

# 3

## Cross-Situational Projection

LEAF VAN BOVEN

*University of Colorado, Boulder*

GEORGE LOEWENSTEIN

*Carnegie Mellon University*

*I go eyeball to eyeball with some other creature—and I yearn to know the essential quality of its markedly different vitality... Give me one minute—just one minute—inside the skin of this creature... and then I will know what natural historians have sought through the ages... Instead, we can only peer in from the outside, look our subject straight in the face, and wonder, ever wonder.*

—Stephen Jay Gould, 1998, p. 377

Although Gould lamented naturalists' inability to gain an insiders perspective of sloths and shrews, this fundamental barrier is not unique to interspecies perspective taking. Humans face a similar barrier when they try to understand what it feels like to be another human. We cannot step inside the skin of another human. Just as naturalists facing sloths and shrews, we can only peer in at other humans from the outside, look each other in the face, and wonder.

This problem of Other Minds is something of a hassle in everyday life. Most of our behavior is social, so many of our actions require at least a guess at other people's hearts and minds. It is not surprising, then, that many areas of social psychology are deeply concerned with perspective taking activity and ability. Impression formation, causal attribution, group dynamics, romantic relations, stereotypes and prejudice, negotiation and conflict resolution all relate in one way or another to people's attempts to predict and understand the psychological states of other people.

How and how well do people take others' perspective? Psychologists have long recognized that the self is the gravitational center of social judgment, and that people's judgments about other people tend to be egocentrically biased. Katz and Allport (1931), for instance, found that the more students admitted to cheating on

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exams, the more they expected others to cheat. Mintz (1956) found that children's age was correlated with their estimate of Peter Pan's age. Psychologists typically assume that this social projection reflects an overestimation of the true correlation between the self and judgments of others (Krueger, 1998).

The now classic, if not the first, demonstration of social projection was a study by Lee Ross and colleagues in which university students were asked whether they would "walk around campus for 30 minutes wearing a sandwich board sign which simply says: 'Repent'" (Ross, Greene, & House, 1977). The 50% of students who said that they would wear the sign estimated that 61% of other students at their university would also agree to wear the sign, whereas the students who would not wear the sign estimated that 43% of their peers would wear the sign. Students' own decision regarding sandwich board attire was thus correlated with their estimate of the percentage of their peers that would agree to wear the sign. This pattern, known as the "false consensus effect," is robust, widely replicated, and multiply determined (see Krueger & Clement, 1997; Marks & Miller, 1987).

Research on the false consensus effect has focused primarily on people's judgments of how other people would react to a similar situation faced by the self—faced with a similar choice about sandwich board attire, asked similar questions about the embarrassment elicited by various situations, asked about music preferences, and so on. Indeed, many researchers define social projection as an overestimation of the similarity between self and others. The horizontal dashed arrow in Figure 3.1 represents research in this tradition.

Notice, however, that in many, if not most, of the circumstances that require perspective taking, the perspective taker is in a different situation than the target of perspective taking. How severely does an employer think an employee will respond to criticism? How quickly does a teacher think students will learn a lesson? How nervous does a search committee think a candidate is during a job talk? In situations such as these, the task is to predict how another person reacts to a different situation than the situation the self is currently in.

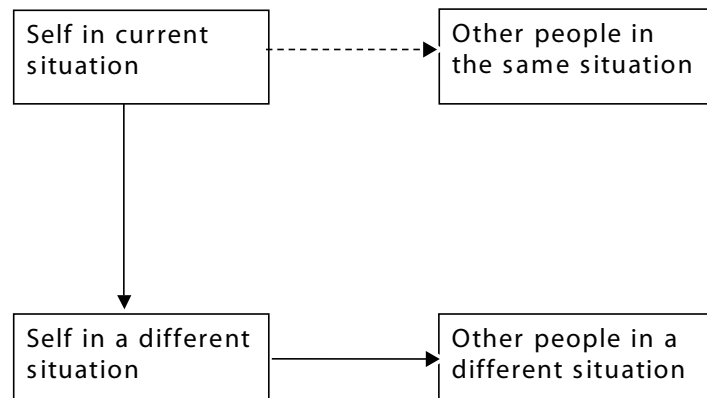


FIGURE 3.1

In this chapter, we outline a simple, dual judgment model of such cross-situational perspective taking. We suggest, essentially, that predictions of others' responses to different situations are based on predictions of one's own responses to different situations (represented by the two solid arrows in Figure 3.1). We report recent research, primarily from our own lab, that demonstrates the egocentric nature of cross-situational perspective taking, and show that biases and errors in self-predictions are closely associated with, and, we argue, cause biases and errors in social-predictions.

### DUAL JUDGMENTS IN CROSS-SITUATIONAL PERSPECTIVE TAKING

Mature adults typically realize that other people who are in a different situation may have beliefs, perceptions, preferences, and behavioral inclinations that differ from their own. We know, for example, that culinary aficionados perceive distinctions between fine cheeses that are lost on our own, untrained palates. We expect that someone who has not eaten in several hours is hungrier than we are, having just gorged on Ritz and Velveeta. And, even though we may have just learned that our manuscript was rejected, we expect someone whose grant was just funded to feel elated. In each case, perspective taking requires the realization and anticipation that because other people are in a different situation than the self—whether that difference concerns expertise, bodily drives, or emotional reactions—they will think and feel differently than the self.

We contend that cross-situational perspective taking entails two judgments, summarized by the two solid arrows in Figure 3.1. First, people predict what their own reactions would be to someone else's situation (the solid vertical arrow in Figure 3.1). Second, people moderate these self-predictions to accommodate perceived differences (or similarities) between the self and others (the solid horizontal arrow in Figure 3.1).

Several initial studies support the proposition that perspectives taken across different situations entail predictions of how the self would react to being in another's situation. In one, we showed participants a picture of three hikers (the two authors and Douglas Harsch) trudging through an Alaskan mountain meadow (Van Boven & Loewenstein, 2003). Accompanying the picture was a scenario describing how, because of a harrowing encounter with a bear, the three hikers were forced to travel through the wilderness for four days without food. After spending a few minutes estimating what the hikers were thinking and feeling during their ordeal, participants described in their own words "the processes and strategies you used to imagine what the hikers were thinking and feeling." Coders who were unaware of the hypothesis indicated that most participants (79%) explicitly described mentally trading places with the hikers, predicting how they would think and feel in the hikers' situation, even though hardly any participants reported having been in a similar situation.

A follow up study suggests that using the self as a basis for social predictions has intuitive appeal even when the self might seem highly dissimilar from others (Van Boven, Loewenstein, & Dunning, 2004). We asked males and females to read about the emotional experience of one of two protagonists. Some participants read about Tom, who experienced a bout with testicular cancer that required aggressive chemotherapy treatment. Other participants read about Sheila, whose son nearly died during a difficult and prolonged childbirth. After reading about Tom or Sheila, participants were asked to spend a few minutes estimating the protagonists' thoughts and feelings.

One might expect participants' gender to moderate their use of self as a basis for judging the protagonists' thoughts and feelings. Because female participants cannot have testicular cancer, they might judge their self-predictions to be less informative about Tom's experience than male participants; and because male participants cannot give birth, they might judge their self-predictions to be less informative about Sheila's experience than female participants. Indeed, when asked whether they mentally traded places with the protagonist, males reported trading places with Tom (87%) more than females did (75%), and females reported trading places with Sheila (87%) more than males did (74%). Notice, however, that most participants reported trading places even when the protagonist was of a different gender: Most males mentally traded places with Sheila, and most females mentally traded places with Tom.

These studies of perspective taking with hikers, cancer survivors, and birth givers suggest that self-prediction is an intuitively appealing starting point for cross-situational perspective taking. Just as people naturally use themselves as a standard of comparison when evaluating others' performance (Dunning & Hayes, 1996), they naturally use their self-predictions as a starting point when making social-predictions. The intuitive appeal of self-predictions, we suspect, stems largely from the self's high accessibility and people's well-developed (if incorrect) mental models of the self. It may simply be easy to form a rich mental picture of how the self would respond to being in different situations. It may even be difficult *not* to imagine how the self would react to being in a different situation (Hodges & Wegner, 1997).

Imperial though it may be, the self is not the only basis for cross-situational perspective taking (Karniol, 2003). In some cases, people may have well-developed mental models of how specific individuals respond to different situations ("Gary has quite an appetite, so losing his food would probably make him very hungry"). Or people may have stereotypes—i.e., mental models about groups of individuals—about how groups of people would respond to particular situations ("Women have a thing for chocolate, so I bet Ginger would prefer Godiva to grapes"). To the degree that people view others as dissimilar to the self, they make them more likely to use stereotypes as a basis for making predictions about others (Ames, in 2004a, 2004b).

## CROSS-SITUATIONAL PROJECTION

People's use of self-predictions as a basis for making predictions about other people who are in different psychological situations implies that the accuracy of social-predictions depends critically on the accuracy of self-predictions. The accuracy of cross-situational perspective taking, in other words, depends largely on people's predictions of their own reactions to being in different situations. Previous research indicates that such self-predictions are biased. People tend to project their current perceptions, preferences, and behaviors onto their predictions of what their reactions would be in a different situation (Fischhoff, 1975; Gilbert, Gill, & Wilson, 2002; Hawkins & Hastie, 1991; Loewenstein, 1996; Loewenstein & Schkade, 1999). Based on this research, our model implies that these biases in self-predictions, which we refer to as "empathy gaps," should produce corresponding biases in social-predictions. We have tested this prediction in cross-situational perspective taking involving different nonemotional situations, and different emotional situations.

### *Hindsight Bias and Nonemotional Projection*

Good teaching is difficult. As a teacher, a central challenge is judging how much (or how little) the students know about the subject at hand. Students poorly versed in twentieth century European history can hardly be expected to understand comparisons of the stability of governmental structures in the United States and Europe. Students who have little understanding of probability can hardly be expected to appreciate concepts such as statistical reliability. Students with little understanding of Game Theory can hardly be expected to comprehend references to games of Beauty Contests, Chicken, and Dictators.

Other social interactions require similar predictions. Giving directions, writing papers, having conversations—these interactions, and many more, require a judgment about the knowledge of other people who have less information of the self. Teachers, directors, writers, and speakers obviously recognize that their audience has less knowledge than themselves. But how much less? Answering this question requires perspective taking across different informational situations.

Perspective taking across different levels of information is complicated by the fact that what is clear in hindsight was often less clear in foresight. Hindsight is 20/20, the saying goes, but foresight is not. A large body of evidence indicates that even though people know that hindsight does not equal foresight, the clarity of hindsight nevertheless makes them think that foresight was clearer than it was (Fischhoff, 1975; Hawkins & Hastie, 1991).

According our dual-judgment model of cross-situational perspective taking, the hindsight bias in self-predictions should produce a corresponding bias in social-predictions. That is, people with unique knowledge should expect that knowledge to be more obvious to other, uninformed people than it actually is.

Several studies have demonstrated such a “curse of knowledge” (Camerer, Loewenstein, & Weber, 1989; Keysar, Ginzel, & Bazerman, 1995; Nickerson, 1999; Nickerson, Baddeley, & Freeman, 1987). In one, participants who observed a negotiation and were told that the motives of one of the negotiators (e.g., to be assertive or to be accommodating) overestimated how clear those motives were to the other negotiator (Vorauer & Claude, 1998). In another study, participants who were told the “true” meaning of archaic English idioms (e.g., “the goose hangs high”) overestimated how clear the meaning would be to uninformed participants (Keysar & Bly, 1995). These results indicate that just as people project their private knowledge onto predictions of what their perceptions would have been without the knowledge, they also project their private knowledge onto other people who are not “in the know.”

We suggest that the curse of knowledge stems partly from the hindsight bias. That is, informed people’s biased predictions of the knowledge of uninformed individuals stems from informed people’s biased “postdictions” of what their knowledge was before being informed. We conducted a taste test to examine this thesis (Van Boven, 2005). Participants tasted unmarked drinks of Coca-Cola and Pepsi. Participants in the uninformed condition were asked to indicate which drink they thought was Coke and which was Pepsi. These participants could not “taste the difference,” correctly guessing the drinks’ identities 50% of the time—indistinguishable from chance. Participants in the informed condition were told that the drinks’ identities before tasting them and then made two predictions. They were asked to imagine that they had not been told the drinks’ identities and to predict which they would have guessed was Coke and which was Pepsi. Consistent with previous research on the hindsight bias, most participants (85%) predicted that they would have correctly identified the two drinks—substantially more than the 50% that were actually able to taste the difference. Informed participants were also asked to predict the answer of a randomly selected person from the uninformed condition. Consistent with previous research on the curse of knowledge, most informed participants (89%) thought that their uninformed peers would be able to taste the difference.

Our thesis that informed participants’ hindsight bias produced a corresponding curse of knowledge is supported by the close correspondence between self- and social-predictions. Most participants (82%) predicted that others’ identification of Coke or Pepsi would match their own judgments of the drinks’ identity. The correspondence suggests that the hindsight bias in self-predictions contributes to the curse of knowledge in social predictions.

Of course, there may be other explanations for the results of the taste test study. It may be the case, for instance, that the hindsight bias did not cause the curse of knowledge. Instead, some other variable (e.g., perceived obviousness) may have caused both the hindsight bias and the curse of knowledge. An important task for future research is to compellingly demonstrate that the hindsight bias in self-predictions contributes to the curse of knowledge in social predictions.

### *Empathy Gaps and Emotional Projection*

We have tested our dual-judgment model most extensively in perspective taking across different emotional situations. A growing body of evidence indicates that people in one emotional situation project their current preferences and behaviors onto their predictions of how they would respond in a different emotional situation. Specifically, when people are not emotionally aroused, they underestimate the impact of emotional arousal on their own preferences and behaviors. However, when people are emotionally aroused, they overestimate how much their preferences and behaviors in an unemotional situation state would resemble their current reactions.

These *empathy gaps* (Loewenstein, 1996) have been documented for several emotional states. For example, people who do not own an object underestimate how attached they would be to the object and how much they would require to part with the object if they owned it (Loewenstein & Adler, 1995; Van Boven, Dunning, & Loewenstein, 2000). People who do own an object overestimate how attached they would be to it and how much they would be willing to pay to acquire the object if they did not own it (Van Boven et al., 2000). People who are temporarily removed from an embarrassing public performance think they would be more willing to perform in the “moment of truth” than they actually are (Van Boven, Loewenstein, Dunning, & Welch, 2005). People who are just about to exercise and are in a relatively neutral state predict they would be less bothered by thirst if they were lost without food or water than people who have just exercised and are thirsty and warm (Van Boven & Loewenstein, 2003). Men who are not sexually aroused predict they would be less likely to engage in sexually aggressive behavior than men who are sexually aroused (Loewenstein, Nagin, & Paternoster, 1997). People who are sated because they have just eaten are less likely to choose a high-calorie snack to consume at a well-defined time in the future than hungry people who have not eaten (Read & van Leeuwen, 1998). And people who are hungry because they have not eaten expect to be more interested in eating a plate of spaghetti for breakfast than people who are sated (Gilbert et al., 2002).

According to our model, empathy gaps in self-predictions should produce corresponding empathy gaps in social-predictions. In other words, people in one emotional situation should project their current preferences and behaviors onto other people who are in different emotional situations. We have tested this prediction in a variety of emotional states, including bodily drives and fear of embarrassment.

### *Bodily Drives*

In one study, we asked participants entering a campus exercise facility who were going to engage in vigorous cardiovascular activity for at least 20 minutes to answer a few questions in exchange for a bottle of water (Van Boven & Loewenstein,

2003). Participants were randomly assigned to answer questions either immediately before or immediately after exercising, which we assumed would influence their state of thirst and warmth. Participants read a description of three hikers lost in the dry Colorado mountains without food or water. Participants were asked to predict whether hunger or thirst would be more unpleasant to the hikers (and to themselves), and whether the hikers (and themselves) would regret more not bringing water or not bringing food.

As expected, participants projected their momentarily aroused bodily drives onto their judgments of the hikers' feelings. Participants who had just exercised, and were presumably in a state similar to the hapless hikers, expected the hikers to be more bothered by thirst and to regret not bringing water with them more than participants who had not exercised (see the right side of Figure 3.2). This empathy gap in social-predictions mirrored participants' predictions of how they would feel in the hikers' situation (see the left side of Figure 3.2).

Subsequent analysis provides further support for our thesis that participants' self-predictions were the basis for their predictions about the lost hikers. According to our model, exercising arouses participants' thirst, which, along with their hunger, influences their self-predictions. Those self-predictions, in turn, influence their predictions of the lost hikers' feelings. To test this pattern of associations, we conducted a structural equation model (SEM), which assessed the relationship between variables in the model, controlling for all other (indirect) relationships between variables (see Figure 3.3). The model included five variables: the average of participants' two self-predictions (self-predictions), the average of their two

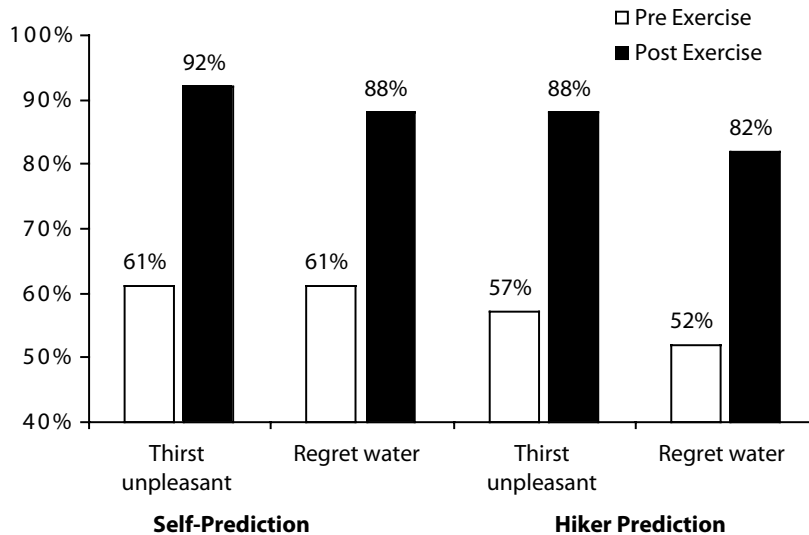


FIGURE 3.2

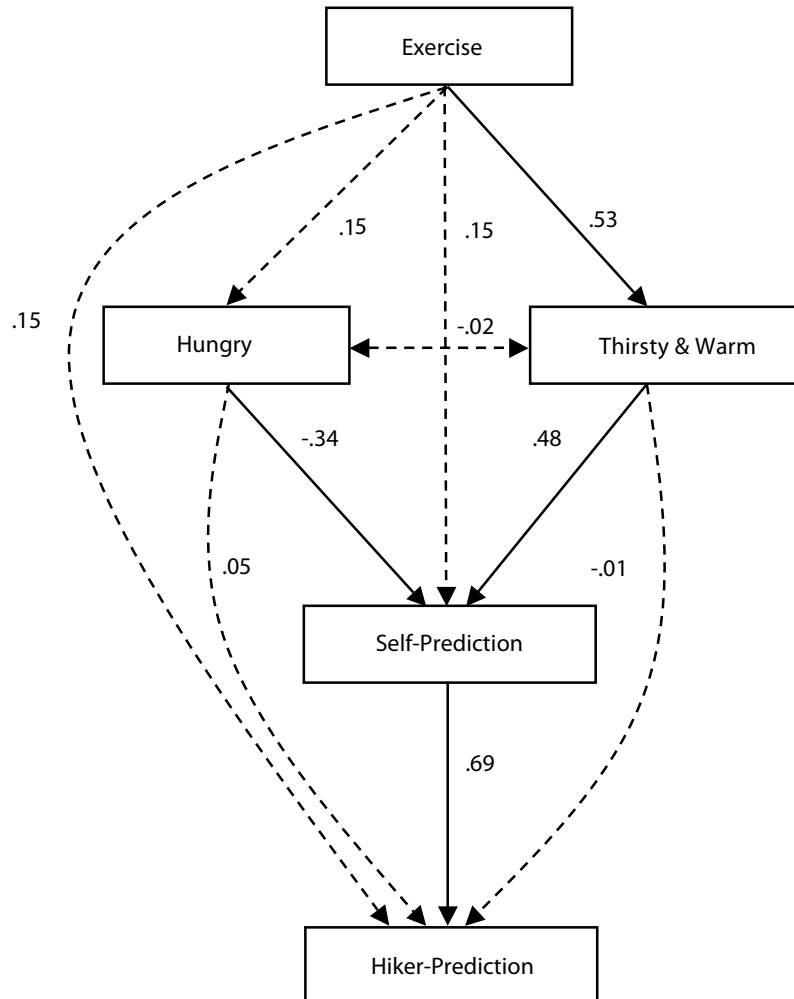


FIGURE 3.3

predictions of the lost hikers (hiker-predictions), participants' average ratings of their current thirst and warmth (thirsty & warm), participants' ratings of their current hunger (hungry), and a binomial variable indicating whether participants completed the survey before or after exercising.

The pattern of associations within the model is consistent with our thesis. The exercise manipulation was positively associated with participants' feeling thirsty and warm, confirming the success of our experimental manipulation. Participants' thirst and warmth was positively associated with, and their feelings of hunger negatively associated with, their self-predictions. Their self-predictions, in turn,

were positively associated with their social-predictions. In fact, participants' self-prediction was the only measure reliably associated with participants' predictions of the lost hikers' feelings. These results indicate that the influence of exercising on participants' predictions of the hikers' feelings was fully explained by the impact of exercising and the resulting feelings of thirst and warmth on participants' predictions of their own feelings. These results strongly suggest that people's biased predictions of their own feelings play an important role in producing biased predictions of others' feelings.

### *Fear of Embarrassment*

We have also tested our model in situations involving social anxiety, or fear of embarrassment, a potent self-based, social emotion. Fear of embarrassment is a powerful barrier to social behavior. Although it can prevent people from taking actions they might later regret (e.g., karaoke to Marvin Gaye's "Sexual Healing" at an office party), fear of embarrassment can also be problematic, preventing people from taking beneficial but embarrassing social actions. Indeed, many important failures to act have been partly attributed to fear of embarrassment, including nonintervention in emergency situations (Latané & Darley, 1970), nonopposition to unpopular policies or social norms (Miller & McFarland, 1987; Prentice & Miller, 1993; Van Boven, 2000), obedience to authority, and conformity to social norms (Sabini, Seipmann, & Stein, 2001).

Given the frequency with which people confront embarrassing situations, they might be expected to accurately predict their own responses to such situations. We found in previous studies, however, that people experience empathy gaps when they predict how they would respond to embarrassing situations. When embarrassing public performances are purely hypothetical or in the psychologically distant future, people overestimate how willing they would be to perform compared with when the performances are real and immediate (Van Boven, Loewenstein, Dunning et al., 2005). For instance, asked hypothetically whether they would be willing to perform a mime in front of a classroom filled with people, participants in one study predicted that they would be more willing to mime for \$5 compared with people who were actually given the choice of miming for money. Because facing a hypothetical performance is less emotionally arousing than facing a real performance (Frijda, 1988, 1992), participants overestimate how willing, at the moment of truth, they would be to perform in front of a classroom audience. But-tressing this argument, we found that experimentally arousing people's emotions reduced their willingness to engage in performances that were hypothetical or in the distant future. Better in touch with the power of emotional arousal, people more accurately predicted the impact of fear of embarrassment on their willingness to engage in embarrassing performances.

According to our dual-judgment model, this *illusion of courage* in self-predictions should produce a corresponding illusion of courage in social predictions. We tested this prediction in one experiment by asking some of the students in a

large lecture class to state the least amount of money they would have to be paid to dance by themselves on a stage in front of an auditorium full of people for five minutes to Rick James' 1981 song "Super Freak" (Van Boven, Loewenstein, & Dunning, 2005). We asked the other students in the class to imagine that they had been given the option of dancing for money, and to predict the least amount of money they would have to be paid to dance. These students facing a purely hypothetical performance exhibited an empathy gap in fear of embarrassment: They predicted that they would have to be paid less to dance (\$21) than did students who actually faced the prospect of dancing (\$53).

In addition, both groups of students predicted the minimum performance price stated by a randomly selected student (other than themselves) who faced the actual choice of dancing for money. As expected, students exhibited an empathy gap in social-predictions that mirrored their empathy gap in self-predictions. Students facing a purely hypothetical performance predicted that other students would be willing to dance for less money (\$13) than students who themselves faced a potentially real performance (\$19). Students who faced a real performance themselves thus rendered more realistic predictions of other students' willingness to perform.

Notice that both groups of students expected that other students would be willing to dance for less money than they would themselves, independent of whether students themselves faced a real or hypothetical performance. This self-other difference is consistent with previous research indicating that people believe others are less influenced than themselves by fear of embarrassment in particular, and by self-conscious emotions generally (McFarland & Miller, 1990; Sabin, Cosmas, Siepmann, & Stein, 1999; Van Boven, 2000). In terms of our model, students' expectation that others would be more willing to dance than themselves is important because it distinguishes the two judgments we suggest are involved in cross-situational perspective taking. Students' expectation that others' lowest performance price would be lower than their own illustrates their assessment of similarity—or dissimilarity, in this case—between self and others (the horizontal solid arrow in Figure 3.1). The fact that students who faced a purely hypothetical performance expected that other students would perform for less money than students who faced a real performance illustrates how self-predictions influence social predictions (the vertical solid arrow in Figure 3.1).

Students' predictions of their own and others' willingness to perform also affords a further examination of the judgments involved in perspective taking across emotional states. In our previous research, we found that, compared with students who faced a purely hypothetical performance, students who faced a real performance reported focusing their thoughts more on how they would be evaluated by their peers (the emotional costs of performing) than on the money they could earn (the monetary benefits of performing, Van Boven, Loewenstein, Dunning et al., 2005). To examine whether students would project this emotional focusing onto others, we asked them to report how much the student whose performance price they predicted thought about being evaluated by other people, and how much

that student thought about the money. Students also reported how much, while stating their own lowest performance price, they thought about being evaluated and how much they thought about the money.

As an index of how much students focused their thoughts on being evaluated, we calculated the difference between reports of how much they thought about being evaluated and how much they thought about the money. Consistent with our previous results, students who faced a real performance focused more on being evaluated ( $M_{\text{difference}} = 1.86$ ) than students who faced a hypothetical performance ( $M_{\text{difference}} = .91$ ). As expected, students projected this emotional focusing onto the other student whose performance price they predicted. Students who faced a real performance themselves thought that the other student facing a real performance would focus on being evaluated more ( $M_{\text{difference}} = 1.41$ ) compared with students who faced a purely hypothetical performance ( $M_{\text{difference}} = .73$ ). These results indicate that, in addition to projecting their performance price, students projected their thoughts about the costs and benefits of performing for money.

These data allow further examination of the degree that people use their self-predictions as a basis for making predictions about other people. According to our model, students' predictions of their own performance prices should be the best predictor of their expectations of others' performance prices. We examined this possibility by conducting a SEM, displayed in Figure 3.4. The model includes: a variable indicating whether students faced a real or hypothetical performance (coded 1 or 0, respectively), the difference score reflecting students' focus on being evaluated by their peers (Own focus on evaluation), the difference score reflecting students' prediction of others' focus on being evaluated by their peers (Others' focus on evaluation), students own lowest performance price (Own performance price), and their prediction of the other students' performance price (Others' performance price).

Consider students' own performance prices first. The variable most closely associated with students' performance prices is students' focus on being evaluated by their peers. This is consistent with our other research on the illusion of courage in self-predictions: The emotional arousal caused by facing a real and immediate embarrassing performance causes students to focus on being evaluated by their peers; this shift in focus makes the performance less desirable, so students state higher performance prices than they predicted they would when the performance is purely hypothetical (Van Boven, Loewenstein, Dunning et al., 2005).

Next, consider students' predictions of other students' performance prices. The only variable independently associated with these prices is students' own performance prices. Notice that students' prediction of others' focus on being evaluated is not independently associated with students' prediction of others' performance prices. This is remarkable given that students' own focus on evaluation was the best predictor of their own performance price. Thus, students' prediction of other students' preference is more closely associated with their self-prediction than with their prediction of what other students' think about. This pattern of associations provides strong evidence that self-predictions are the basis for cross-situational perspective taking.

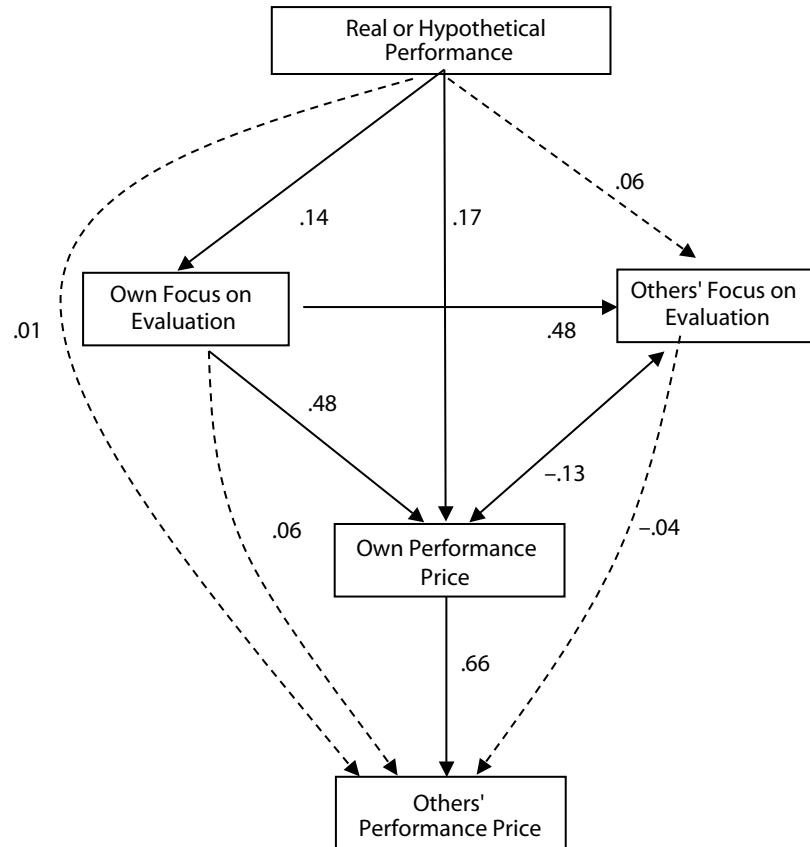


FIGURE 3.4

## DISCUSSION

Our studies of cross-situational perspective taking suggest that predictions of how the self would respond to different situations are the basis for predictions of how other people would respond to different situations. The importance of self-predictions for social-predictions, and the resulting cross-situational social projection, has implications for at least three domains of social judgment and behavior.

### *Projection and Uniqueness*

One intriguing aspect of cross-situational projection is the apparent contradiction with other, well-documented perceptions of uniqueness such as pluralistic ignorance and false uniqueness. Pluralistic ignorance occurs when most people erroneously believe that an unpopular norm or attitude or belief enjoys more public support than it actually does (Miller & McFarland, 1987; Prentice & Miller,

1996). False uniqueness occurs when people erroneously perceive themselves to be unique (Goethals, Messick, & Allison, 1991), possibly out of a desire to be different (Snyder & Fromkin, 1977) or to be better than one's peers (Taylor & Rachman, 1994). This contradiction between projection and perceptions of uniqueness may be more apparent than real, however. For one thing, projection is often operationalized as a positive correlation between self and social judgments. Uniqueness, in contrast, is usually defined as a mean difference between self and others (Sabini et al., 1999). These two measures are not directly comparable. In many cases, "false consensus" and "false uniqueness" may reflect conflicting operationalizations more than conflicting psychological phenomena, and the two tendencies may even occur simultaneously (McFarland & Miller, 1990). For example, while people think that they would be more embarrassed in a socially awkward situation than their peers (false uniqueness), their estimates of how embarrassed other people would be in that situation are positively correlated with their prediction of how embarrassed they would be (false consensus, Sabini et al., 1999).

Projection and perceptions of uniqueness may also reflect different psychological processes. Projection occurs largely because people believe their current or predicted responses are unbiased reactions to the situations they encounter, be it a request to wear a sandwich board or being lost in the woods without food or a request to dance for money. Because people's perceptual and emotional apparatus is, for the most part, similar to others' perceptual and emotional apparatus, it follows that other people will experience similar reactions to the same situations (Griffin & Ross, 1991; Pronin, Gilovich, & Ross, 2004; Ross & Ward, 1995). However, most people realize that their preferences and perceptions of the world are somewhat constructive—that their own desires, knowledge, and personal history uniquely influence their reactions to situations (Wegener & Petty, 1995; Wilson & Brekke, 1994). Being metacognitively aware of constructive processes opens the possibility that other people engage in different constructive processes than the self, and may therefore experience different reactions than the self to a given situation (Pronin et al., 2004; Pronin, Lin, & Ross, 2002). Thus, to the extent that one's responses are experienced as natural, unbiased reactions to the inherent properties of the stimulus, other people should be expected to respond similarly. But to the extent that one's responses are recognized as constructed reactions to the situation, other people may not be expected to respond similarly (cf, Krueger, 2000, 2002).

Consider the case of fear of embarrassment. Although most people have a wealth of evidence consistent with their own fear of embarrassment, evidence about others' fear of embarrassment is less accessible. The differential accessibility of one's own and other people's fear of embarrassment may make it seem that others are generally less concerned about embarrassment than the self (Miller & McFarland, 1987; Schwarz & Vaughn, 2002; Tversky & Kahneman, 1973). People's prediction of how willing other people are to engage in an embarrassing performance is thus a function of (a) the fact that public performances are inherently embarrassing and undesirable, and (b) the belief that others react to embarrassing situations somewhat differently than the self. Exploring the factors

that moderate simultaneous perceptions of consensus and uniqueness, we believe, is an important task for future research.

### *Behavioral Consequences*

One consequence of cross-situational projection is that it can lead people to behave toward others in ways they would not if they had an accurate understanding of others' psychological state. A homeowner might fail to appreciate how attached she is to her house simply because she happens to own it (Kahneman, Knetsch, & Thaler, 1990, 1993; Knetsch, 1989) and consequently demand too much money to sell it, incurring costs of time and opportunity. Or a buyer might fail to appreciate how much a homeowner values her house simply because she owns it and consequently offer too little money to purchase the home.

In previous research on empathy gaps between owners and nonowners, we have shown that nonowners' underestimation of owners' selling prices can lead them to behave in ways that cost them money (Van Boven et al., 2000, Study 3). We created a situation in which nonowners, assigned to the role of "buyer's agent," would benefit monetarily from accurately predicting how much owners valued their possessions (a plastic coffee mug), and then making an offer to purchase owners' possession. However, because buyer's agents were not themselves owners, they experienced empathy gaps, underestimated how much owners valued their possession, and made offers that were too low, resulting in a loss of money compared with what they could have earned if they had made higher offers that were more likely to be accepted.

Our analysis of social projection in producing costly social behavior implies that reducing social projection would produce more optimal social behavior. Corroborating this analysis, salespeople who can accurately discern the thoughts and feelings of customers tend to make more sales (Comer & Drollinger, 1999). Negotiators who try to see things from the other person's point of view are more likely to succeed, resolving more issues and reaching more optimal agreements (Neale & Bazerman, 1983). In our research, buyer's agents who were themselves given mugs to keep (but not sell) more accurately predicted what their own selling prices would be if they were an owner, more accurately predicted owners' selling prices, and consequently made higher offers that were more likely to be accepted (Van Boven et al., 2000). This last finding is important because it indicates that behavior toward other people can be improved by increasing the accuracy of self-predictions.

We suspect that these examples of misbehavior stemming from social projection are just the tip of the iceberg. The potential for projection-based misbehavior arises whenever the behavior of socially interacting individuals is based on their judgments about other people. Notice, too, that the potential for misbehavior is strongest when the difference between individuals' situations is robust and large. The disparity between drug addicts' and (nonaddicted) policy makers' psychological states, for instance, is strong and wide, so the potential for misguided policies

looms large. Or consider a recent analysis of the Bush administration's erroneous conclusion that Saddam Hussein's antagonism toward United Nations weapons inspectors in the late 1990's and early 2000's implied the presence of weapons of mass destruction (Dowd, 2004). This erroneous conclusion, the analysis goes, was based on the administration's assumption that if they were in Saddam's situation, their own failure to cooperate could only imply they had something to hide. In other words, the George W. Bush Administration assumed that Saddam's behavior was guided by the same calculations that guide the Bush administration's own noncooperative behaviors. The resulting misconception that Saddam held weapons of mass destruction was a major justification of the 2003 Iraq war—a behavior increasingly considered to be misguided and wrong.

### *Person Perception Consequences*

Just as projection may cause people to misbehave toward others, it may also cause people to misexplain others' behavior. As Ross and colleagues observed, "The intuitive psychologist judges those responses that differ from his [or her] own to be more revealing of the actor's stable dispositions than those responses which are similar to his own" (Ross et al., 1977, p. 280). In one of their studies, for instance, students who themselves chose to wear a sandwich board sign extolling viewers to "Repent" made stronger inferences about the dispositions of other people who chose not to wear the sign ("they must be shy") compared with students who themselves chose not to wear the sign (Ross et al., 1977, Study 4). Because people tend to view their own reactions behavior as unbiased, reasonable responses to situations, they naturally infer that different reactions reflect something distinctive about the others' underlying disposition.

A similar logic underlies cross-situational perspective taking. Our studies of empathy gaps across different psychological states suggest that people's explanations of others' behavior are influenced not only by the choices they actually make, but also by the choices they *think* they would make if they were in a different situation. For example, a student facing a hypothetical decision who overestimates her willingness to dance is likely to make overly strong inferences about the shyness of a nondancing student faced with an actual performance. That is, the student might use her (biased) self-prediction of how she would behave in a different situation as a basis for evaluating the behavior of people actually in that situation (Reeder, Fletcher, & Furman, 1989). Consistent with this possibility, we found in our studies of owners and buyer's agents, that individuals who did not reach an agreement—i.e., pairs in which the owners' selling price was higher than the agents' offer—attributed the other person's behavior more to dispositional greed than to a basic psychological difference between owners and nonowners (Van Boven et al., 2000, Study 4). We suspect that such projection-based misexplanations of others' behavior are common and contribute to projection-based misbehavior toward others.

In one sense, the logic underlying people's attributions is perfectly reasonable, given their projection. If people perceive a behavior to be relatively unique, then they *should* make stronger inferences about the dispositions of others who engage in that behavior compared with individuals who engage in more common behavior (Kelley, 1967; McArthur, 1972). A Democrat who perceives Democratic voters as relatively common should make stronger inferences about the dispositions of Republican voters, who are perceived as relatively unique. And owners should make inferences about the dispositions of buyers when buyers' behavior does not match the owners' reasonable expectations.

In another sense, this attributional logic is misguided. Because they socially project, Democrats' misestimate that Republicans are more unique than they are, and owners' mispredict that buyers will find their commodity to be more valuable than they do. In addition to many other attributional biases (Gilbert, 1998; Gilbert & Malone, 1995), social projection means people have unrealistic expectations of others' social behavior. When the behavior people observe violates their (biased) expectations, they make (biased) inferences about the dispositions of the behavior rather than something about their unrealistic expectations (Reeder et al., 1989).

### *Learning About Social Projection*

One consequence of misinterpreting behavior because of social projection is that individuals may have difficulty learning about their own social projection. To learn about and correct social projection requires prompt, unambiguous, accurate feedback about one's biased judgments (Einhorn, 1982). Such feedback may be rare. And, as discussed in the previous section, even when people do receive feedback about their biased or erroneous judgments, they are likely to misinterpret the mismatch between their judgments and the behavior of others as evidence of others' underlying dispositions, rather than something misguided about their prediction.

Several studies indicate that people do not learn about social projection, even when given ample evidence suggesting that their projection is inappropriate or erroneous. In one such study, participants projected their own decision to wear a sandwich board or not, even after learning that a large number of other students had agreed to wear the board (Krueger & Clement, 1994). Thus, people continue to project their own reactions even when they have unambiguous information that their own behavior is uninformative.

In studies of projection between owners and buyer's agents, we have found that costly, projection-based behavior persists even in the face of feedback that projective predictions are incorrect and produce costly behavior (Van Boven, Loewenstein, & Dunning, 2003). As in earlier studies, agents made an offer to purchase an owners' possession (coffee mugs or other trinkets), and owners stated their lowest selling prices. Owners and agents repeated this exercise four times, each with a randomly selected person in the other role. Agents' offers increased

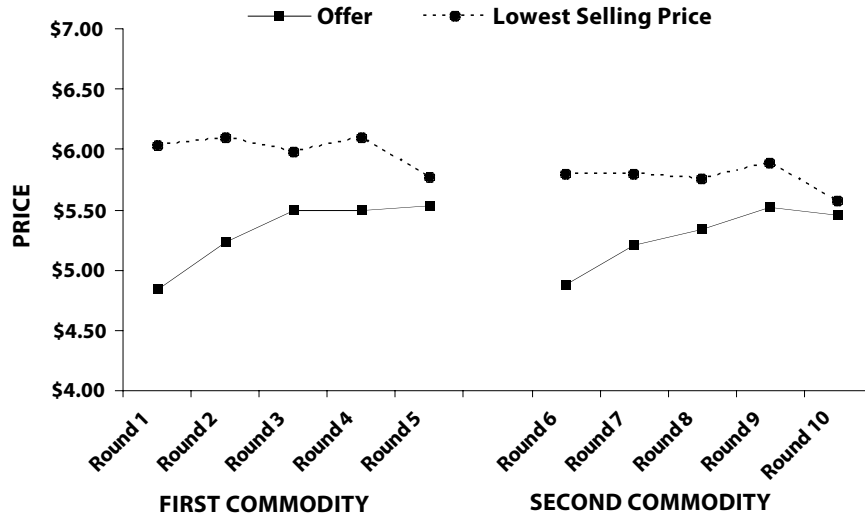


FIGURE 3.5

over time while owners' selling prices were stable (see the left half of Figure 3.5). Agents thus appeared learned to correct their projection-based misbehavior.

This learning was rather specific, however. After five rounds, owners and agents were told that the market for that particular commodity was closed. Owners were then given a second, different possession (a trinket of similar value as the first commodity), and agents and owners were told they would repeat the buying and selling procedure, exactly as before. Notice what happened in the first round with the new commodity. If agents had learned that owners tend to value their possession simply because they own them, then their first offers for the new commodity should resemble their final offers for the first commodity. To the contrary, agents' first offers for the second commodity were once again substantially lower than owners' selling prices (see the right half of Figure 3.5). Agents thus started at square one, transferring little or none of their learning about owners' value of one commodity to owners' value of a (superficially different) second commodity. This finding is consistent with other research indicating that even when people learn to change their behavior to produce desired outcomes, they have difficulty understanding the psychological processes that produce the desired outcome so that superficial situational changes eliminate their learning (Bassok, Wu, & Olseth, 1995). The fact that social projection occurs in the face of contradictory evidence points to the subjectively compelling nature of social projection.

The results of these studies indicate that learning about social projection is difficult during the relatively short time span of a psychology experiment. But what about over the course of a lifetime? As people age and learn that others' reactions and mental states sometimes differ from their own, it seems reasonable that they may learn to reign in their projective tendencies (Royzman, Cassidy, &

Baron, 2003). Several studies hint at a decline in social projection over time. In one, children's age (range 7 to 9) was negatively correlated with a false consensus effect (Wetzel & Walton, 1985). In another, older university students ( $M$  age = 76) exhibited a smaller false consensus effect than middle-aged adults who, in turn, exhibited a smaller false consensus effect than adolescents (Yinon, Mayraz, & Fox, 1994). Other studies suggest that the curse of knowledge also declines with age. In a study with 3-, 4-, and 5-year-olds, younger children exhibited a larger curse of knowledge than did older children (Birch & Bloom, 2003). Another study conceptually replicated this developmental decline in curse of knowledge, and found that the curse of knowledge was smaller among university students than among young children (Bernstein, Atance, Loftus, & Meltzoff, 2004, Experiment 1).

These developmental findings are intriguing and raise many questions. Does social projection across different emotional situations decline with age? Does social projection decline linearly with age? Or are early declines more substantial than declines later in life? Does declining projection reflect a qualitative shift in psychological processes? Or does it reflect greater facility in correcting one's initial, egocentric judgments? These open questions, and the increasing interest in psychological processes among the elderly, suggest that developmental patterns in social projection will be an important and active topic of future research.

## CONCLUSION

Cross-situational projection is a mixed blessing. Like many judgmental tendencies, projection frequently yields accurate assessments, and is often an efficient way of making social judgments (Dawes, 1989, 1990; Hoch, 1987; Krueger, 1998). When little or nothing is known about others, the self is a reasonable basis for judging others.

The problem is that self-knowledge is often limited, biased, and sometimes just plain wrong (for recent reviews see Wegner, 2002; Wilson, 2002). We suspect that most of these biased and erroneous self-judgments have corresponding biased and erroneous social judgments. If the key to knowing others is knowing the self, it is unfortunate that self-knowledge is so limited.

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