred. For example, one might predict that winning the lottery would make one extremely happy and happy for a long time because one could buy whatever one wanted. At first, the lottery winner is indeed gleeful at the prospect of buying a grander house, better furniture, and so on. However, over time, these glee-producing experiences become ordinary, and they become the new status quo against which happiness is judged. Because they are ordinary, they fail to produce the intense positive feelings they once did. And because they are

ordinary, they do not encourage feeling good for as long as anticipated. As a result, ordinization may lead to the affective misforecasting of intensity and duration.

Ordinization may work through an assimilation and accommodation process. Ordinization may also occur because individuals try to make sense out of the way they feel and invoke a hindsight bias. Specifically, an outcome is viewed as inevitable when viewed in retrospect and with hindsight knowledge—even though one would not have predicted this outcome a priori (Wilson, Gilbert, and Centerbar, 2002).

Factors Associated with the Experienced Affect

Finally, Figure 2.3 shows that several factors associated with experienced affect may impact affective misforecasting. Below we consider (a) emotional evanescence, (b) immune neglect (or the operation of the psychological immune system), and (c) selective memory. The first two are predicted to enhance AMF. The last is predicted to reduce AMF.

Emotional Evanescence. As shown in Figure 2.3, affective misforecasting of duration and intensity may occur because consumers fail to realize how fleeting their emotional responses to outcomes are. Wilson, Gilbert, and Centerbar (2002) suggest that from an evolutionary standpoint it is adaptive for us to experience emotions for only a short period of time. Intense emotions are physiologically taxing and distract cognitive processing resources from the environment. Rapid recovery from intense emotions may also have evolutionary and adaptive significance by allowing the individual to stay focused and attentive to the immediate (and not always benign) environment. Because we do not consider how fleeting our emotions are, we are likely to overpredict how intensely and for how long we will feel good following positive outcomes and bad following negative ones.

Immune Neglect. One reason we may mispredict how *bad* we will feel after something negative occurs is that we do not take into account the fact that our psychology works to minimize the psychological discomfort caused by negative events. Gilbert et al. (1998) propose that people possess a “psychological immune system” about which they are not aware. Because they are not aware of it, they neglect to take it into account when making affective forecasts. As such, they overestimate the affective impact of a negative future event on their daily lives. Describing it as an *immune neglect* bias (see Figure 2.3), these authors propose that people’s lack of faith in their own resiliency leads them to incorrectly expect that intense negative emotions will always last longer than less intense emotions. In fact, however, people are skilled at reconstruing what happens to them in a positive light and fail to consider the effect of the psychological immune system. This psychological immune system (PsyIS) encompasses a range of clever ways by which the human mind “ignores, augments, transforms, and rearranges information in its unending battle against the affective consequences of negative events.”⁴

The PsyIS is believed to come into play when two conditions are met (Gilbert et al., 1998):⁵ (a) a sufficient amount of negative affect is experienced to activate the system, and (b) the features of the target event facilitate the operation of the PsyIS and enable it to do its job easily. Thus, based on the research by Gilbert and his colleagues, an event in which feelings are “worse than forecasted” is likely to trigger the operation of the PsyIS in order to assimilate this gap. Geers and Lassiter (2002) specify that this assimilation or “closing of the gap” is possible only when a discrepancy between the two is not noticed. If the discrepancy *is* detected, then affective experiences are contrasted from the expectation. Gilbert et al. (1998) posit that individuals are not

aware of the existence of the PsyIS and thus exhibit the tendency to overestimate the duration and impact of negative feelings/experiences.

As evidence for the existence of a psychological immune system, Gilbert et al. (1998) conducted an experiment involving a mock job interview. Participants were told they would answer several interview questions, which would be viewed via videotape by a panel of (unseen) judges in the next room. Based on the job candidate's answers to the questions, the judges would accept or reject the candidate for the job. Participants were divided into two conditions. In the "easy to rationalize" condition, participants were told that only one judge would determine whether they got the job. In the "difficult to rationalize" condition, participants were told that unless the panel of judges unanimously decided to reject them they would have the job. Participants were then asked to forecast how happy or unhappy they would feel immediately after or 10 minutes following learning about whether they got the job. After making affective forecasts, participants in both conditions were told that they were rejected for the job. Actual happiness was assessed immediately and 10 minutes after the news of the rejection. All subjects were happier than they had predicted what they would feel, but interestingly, subjects in the easy to rationalize condition were happier than those in the difficult to rationalize condition. The reason is that they could use the excuse that only one person found them not right for the job as evidence that the observer was biased. In other words, their psychological immune system made them feel better by giving them a reason (a biased observer) as to why they were rejected. They could thus discount the fact that the reason they were not chosen had something to do with them.

Selective Memory. Although the above factors explain why affective misforecasting may occur, there are other reasons to believe that *other factors minimize AMF*. One has to do with the selective nature of memory. Take the following example relevant to Figure 2.2. Childbirth is often quite dramatic and traumatic and rarely conforms to a first-time parent's forecasts of affect. However, with time, memories of pain, depression, and anxiety are distorted, as are memories of the extent, nature, and duration of euphoria (Klaaren, Hodges, and Wilson, 1994). As such, while affective misforecasting may occur, over time selective memory distorts the experience and what one remembers becomes more and more congruent with what one had predicted. We therefore might expect that, over time, the other dimensions of affect such as the perceived intensity, direction, and duration of affect also exhibit a U-shaped pattern.

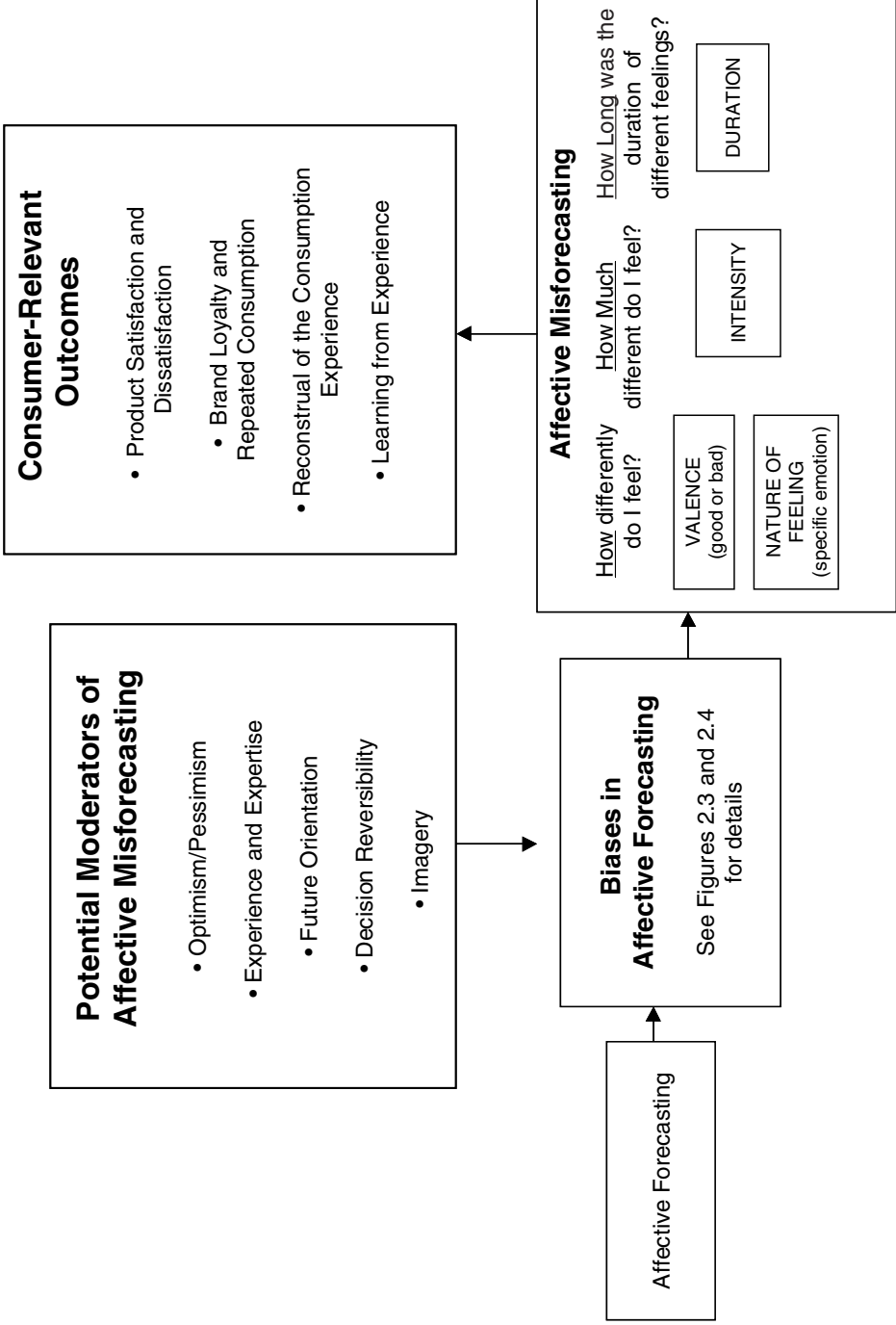
The Relevance of AMF: Why Should We Care?

Affective misforecasting is potentially important to a number of marketing-relevant outcomes. Interestingly, the impact of AMF on these outcomes represents considerable opportunity for research in our field as we have only begun to examine its potential impact. Below we consider the impact of AMF on five outcomes as shown in Figure 2.5: (a) product satisfaction and dissatisfaction judgments, (b) variety seeking, (c) brand loyalty and repeated consumption, (d) the reconstrual of the consumption experience, and (e) learning from experience.

Product Satisfaction/Dissatisfaction

Since choice is predicated on forecasted affect, and since forecasted and experienced affect often diverge and result in affective misforecasting (AMF), it is critical to examine how and whether AMF impacts consumer satisfaction. Examining the impact of AMF on satisfaction is further underscored by the relevance of satisfaction to critical marketing outcomes such as brand loyalty,

Figure 2.5 Affective Misforecasting and Its Relevance to Consumer Behavior and Marketing



willingness to pay a price premium, repeat purchase and word-of-mouth behavior, and so on.

Patrick, MacInnis, and Park (2004) provide one of the first accounts of the impact of AMF on product satisfaction/dissatisfaction. In their research, consumers were asked to make predictions about a future consumption experience. Later, consumers experienced feelings that were either “better than” or “worse than” forecasted. An analysis of the effect of AMF (and the actual affect experienced) on satisfaction showed that (a) affective misforecasting did affect consumers’ satisfaction and that (b) the influence of misforecasting on satisfaction was above and beyond that accounted for by experienced affect or any performance-related disconfirmation of expectations. Interestingly, the impact of AMF on satisfaction was asymmetric—it influenced satisfaction only when feelings were “worse than” forecasted but not when they were “better than” forecasted. The authors also demonstrate that the reason AMF affects satisfaction when outcomes are worse than expected is that consumers elaborate on why their feelings might have been worse than predicted. This elaboration caused them to focus on product factors that were responsible for the negative feelings. The attribution of responsibility to the product reduced product satisfaction. The existence of the elaboration-based route was further supported by results showing that AMF had no impact on satisfaction when consumers were given a task that inhibited their opportunity to engage in elaboration.

Affective misforecasting may also be relevant to the domain of consumers’ satisfaction with their decisions to seek variety. Since consumers often have inaccurate theories about satiation, they may mispredict how they will feel with a choice predicated on a theory about variety seeking. One wonders whether AMF resulting from inaccurate theories about variety not only impacts consumers’ satisfaction with their *choice* (e.g., I wish I had chosen tortillas and cheese instead of chips) but also carries over to affect their dissatisfaction with the *product* (chips).

Brand Loyalty and Repeated Consumption

Since affective misforecasting has an impact on satisfaction, it is logical to infer that it would consequently influence brand loyalty and repeated consumption. It seems obvious that when feelings are worse than forecasted, brand loyalty will be negatively influenced and consumers will stop or lower their use of the product on subsequent consumption occasions. However, as shown below, the link between dissatisfaction and reduced repeat purchase likelihood is contingent on accurate memory for the actual affective experience. As shown earlier, however, memory is selective, and the affect linked to memory of the experience may become distorted over time.

Klaaren, Hodges, and Wilson (1994) asked participants to forecast how good they thought an upcoming vacation would make them feel. The same participants were queried about their vacation experiences one week and then again six weeks after the vacation. Subjects’ evaluations of the vacation at the six-week interval were a function of both their evaluation of the experience one week out and their affective forecasts. As such, long-term evaluations of the experience and the desire to repeat it were affected not only by the experience but also their affective forecasts.

Why might affective forecasts affect not only choice but also repeat purchase likelihood, despite potential initial dissatisfaction? Klaaren, Hodges, and Wilson (1994) propose several potential reasons; however, their data were most consistent with the *reinterpretation hypothesis*. That hypothesis posits that with the passage of time the actual experience is reinterpreted in a direction consistent with the initial forecast. Thus, either the meaning of the experience is altered (e.g., it wasn’t “boring”—it was “educational”), or aspects of the experience are reweighted so that negative feelings assume less importance and positive ones greater importance (e.g., “yes, the long

lines at their airport were a bit annoying, but the place we went to was so beautiful it was worth it"). Notably, however, not all of their findings were consistent with this explanation.

Reconstrual of the Consumption Experience

A related issue associated with repeated consumption is the impact of affective misforecasting on the way in which a consumption experience is itself construed after it has occurred. Although we are aware of no research that examines the impact of affective misforecasting on the reconstrual of a consumption experience, by drawing on related literature we posit that the affect linked to a consumption experience may be construed to be more similar to or more different from forecasted affect based on the goals the consumer desires to achieve. For instance, one might feel unhappy with the purchase of a piece of furniture but refuse to accept that one made a mistake, construing the purchase as positive despite the negative feelings. This *reconstrual* of events to "fit" with one's consumption goals or motivations may be considered one of the psychological mechanisms that comprise the Psychological Immune System (Gilbert et al., 1998) described earlier.

Learning from Experience

Finally, AMF has implications for the domain of whether and to what extent consumers learn from experience (cf., Hawkins and Hoch, 1992; Hoch and Deighton, 1989; Hutchinson and Alba, 1991; Johnson and Russo, 1984). Wilson et al. (2001) suggest that in order for people to learn from their past affective experiences, three criteria must be satisfied: One is the *mental effort criterion*; people need to make an effort to compare past experiences with future ones instead of thinking of the future event in isolation. Sole focus on a future event without thinking about similar past events results in less accurate affective forecasts (Buehler and McFarland, 2001) as explained in our discussion of focalism. Second is the *applicability criterion*; if people do make the effort to consult the past, they need to decide which past event is most applicable. Third is the *accuracy criterion*; if people do find an applicable event and decide to invest the effort to compare these events, they need to be able to recall or reconstruct these events accurately. However, people's memory for affective states, especially with regard to the intensity and frequency, is typically relatively poor (Fredrickson and Kahneman, 1993; Levine, 1997; Levine and Safer, 2002).

In a series of studies, Wilson et al. (2001) demonstrated that experience with a negative event (but not with a positive event) may improve the accuracy of one's affective forecasts, but the extent to which people learn from their affective forecasting errors may be limited. Gilbert and Wilson (2000) posit that people do not learn that their theories are incorrect because (a) they do not pay enough attention to the relationship between the theory and the outcome to realize that they are wrong or (b) the experiences are ambiguous and do not provide clear disconfirming evidence that the theory is wrong.

Factors Potentially Moderating the Extent of AMF

Although opportunities abound for examining the impact of AMF on evaluative judgments such as postconsumption satisfaction and learning outcomes such as learning from experience, equally interesting and important opportunities exist to understand factors that may moderate the impact of AMF on the outcomes described above. In the following, we consider whether and why factors

such as (a) optimism, (b) expertise, (c) future orientation, (d) decision reversibility, and (e) imagery may moderate the impact of AMF on satisfaction, other judgments and learning.

Optimism/Pessimism

Fairly little research has examined whether individual differences influence affective forecasting and misforecasting. What little that exists, however, is interesting. Geers and Lassiter (2002) examine the moderating role of optimism/pessimism on the relationship between affective forecasts and affective experiences. They find that pessimists are most sensitive to situations when actual feelings diverge from forecasted feelings and thus often contrast their actualized affective reactions with their forecasted affective reactions. On the other hand, optimists are less likely to notice the deviation of an experience from a forecast, and they often assimilate experienced affect with their affective forecasts. This finding would suggest that the impact of AMF on learning from experience is moderated by individual differences in optimism and pessimism.

Experience/Expertise

Research has not examined the role of expertise on the nature and extent of AMF. However, given prior research suggesting that little learning tends to occur from past AMF encounters, it is quite possible that affective misforecasting is immune to differences across individuals in expertise. Such a finding would be interesting in light of the fact that expertise has been found to be a major factor affecting consumer information processing, and because affective forecasting may depend on elaborated information processing. One possible explanation for this discrepancy is that consumers' perceived experience and their actual knowledge often do not coincide, and this gap may account for the discrepancy. Specifically, Park, Mothersbaugh, and Feick (1994) suggest that how much one thinks one knows versus how much one actually knows has a different impact on information search and processing. As long as consumers perceive a high degree of self-assessed knowledge about the future outcome, they may not be as attentive to their past affective misforecasting as they should be.

Related to experience and expertise is age. Does the extent or nature of AMF and its impact on the outcomes described in Figure 2.5 change with experience or age? Few studies have examined these issues, but what does exist is provocative. Wilson, Gilbert, and Salthouse (2001; cited in Wilson and Gilbert, 2003) examined this question, though more in the realm of affective forecasting than misforecasting. When asked to report on how long it would take for their happiness or unhappiness with a given outcome to wear off, older consumers (those over age 60) predicted that *it would take less time for the emotion associated with both major and minor outcomes to wear off*. This finding suggests that older (and potentially more experienced) consumers would be less likely to fall victim to AMF caused by emotional evanescence (see Figure 2.3). Looking at predicted and experienced outcomes, however, Carstensen, Pasupathi, Mayr, and Nesselrode (2000) found that it *actually took consumers older than age 60 longer to recover* from negative experiences than it did younger consumers. Clearly, additional work on the potentially moderating role of age on AMF and the outcomes that accrue from it is warranted.

Future Orientation

Individuals and cultures differ in the extent to which they think about and consider the future. Consistent with this notion, Strathman et al. (1994) propose an individual difference construct

called *consideration of future consequences*. Individuals who are high in consideration of future consequences think about the impact of their current behavior on their future and tend to use long-term goals as a guide for their behavior. It is possible that individuals who are high in the consideration of future consequences differ systematically from those low in future consequence in the nature and extent of AMF. On the one hand, those who consider future consequences may be more prone to AMF as they may be more likely to engage in elaborated imagery processing that involves the future and goal-relevant affective experiences imagined to occur in the future. On the other hand, Strathman et al. (1994) propose that individuals who are high in consideration of future consequences may be more attuned to a discrepancy between imagined and experienced outcomes. They may thus feel that they have learned something and to incorporate this learning into future affective forecasts, reducing the likelihood of AMF in the future.

Decision Reversibility

Gilbert and Ebert (2002) propose that when an unpleasant outcome occurs, an individual's first action is to try to change that outcome. For example, if a person buys a product thinking that it will make her feel good but later finds out that it does not, her first action will be to try to undo the situation and take the product back to the store. However, when the option of undoing the situation is not possible (the decision is irreversible), the individual will instead try to reconstrue or reevaluate the outcome, perhaps convincing herself that it is perhaps not as bad as she initially felt. It is possible that when the decision is reversible we see evidence of AMF, and this AMF stimulates action (returning the product). When the decision is not reversible, AMF may also occur initially, but feelings associated with the forecast (this product does not make me as happy as I thought it would) are erased because the consumer knows the outcome of the situation cannot be changed. The consumer therefore tries to reinterpret the outcome in a manner that is more consistent with the outcome he or she had forecasted. Hence, reconstrual of the consumption experience may be more likely when the decision is irreversible than reversible.

Outcome Versus Process Focused Imagery

Taylor, Pham, Rivkin, and Armor (1998) suggest that imagery processing can involve at least one of two foci: (a) the *outcome* presumed to arise from an imagined future and (b) the *process* that may be invoked to achieve an outcome. Although research has not examined outcome or process-focused imagery in the context of affective misforecasting, it is possible that AMF is reduced when imagery is process versus outcome focused. The reason is that a focus on the process of goal attainment may direct attention away from the ultimate anticipated affect and focus attention on situational, personal, or social factors involved in the process of goal achievement that may impact the imagined outcome's occurrence. Hence, process-focused imagery may reduce the extent to which consumers engage in misconstrual, the isolation effect, or focalism. Attention to these process-oriented factors may reduce the perceived intensity of the forecasted affect and the confidence with which this forecast is held because it alerts consumers to the possibility of other outcomes and their potential affective consequences, or cues them to the presence of affect in the process itself that may temper their forecasted affect. This alteration of forecasted affect may minimize the subsequent gap between what was forecasted and eventually experienced.

In this section, we have discussed the variety of sources of error in affective forecasting leading to affective misforecasting. We conclude this review with a discussion of the implications of affective forecasting for marketing practice followed by a discussion of some additional for future research.

Normative Issues Regarding Affective Forecasting in Marketing Practice

Although the bulk of this chapter has considered affective forecasting and misforecasting and its effects, additional research is warranted on the normative implications of affective forecasting; that is, should marketers induce affective forecasting, and if so, when?

Earlier, we argued that forecasts of positive affect should enhance consumers' abilities to cope with negative consumption experiences as well their abilities to delay gratification and engage in self-regulatory practices. Since such outcomes are generally desirable and have positive implications for consumer welfare, the encouragement of positive affective forecasts should be generally desirable.

We also indicated, however, that affective forecasting can affect choice and decision making (see Figure 2.1) and satisfaction with consumption choices once they are experienced (see Figure 2.5). The relative impact of affective forecasting on choice and satisfaction leads to some rather complex predictions about the normative appropriateness of inducing affective forecasting. Figure 2.6 illustrates these complexities, showing a typology of types of goods. *Approach goods* are those products that induce forecasts of positive affect (e.g., buying a new car, going on vacation, or buying skin cream designed to reduce wrinkles). Such goods enhance choice likelihood because they induce affective forecasts of positive affect following product purchase or consumption. *Avoidance goods* are products that induce forecasts of negative affect (such as going to the dentist, going for a college interview, or having a medical diagnostic test). Such goods reduce choice likelihood by inducing forecasts of negative affect.

The rows of Figure 2.6, however, suggest that these choice implications should also be crossed with the satisfaction implications of using these goods and experiencing the affect that accrues from their use. As shown there, goods can also be described according to whether they are *search*, *experience*, or *credence goods*. According to Nelson (1970), search goods are goods whose attributes are concrete and searchable prior to choice. Because such goods involve search components, consumers should have greater opportunity to make an accurate prediction as to how those goods and the attributes they entail will make them feel. Because these goods are comprised of concrete attributes, consumers should also be able to readily evaluate how well the product did in meeting performance expectations.

With search goods, inducing forecasts of positive affect is useful as long as product usage is also positive (see cell A of Figure 2.6). If product usage is negative, positive affective forecasts are likely to be violated, leading to overprediction of positive affect, underprediction of negative affect, and a resultant decline in satisfaction. Thus, with search goods, affective forecasting is most beneficial when the good is an approach good and the product creates affective responses that match or exceed those forecasted.

A second case when the affective forecasting of search goods might be appropriate is with avoidance goods whose performance qualities lead consumers to underpredict how good they will feel from the product and overpredict how bad they will feel from the product (see cell H in Figure 2.6). Although these avoidance goods reduce choice likelihood, the overprediction of negative affect and the underprediction of positive affect will likely lead consumers to feel satisfied with the product as affective expectations were violated and resulted in a positive disconfirmation.

A similar prediction is made for experience goods—those goods for which the outcome of the consumption experience is unknown prior to purchase and can only be discerned through usage (see cells D and K in Figure 2.6). Many hedonic products (e.g., tasting orange juice, getting a massage) or experiential products (e.g., going to a play) are of this type. Although

Figure 2.6 When Marketers Should Induce Affective Forecasting

	Search Good			Experience Good			Credence Good		
	High			Low			Low		
	+	0	-	+	0	-	+	0	-
Opportunity to make an accurate prediction	A	B	C	D	E	F	G		
Opportunity to evaluate the actual experience	$\sqrt{(C)}$ 0 (S)			$\sqrt{(C)}$ 0 (S)			$\sqrt{(C)}$ $\sqrt{(S)}$		
<i>Actual Experience</i>									Can't evaluate
Approach Good (e.g., going on vacation) Forecast of positive affect; enhanced choice likelihood	H	I	J	K	L	M	N		
Avoidance Good (e.g., going to the dentist) Forecast of negative affect; reduced choice likelihood	- (C) $\sqrt{(S)}$			- (C) + (S)					

C = choice; S = satisfaction

experience goods lead to the same predictions regarding the normative appropriateness of marketers' inducements of affective forecasts, what may differentiate search and experience goods is the confidence with which the affective forecast is held and hence the downward risk to a disconfirmation of forecasts of positive experiences. Because the affective forecast may be held with less confidence with experience goods, consumers' overprediction of positive affect and underprediction of negative affect may have a less significant impact on satisfaction than is the case with search goods.

The normative appropriateness of inducing affective forecasts for experience goods is also contingent on marketers' capacities to control the nature of the consumption experience. When the outcome of the experience (e.g., a trip to Hawaii) is contingent not only on the marketer (e.g., the hotel) but also a set of other service providers (the airline, transportation companies, restaurants, entertainment options), there is greater potential for variation in actualized experiences by consumers. In such cases, inducing affective forecasting of positive affect may be more risky than is the case when the marketer can solely control the nature of the experienced outcome.

With credence goods, it would appear that marketers are always in a good position to induce positive affective forecasting as long as the good is an approach good (see cell G in Figure 2.6). Not only will such inducements enhance choice probability, but the fact that consumers have limited capacities to discern the true nature of the experience means that they will likely impute a correspondence between their predicted and experienced affect and not become dissatisfied with the consumption outcome.

Directions for Future Research

The present chapter reviewed the literature on affective forecasting and misforecasting and articulated the relevance of these concepts to marketing and consumer behavior. As revealed by this review, much has been learned about these two concepts, though, as also indicated, numerous research issues can be raised. Although our discussion has identified many exciting areas for future research, we end our discourse with an examination of several additional (nonexhaustive) issues.

First, we have identified several different processes by which affective forecasts may arise: schema-triggered affect, schema-triggered affect adjustment, affect construction, probabilistic processes, and goal-based affect. Beyond finding evidence for each of these processes, future research might also examine the effect of these processes on the nature and extent of affective *misforecasting*. For example, since affect construction (and perhaps the goal-based affect) focuses on process, we may expect systematic differences compared to cases where affect is schema based, and outcome-focused. The reason is that a focus on the process of goal attainment may direct attention away from the ultimate anticipated affect and shift attention to those situational, personal, or social factors involved in the process of goal achievement that may affect the imagined outcome. Attention to process-oriented factors may reduce the perceived intensity of the forecasted affect and the confidence with which this forecast is held because it alerts consumers to the possibility of other outcomes and their potential affective consequences, or cues them to the presence of affect in the process itself. This attention to process-related factors may temper forecasted affect and hence minimize the subsequent gap between what was forecasted and eventually experienced, thus reducing AMF. In contrast, schema-based affect may make people less analytical, less attentive and evaluative, and possibly more impulsive in their decision process and lead to more gaps between forecasted and experienced affect (AMF).

In addition, future research might examine whether and to what extent these different pro-

cesses are tied to the different types of biases identified in Figure 2.3. For example, focalism may be more prevalent when affective forecasting is based on schema-triggered affect than on probabilistic processes, as the former process involves little elaboration of other possible outcomes. Similarly, the failure to consider conjunctive probabilities may be most prevalent when affective forecasting is based on affect construction, as imagery processing tends to evoke a gestalt scenario, not the contingent outcomes that would yield this scenario.

Additional questions concern the affective forecasting of specific emotions. Emotion theorists have identified a range of emotional states that are differentiated on a number of dimensions. Questions arise as to whether or not different biases related to affective forecasting and AMF are activated, depending on the valence and nature of the forecasted emotion. Research on the positivity bias described above suggests that people are more predisposed to positive future orientation than to negative future orientation. They may thus develop well-structured memory schemata about positive events, including product or service consumption. The existence of these schemata may make people more susceptible to the above-mentioned biases associated with outcome-focused affect forecasting. The extent of this bias may, however depend on the specific emotion involved. Consider, for example, the potential differential misforecasting of ecstasy versus relaxation in the context of a vacation. Since relaxation is more tightly linked to the schema of a vacation than is ecstasy, it may be more prone to AMF as it is immediately linked to the future experience. It is also interesting to explain how affective forecasting of mixed emotions (e.g., glee yet sadness from college graduation) occurs and understand how such forecasting impacts consumer behavior. How one forecasts such emotions and what effect they have on consumer information processing, choice processes, repeat purchases, and the like, as well as the extent of misforecasting have not been examined in previous research.

Interesting questions can also be asked about the role of anticipated affect in consumers' choice of products involving tradeoffs. For example, in the context of product choice, consumers are likely to anticipate which types of emotions they may experience in choosing between a more hedonic/aesthetically pleasing option (e.g., enrolling for a fun/interesting class) versus a more functional/utilitarian one (e.g., enrolling for a more serious/useful class). The relative intensities of anticipated guilt with not enrolling for a serious/useful class versus boredom or even anxiety (if the work required is too high) associated with that class may affect whether serious or fun class is selected. The current literature on how difficult tradeoffs are resolved has been restricted to experienced affect (e.g., Luce, Payne, and Bettman, 1999). It is possible that anticipated affect plays a significant role in impacting how tradeoffs are made for future decisions.

To what extent do consumers engage in affective forecasts of others' experiences (literature on gift-giving and imagined emotional reactions of others to one's gift), and do these affective forecasts differ from the forecasts that exist for the self? Igou and Bless (2002) find that when making affective forecasts, individuals predict a longer duration of negative (but not positive) affect for others than for themselves. One reason could be that consumers have less knowledge about the psychological immune system of others. Another possible reason could be that individuals exhibit an optimistic bias and hence believe that prolonged negative outcomes are less likely for them than for others. In addition, affective forecasting of others may also offer an alternative explanation to the motive underlying conspicuous consumption. Rather than one's own desire to express one's self image to others, conspicuous consumption may be motivated more by one's specific forecasting of others' affective reactions to his or her consumption. Assessing others' emotional reactions and judging the potential gap between the initial expectation and their experienced affect may well involve a process that differs from affective forecasting of one's own feelings.

Additional questions concern the role of self-protection in affective forecasting. Do people

regulate their affective forecasts so as to make them not too positive to prevent disappointment but not too negative to reduce motivation? Do we possess a regulatory mechanism (a sort of affective thermostat) that prevents us from extreme forecasts? Do we engage in “self-handicapping” (Tice and Baumeister, 1984; Rhodewalt et al., 1991) when making affective forecasts in order to protect ourselves from ego-damaging future outcomes? It is also interesting to consider that although use of the psychological immune system may protect consumers from affective misforecasts, that same system may leave the consumer more vulnerable to repeating the same mistake in the future.

Finally, it is interesting to consider the potential role of culture on affective forecasting and misforecasting. Patrick (2003) suggests that one’s view of the future has cultural roots and that cross-cultural differences may explain differences in the reliance on affective forecasting as an input in decision making across cultures. That research examines the differences in affective forecasting of “ego-focused” versus “other-focused” emotions among people from individualist versus collectivist cultures and the mediating role of self-construal in the cross-cultural prediction of “ego-focused” versus “other-focused” emotions. Future research on AMF and culture may yield very provocative results.

Conclusions

This review describes the phenomena of affective forecasting and misforecasting, the relevance of these constructs for consumer behavior, and their antecedents and consequences as well as the moderating factors that influence the relationship between these variables.

In sum, this review of the emerging research on affective forecasting and misforecasting is intended to comprehensively describe the current state of the literature at this time, to integrate the various findings as they relate to consumer behavior, and, finally to suggest a future research agenda for research in this domain of inquiry.

Notes

1. Loewenstein considers visceral states to be a broader category than emotions. The former encompasses negative emotions (anger, fear, jealousy), drives (hunger, sex, curiosity), and feeling states (pain, drug cravings) and involve the removal of an aversive state.

2. These authors therefore propose a boundary condition on the projection bias (Loewenstein et al., 2000) discussed later in the chapter.

3. Although the isolation effect, conjunctive probabilities, temporal separation, and focalism are shown as separate from misconstrual in Figure 2.3, it is possible that these biases are actually *determinants* of misconstrual.

4. Many psychologists have noted that people are adept at subjectively optimizing their outcomes. Some of the strategies/methods used to enable this optimization that constitute the PsyIS are ego-defense, positive illusions, rationalization, dissonance reduction, self-serving attributions, self-enhancement, self-justifications, self-affirmations, motivated reasoning, and selective perception.

5. Gilbert and Ebert (2001) suggest that the psychological immune system is like cognitive dissonance but differs from dissonance in several respects. First, unlike dissonance, the psychological immune theory suggests increased satisfaction with the product when change is not possible. Second, consumers would not anticipate this difference and would therefore prefer outcomes that are changeable.

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