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Predicting Feelings and Choices

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This chapter reviews recent research on people's predictions of how they would feel and make decisions in affectively arousing situations. The review indicates that whereas people overestimate the influence of affective situations on their feelings, they underestimate the influence of affective situations on their choices and preferences. This contradiction may be borne of the different mediators and moderators of predicted feelings versus choices. Compared to feelings, choices are intuitively more stable over time and context, corresponding more to enduring dispositions. People may therefore more readily predict changed feelings than changed choices. These propositions should be examined across the life span, different cultures, and different types of affect.

Keywords: Prediction, emotion, choice, decision making, affective forecasting, empathy gaps.

In his essay on "self-command," Thomas Schelling wrote, "An important part of the consumer's task is... treating himself as though he were occasionally a servant who might misbehave" (p. 5, 1984). The need to subjugate oneself as an errant servant arises, in Schelling's view, because the self sometimes behaves in ways it would rather not. We eat chocolate cake when we should content ourselves with salad. We smoke cigarettes when we should chew gum. We fail to exercise when we fully intend to do so. We fully plan to be the life of the party, but then stand in the corner instead of gyrating on the dance floor. In short, we routinely behave against our better judgment, and these misbehaviors often

feel as though they were committed by someone other than our true salad eating, non-smoking, exercising, dancing selves. It seems that the current, well-behaved, masterly self often has difficulty anticipating and controlling the behavior of the future, errant servant self.

Figuring out why people fail to anticipate the misbehavior of future selves is a persistent pastime of researchers of judgment and decision making over time. One reasonable explanation is that the current self doesn't always have a good idea of how the future self will feel and make decisions. The current sated self doesn't want cake and fails to realize the future hungry self will long for buttery chocolate. The current non-craving self doesn't want a smoke and fails to realize the future self's unpleasant craving. The current outgoing self wishes to be an extroverted social butterfly and fails to anticipate the future self will be paralyzed by fear of embarrassment.

This chapter reviews the recent flurry of research on people's predictions of their feelings and choices. Specifically, we review research on people's predictions when they are in an affectively unaroused, "cold" state of what they would feel and choose in affectively arousing, "hot" situations. Understanding how, and how well, people make predictions across the cold/hot divide would go a long way toward understanding why current (cold) selves fail to anticipate the feelings and behavior of future (hot) selves.

Our review indicates that whereas people in a cold state tend to *overestimate* the influence of affective situations on the intensity and duration of their feelings, people *underestimate* the influence of affective situations on their

choices and preferences. People overestimate how anxious they would feel if asked to sing Karaoke in front of co-workers. But they also underestimate how willing they would be to fake a sudden onset of laryngitis to avoid singing.

We discuss the different ways in which affective arousal influences feelings versus choice, and suggest that predicted feelings and choices are subject to different constraints and moderators. Specifically, we posit that because choices are intuitively more stable and correspond more to dispositions than feelings, people are more reluctant to predict changing choices than to predict changing feelings. We then raise three important questions for future research before concluding with some practical suggestions for research on the interplay of thoughts, feelings, and behavior over time.

Impact Bias in Predicted Feelings

People easily predict the quality of their feelings in different situations. Professors know they will be sad if they don't get tenure and happy if they do. Dieters know they will be tempted if they enter Ben and Jerry's. And people know they will be embarrassed if they sing popular music from the 1980's in front of co-workers. But people are less adept at predicting the intensity and duration of their feelings. A spate of recent research, much of it by Gilbert, Wilson, and their colleagues, indicates that people who are not affectively aroused overestimate the influence of affective events on the intensity and duration of their feelings.

This *impact bias* has been demonstrated among various populations (college students, laypeople, and professors, to name a few) and in response to

various types of events (Wilson & Gilbert, 2003). The impact bias occurs both when people predict their reactions to extreme events such as severe injury and winning the lottery (Brickman, Coates, & Janoff-Bulman, 1978), and when people predict the influence of more mundane events such as taking an exam (Buehler & McFarland, 2001). People exhibit the impact bias predicting their reactions to once-in-a-lifetime events (e.g., the death of a child, Suh, Diener, & Fujita, 1996) and day-to-day events (e.g., watching a football game, Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). They also exhibit the bias when predicting their reactions to events that are personally relevant (e.g., testing positive for HIV, Sieff, Dawes, & Loewensein, 1999) and socially diffuse (e.g., gubernatorial election outcomes, Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998).

The impact bias' ubiquity stems partly from people's difficulty learning from previous mispredictions of feelings (Wilson, Meyers, & Gilbert, 2001). One might expect individuals to learn that regularly occurring events such as watching football or taking tests influence the intensity and duration of their feelings less than they expected. But they don't. Instead, people continually expect football losses and stressful exams to produce intense, long term disaffection. Why?

Like other psychological phenomena, the impact bias is multiply determined. Two causes can explain many instances of the impact bias. One is that people generally don't realize the extent to which their "psychological immune systems" work quickly to minimize reactions to negative events (Gilbert et al., 1998). People predict that their feelings will hurt for a long time after a co-worker insults their intellectual abilities in part because they don't anticipate that

their psychological defenses will “kick in” (they will quickly realize the colleague is a buffoon), thereby dissipating negative feelings. Because the psychological mechanisms that diminish negative feelings are often necessarily opaque, people usually are not fully cognizant of those defenses. People consequently overestimate how long their feelings will be influenced by affective events.

This “immune neglect” is exacerbated when people overlook contextual features that moderate the operation of psychological defenses (Gilbert, Liberman, Morewedge, & Wilson, 2004). For example, hearing from the department chair that one’s intellect is sophomoric is a major insult, so defense mechanisms are quickly mustered, the chair’s talents are called into question (“She opted for an administrative post!”), and severely hurt feelings are dissipated. In contrast, hearing from an undergraduate student that one’s intellect is sophomoric is clearly a relatively minor insult. Defense mechanisms are therefore less likely to kick in, and the slightly hurt feelings can linger longer than severely hurt feelings—in contrast to the intuition that big events and severely hurt feelings linger longer than small events and slightly hurt feelings (Gilbert et al., 2004).

Another moderator of the psychological immune system that is often overlooked is the extent to which the feelings are associated with an event that can be undone (Gilbert & Ebert, 2002). People are extraordinarily good at reconstruing events and decisions in a way that paints the chosen alternative in the most positive light (Aronson, 1969; Festinger, 1957). Dissonance reduction is more successful when decisions cannot be undone than when they can (Frey,

1981; Frey, Kumpf, Irle, & Gniech, 1984). People overlook this critical fact, however, preferring to retain the option to reverse their decisions. As a result, people overestimate how satisfied they will be with reversible decisions.

A second reason people exhibit the impact bias is that when predicting feelings they focus on salient features of affective events, and neglect minor but potent features. This focalism (Wilson et al., 2000) or focusing illusion (Schkade & Kahneman, 1998) is part of a more general judgmental tendency to overweight more salient features and to underweight less salient features. When it comes to affective events, people overweight the salient hedonic attributes (a close knit family dinner at Thanksgiving) and underweight the less salient attributes (two-year-old tantrums, arrogant brother-in-laws, and so on, Mitchell, Thompson, Peterson, & Cronk, 1997). In one study, participants overestimated the degree to which California living would make them happier than Midwest living because they focused on the superior California weather and neglected other factors that influence well being, such as job prospects, educational opportunities, and traffic (Schkade & Kahneman, 1998).

Focalism can be especially difficult to avoid because predicting feelings makes salient the distinctions between different situations—that is, the situation one currently is in and future situations—whereas people actually experience only one situation (Hsee & Zhang, 2004). For instance, the shorter commute makes a new apartment 5 min from work seem much better than one's current apartment 25 min from work because the 20 min difference in commute is salient even

though the two apartments, and hence one's feelings while living in them, is overwhelmingly similar (Dunn, Wilson, & Gilbert, 2003).

Taken together, studies of the impact bias indicate that people expect affective events to have a greater impact on their feelings than they actually do. In other words, people overestimate the influence of affective events on their feelings. To the extent that predicted feelings influence predicted choices, it follows that people would also overestimate the influence of affective situations on their choices.

Empathy Gaps in Predicted Choice

Follow it may seem, but follow it does not. Whereas research on the impact bias indicates that people overestimate the influence of affective situations on the intensity and duration of feelings, other research indicates that people *underestimate* the influence of affective situations on choice. Specifically, when people are in a non-affective, cold state they underestimate the influence of being in an affectively arousing, hot situation on their own choices and preferences.

These *empathy gaps* have been documented across a variety of affective situations. For instance, when predicting how they would react if lost in the woods without extra food or extra water, people who are just about to exercise and are in a relatively neutral state predict they would regret choosing not to bring extra food more than extra water; people who have just exercised, in contrast, predict they would regret choosing not to bring extra water more than food (Van Boven & Loewenstein, 2003). People who are sated because they have just eaten are less likely than hungry people who have not eaten to choose a high-calorie

snack to consume at a well-defined time in the future (Gilbert, Gill, & Wilson, 2002; Read & van Leeuwen, 1998). And men who are not sexually aroused predict they would be less likely to engage in sexually aggressive behavior compared to the predictions made by men who are sexually aroused (Loewenstein, Nagin, & Paternoster, 1997).

People also exhibit empathy gaps when they predict their choices and preferences in situations emotions other than bodily drives. For instance, people who are not affectively aroused predict they would be more willing to engage in embarrassing public performances—miming dancing, and telling jokes—than they actually are in the “moment of truth” (Van Boven, Loewenstein, & Dunning, in press; Van Boven, Loewenstein, Dunning, & Welch, 2004). And people who do not own an object underestimate how much money they would demand to part with it if they owned the object (Loewenstein & Adler, 1995; Van Boven, Dunning, & Loewenstein, 2000).

Empathy gaps, like the impact bias in predicted feelings, are multiply determined. For one thing, affective arousal may directly influence behavior, independent of and outside of conscious awareness (Bechera, Damasio, Kimball, & Damasio, 1997; Frijda, Kuipers, & ter Schure, 1989; Ledoux, 1996), so people may have limited opportunities to learn about affective influences. Second, when people in a cold state mentally simulate being in a hot, affective situation, they may infer that the stability of their current preferences is informative about what choices they would make if they were actually in an affective situation (Finucane,

Alhakami, Slovic, & Johnson, 2000; Schwarz, 2001, 2002; Schwarz & Clore, 1988; Slovic, Finucane, Peters, & MacGregor, 2002).

Finally, affective arousal can increase the accessibility of affective information, by, for instance, inhibiting attention to non-affective information (Fox, Russo, & Bowles, 2001; Fox, Russo, & Dutton, 2002) and narrowing visual attention (Basso, Schefft, Ris, & Dember, 1996; Derryberry, 1993; Derryberry & Reed, 1998; Derryberry & Tucker, 1994; Tucker & Derryberry, 1992). The increased accessibility of affectively relevant information can directly increase the weight of that information in choice (Schwarz et al., 1991; Tversky & Kahneman, 1973). Compared to dancing in front of an audience next week, people can easily think of many reasons why dancing in front of friends and colleagues is a bad idea when the music is pumping and the dancing is imminent. People consequently give more weight to the reasons not to dance in the here and now than in the distant future.

Taken together, studies of empathy gaps indicate that people in a cold, unaroused state systematically underestimate the influence of hot, affective situations on their choices and preferences. This underestimation is somewhat at odds with the results of the impact bias studies in which people in cold states overestimate the influence of affective situations on the intensity and duration of feelings. When predicting their reactions to being in an affective situation, why might people *overestimate* the influence on their feelings (impact bias) but *underestimate* the influence on their choices (empathy gaps)?

Why Do Predicted Feelings and Choices Differ?

In ascertaining why people exhibit divergent biases when they predict feelings versus choices, one should appreciate that feelings and choices are different psychological constructs. Feelings refer to the phenomenological manifestation of affective arousal. The affect aroused just before taking a turn at the karaoke machine can produce feelings of fear and anxiety—an experiential awareness that one’s affect is aroused. Sneaking out of the room just before one’s turn at the karaoke machine, in contrast, is a choice influenced by one’s affective state of fear and arousal.

Choice refers to the selection of one alternative over other alternatives, each of which may differ on various attributes. A particular feeling is but one attribute in the selection of alternatives. As an extreme example, affective states can be non-conscious, influencing choices and preferences outside of conscious awareness (Berridge & Winkielman, 2003; Kihlstrom, 1999). To be sure, feelings of fear and anxiety are relevant to the decision to sing or not. But so are the feelings associated with the costs of renting the karaoke machine, the anticipated regret associated with “chickening out,” and so on. Choices, in other words, are based on the relative costs and benefits of various alternatives; feelings are but one attribute that comprises costs and benefits.

The conceptual distinction between feelings and choice is important because it clarifies that there is no logical inconsistency in overestimating the influence of affect on feelings and underestimating the influence of affect on choice. Feelings and choices may be subject to different moderators and

mediators. We suggest that the predicted feelings and predicted choices are differentially caused and constrained in at least two ways.

Choices are Intuitively More Stable

First, people may intuitively expect their choices to be more stable than their feelings over time and context. Feelings are, almost by definition, fleeting. Emotional experience is generally considered to be intense, discrete, and integrally associated with a hedonic event (Lerner & Keltner, 2000, 2001). We suspect that people intuitively recognize the instability of feelings. Indeed, in some contexts people expect their feelings to fluctuate regularly over time, such as women's beliefs about the discomfort of menstruation (Igou, 2004; McFarland, Ross, & DeCourville, 1989; Ross, 1989). It would not seem odd to people if their best friend wakes up cheerful, gets bored during morning classes, grumpy after a lunchtime argument, embarrassed while giving a presentation, and proud after receiving an A on an exam. Fluctuating feelings are normal.

Choices, in contrast, are intuitively more stable over time and context. Social scientists now know that choices are based on constructed preferences, and are not stable over time and context (Slovic, 1995; Tversky & Kahneman, 1986; Tversky, Sattath, & Slovic, 1988). But for much of our intellectual history, psychologists, economists, and other social scientists believed that people's choices revealed preferences that were stable over time, context, descriptions of the alternatives, and so on. Without knowing the research literature (and sometimes despite knowing the research literature!), the stability of choice and preference may have enduring intuitive appeal for social scientists and lay people

alike. Indeed, the normative principle of invariance is central to theories of rational choice, which still hold sway in many of the social sciences. It would seem odd to people if their best friend chose to dance in front of an audience in the morning, refused to dance at lunchtime, and was again ready to show his moves after dinner. Fluctuating choices are not normal.

Because people's intuitions about stability can influence their predictions of their feelings and choices (Nisbett & Wilson, 1977; Wilson, Laser, & Stone, 1982), these intuitions can help explain the discrepancy between the impact bias and empathy gaps. When predicting feelings, people's intuitive theory of instability provides a reason why, in a different affective situation, they would feel very different from the way they currently feel. When predicting choices, people's intuitive theory of stability provides a reason why, in a different affective situation, they would make the same choice as they would in their current state.

Choices are More Dispositional

The intuitive belief that choices are more stable than feelings may be part and parcel of another difference between feelings and choice, namely, that choices and behaviors correspond more than feelings to individuals' enduring dispositions. Heider (1958) wrote that "Dispositional properties are the invariances that make possible a more or less stable, predictable, and controllable world. They refer to the relatively unchanging structures and processes that characterize and underlie phenomena" (p. 80). If our assertion is correct that choices are intuitively more stable than feelings, it follows that choices are intuitively more dispositional than feelings.

To be sure, there are dispositional differences in feelings. Some people are more prone to experience negative feelings than others (Wason & Clark, 1984), and some people generally experience stronger feelings than others (Larsen, Diener, & Emmons, 1986). The point is that, phenomenologically, feelings are transient consequences of evocative situations, whereas choices are manifestations of enduring preferences, attitudes, and beliefs. For example, one's anticipated feelings when imagining a reaction to a positive HIV test are likely to be attributed to the properties of the external stimulus ("having HIV is very bad, so I would be extremely upset") more than to one's dispositions. In contrast, one's anticipated choices and behaviors in the same situation are likely to be attributed to one's dispositions and personalities ("because I'm the type of person who likes to keep busy, I'd probably go about my daily routines, spending more time with friends and family") more than to the external stimulus.

That choices more than feelings may be associated with dispositions is important because it is well established that people are motivated to maintain the consistency of their dispositions and self-concept (Aronson, 1969; Festinger, 1957; Greenwald & Ronis, 1978; Steele, 1988; Thibaut & Aronson, 1992). If people regard choices as more dispositional than feelings, people may be more motivated to maintain consistent choices and behaviors over time and context than to maintain consistent feelings. It may arouse more dissonance to have inconsistent choices than to have inconsistent feelings. The motivated maintenance of choice and behavior may contribute to the inconsistency between predicted feelings and choices. People may more readily admit that they would

feel differently in another situation than that they would behave differently in another situation.

Future Research

Our postulations, of course, are preliminary and should be held to empirical scrutiny. One task for future research is to document, with regard to the same affective situation, both overestimation of the influence on feelings and underestimation of the influence on choice. For instance, do people considering the prospect of signing karaoke in front of an audience simultaneously overestimate how fearful and anxious they would feel while underestimating the lengths to which they would go to avoid singing?

Future research should also take care to equate the time frame in which people predict future feelings and choice. Whereas research on the impact bias shows that people overestimate the influence of affective situations on both the intensity and duration of feelings, research on empathy gaps shows that people underestimate the influence of affective situations on choices in the “heat of the moment.” If commuters overestimate the duration of their displeasure at missing the express bus, do they also underestimate the duration for which they’d be willing to pay for a cab instead? We suspect that three additional categories of questions will garner researchers’ attention in the near future.

Developmental Differences

First, as people develop, do they learn to predict more accurately their feelings and choices? As people mature, they more readily recognize that others’ feelings and choices might differ from their own (e.g., Bernstein, Atance, Loftus,

& Meltzoff, 2004; Birch & Bloom, 2003; Gopnik & Wellman, 1994; Royzman, Cassidy, & Baron, 2003). Because making predictions about the self in different times and contexts is analogous to making predictions about other people (Gopnik, 1993; Loewenstein, 1996; O'Connor et al., 2002; Schelling, 1984), the recognition that others may have feelings and choices that differ from one's own may correspond to the recognition that one's own feelings and choices may differ across time and context. If mature people more readily recognize their own shifting preferences and choices, they may be less likely to underestimate the impact of affective situations on their choices. The discrepancy between predicted feelings and predicted choices might therefore diminish over the course of maturation.

Cultural Differences

Another looming question is whether individuals from different cultures differ in the ways and means of predicting feelings and choices. Of particular relevance, East Asians in collectivist cultures, compared to individualistic Westerners, are less prone to construe individuals in terms of enduring dispositions (Chiu, Hong, & Dweck, 1997). East Asians are also less likely to exhibit cognitive dissonance (Heine & Lehman, 1997), partly because collectivists are less motivated to maintain favorable self-views (Heine et al., 2001; Heine, Lehman, Markus, & Kitayama, 1999). If, as we suggest, predictions of preferences are constrained by the motivation to maintain personal consistency, these cultural differences imply that East Asians may be less likely than Westerners to underestimate the influence of affective situations on their

choices. East Asians may therefore exhibit closer correspondence between their predicted feelings and choices in response to affective situations.

Different Types of Affect

A final question concerns potential differences between predictions of feelings and choices associated with different types of affective states. We have discussed affective states in a broad, inclusive way in this chapter. However, the distinction between biological drives and “higher order” emotions (Buck, 1999) might be a particularly important consideration in future research. Obviously, both drives and emotions influence feelings and choices: We feel thirsty and choose water over crackers just as we feel embarrassed and choose not to sing karaoke in exchange for applause and admiration. But the influence of drives on choice may be less complex than the impact of emotion on choice.

The influence of drives on choice is straightforward: Thirst increases our preference for liquids over food; cold increases our preference for wool caps over shorts; exhaustion increases our preference for sleep over work; and so on. In contrast, the influence of emotions on choice depends importantly on the particular appraisal associated with the emotion (Keltner, Ellsworth, & Edwards, 1993; Lerner & Keltner, 2001; Tiedens & Linton, 2001). For example, because fear is generally associated with higher risk and uncertainty than anger (Tiedens & Linton, 2001), the decisions made by frightened individuals are more risk-averse whereas the choices made by angry and happy individuals are more risk-tolerant (Lerner & Keltner, 2001). That similarly valenced emotions (fear and anger) can have divergent influences on risk preferences is just one reason why

the relation between emotion and choice may be more complex than the relation between drives and choice. These differences in complexity raise the possibility that predictions of the influence of emotion on choice may be more biased than the influence of drives on choice.

Another consideration is that mentally simulating situations that arouse drives may be less likely to make people feel “as if” they were actually in the situation than mentally simulating emotionally arousing situations. Thinking about the last time one was thirsty does not arouse thirst in the same way that thinking about the last time one was embarrassed arouses embarrassment. To the extent that people predict their feelings and choices by mentally simulating what they would feel and want in an affective situation (Schwarz, 2001, 2002; Schwarz & Clore, 1988; Slovic et al., 2002), the difficulty of experiencing “as if” drives may impede predictions of feelings and choices in drive-arousing situations more than emotion-arousing situations.

Conclusion

Psychologists know a lot about how people predict their feelings and choices. Among other things, we know that people do not fully appreciate their ability to cope with and “get over” negative events (Gilbert et al., 1998). We know that people do not anticipate how much daily distractions and non-salient but impactful attributes will neutralize future feelings (Schkade & Kahneman, 1998; Wilson et al., 2000). And we know that people project their current preferences onto their predictions of how they would behave in a different

affective situation (Loewenstein, 1996; Loewenstein, O'Donoghue, & Rabin, 2003).

But there is a lot we don't know. This chapter has focused on one area of ignorance, namely, why people in affectively unaroused (cold) states mispredict their feelings and choices in opposite ways, overestimating the influence of affective situations on feelings but underestimating the influence of affective situations on their choices. We suggested that inconsistent predictions of feelings versus choices are borne of the different moderators and mediators that cause and constrain predicted feelings versus predicted choices.

There are many other open questions regarding the prediction of feelings and choices. Obviously there is much work to be done and many lessons to be learned. In parting, it is worth noting one important practical lesson already learned from the study of predicted feelings and choice. Researchers often use hypothetical vignettes to study judgment and decision-making in affectively relevant situations. Research on the impact bias and empathy gaps suggests this practice is untenable. Because people systematically mispredict how they will feel and what they will choose, affective judgment and choice cannot be compellingly studied, to our minds, in the absence of affect. It's time for those of us who study judgment and decision making to "get real."

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