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Running head: EMOTIONS AS SOCIAL INFORMATION

**An Interpersonal Approach to Emotion in Social Decision Making:  
The Emotions as Social Information (EASI) Model**

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### **Abstract**

Social decisions are heavily influenced by emotion. For decades, the dominant research paradigm has been characterized by a focus on the decision maker's own positive or negative mood. We argue that a full understanding of the role of emotion in social decision making requires a complementary focus on interpersonal effects (i.e., the effects of one individual's emotions on the other's behavior); a focus on discrete emotions rather than general mood states; and a distinction between cooperative and competitive settings. To advance insight into these issues we present the Emotions as Social Information (EASI) model. The model is grounded in two basic assumptions, namely that individuals use others' emotions to make sense of ambiguous situations, and that the effects of others' emotions and the processes that drive them depend critically on the cooperative or competitive nature of the situation. A review of recent research supports our analysis. We demonstrate that the interpersonal effects of emotions are pervasive and can be better understood in terms of the unique social functions of each emotion than in terms of valence. Effects in cooperative settings are best explained in terms of affective reactions (i.e., emotional contagion, affect infusion, and mood management), whereas effects in competitive contexts are better understood in terms of the strategic inferences individuals draw from other's emotions. We close by discussing the implications of our model and highlighting avenues for future research.

## **An Interpersonal Approach to Emotion in Social Decision Making:**

### **The Emotions as Social Information (EASI) Model**

Would you trust a salesperson who smiles at you, or give money to a grumpy beggar muttering angry phrases? How would you react to a friend who arrives late for an appointment looking guilty and ashamed? Would you work harder when your team leader appears upbeat and cheerful or rather irritated and moody? Reversing the roles, would you show that you are angry or happy about your negotiation partner's insultingly low or surprisingly generous offer? If you wanted to solicit help, which emotions would you show? Diverse as they may seem, all these questions revolve around one fundamental issue: How do emotional expressions shape social interactions and decisions? This is the focus of the current chapter.

Emotions have long been regarded as disruptive forces that interfere with rational decision making. Increasingly, however, this view has given way to a functional perspective on emotions. Contemporary scholars share the idea that emotions signal the importance of events to relevant concerns, help prioritize goals, and generate a state of action readiness that prepares the individual to respond to changes in the environment (see e.g., Frijda, 1986). This not only applies to individual goals and actions but also, and perhaps especially, to social interaction and decision making – situations in which one's own behavior influences and is influenced by one or more others. Indeed, social interactions are among the most commonly reported antecedents of emotions (Anderson & Guerrero, 1998; Shaver, Wu, & Schwartz, 1992), and emotions have plenty of potential to shape behavior (Frijda, 1986; Manstead, 1991; Van Kleef, 2009).

Although the last decades have witnessed a growing attention to the role of emotion in social decision making, we believe that this research has not done justice to the inherently social nature of emotion. The reason is that most research has addressed the *intrapersonal*

effects of affective states (especially positive vs. negative moods), demonstrating that individuals' judgments and decisions are influenced by their mood state (e.g., Ashby, Isen, & Turken, 1999; Forgas, 1995; Isen, 1987; Schwarz, Bless, & Bohner, 1991; Wyer, Clore, & Isbell, 1999). Although much of this work involved social situations, the role of emotion itself has been studied in a rather a-social way, ignoring the role of the interaction partner. In this article we advocate a more *social* approach, advancing a new model of the interpersonal effects of emotion in social decision making.

### **1. Concerns with Past Research and Aims of the Present Article**

The article—and much of the research reviewed in it—is motivated by three key concerns about the dominant research focus. The first concern is the prevailing focus on intrapersonal effects. We contend that the role of emotion in social decision making cannot be fully understood by merely considering the decision maker's own emotions. We don't just feel our emotions; we also express them in social interaction. This means that other people may observe our emotions, and may be influenced by them. Parkinson's (1996) article entitled "Emotions are social," aptly notes that our emotions are not only often evoked by social interaction; they also influence the behavior of social interaction partners by serving as a form of communication (Ekman, 1993; Fridlund, 1994; Frijda, 1986; Knutson, 1996). A true understanding of the role of emotion in social decision making therefore requires an additional focus on the interpersonal effects of emotions—the effects of one individual's emotions on the *other's* social decisions and behavior. Despite the growing popularity of social-functional approaches to emotion (e.g., Elfenbein, 2007; Fischer & Manstead, 2008; Frijda & Mesquita, 1994; Keltner & Haidt, 1999; Morris & Keltner, 2000; Oatley & Jenkins, 1992; Van Kleef, 2009), a systematic analysis in the context of social decision making is missing. Accordingly, our first objective is to fill this void.

Our second concern is with the tendency to focus on positive versus negative mood as

opposed to discrete emotions. We argue that this emphasis on diffuse mood states blurs our understanding of the multifaceted role of emotion in social decision making. As explained in more detail below, each discrete emotion has its own antecedents, appraisal components, relational themes, and action tendencies (Frijda, Kuipers, & Ter Schure, 1989; Lazarus, 1991; Manstead & Tetlock, 1989; Roseman, Wiest, & Swartz, 1994; Smith, Haynes, Lazarus, & Pope, 1993). Emotions therefore provide more differentiated information and carry more clear-cut behavioral implications than moods (Weiner, 1986). Our second goal, accordingly, is to highlight these specific functions of discrete emotions in the context of social decision making. We will show that discrete emotions (e.g., happiness, anger, sadness, guilt) have differential effects on social behavior that cannot be understood in terms of valence.

Our final concern is the relative neglect of the social context within which emotions are expressed and behavioral actions emerge. Although emotions have been studied in various domains of social decision making, context has seldom been varied within studies, and it has not been common to compare the effects of emotions across different social settings. We argue that it is important to consider the social context. In particular, we propose that the same emotions may have entirely different effects depending on whether they are expressed in a predominantly cooperative or competitive setting. Cooperative settings are generally characterized by higher levels of trust and benevolence and greater motivation to work together; competitive settings typically breed distrust, more selfish motivations, and strategic behavior (De Dreu, Beersma, Steinel, & Van Kleef, 2007). It stands to reason that people respond differently to a smile or frown from a partner in a cooperative setting than from an adversary in a competitive situation (Lanzetta & Englis, 1989).

Motivated by these observations, we present the Emotions as Social Information (EASI) model to enhance understanding of the interpersonal effects of emotions in social decision making. The model is grounded in two basic assumptions. The first is that social

decision making situations are fuzzy and are characterized by insufficient information about interdependent others' goals, desires, and intentions. In such an uncertain environment, people rely on additional cues to make sense of the situation. We propose that people use their partner's emotions to disambiguate the situation and to inform their social decisions. Our second assumption is that the nature of the situation fundamentally shapes the interpersonal effects of emotions. In predominantly cooperative situations, where parties' goals are aligned and trust is high, people are likely to assimilate to the emotions of their partner, and their social decisions are likely to be influenced by their resulting emotional state. In more competitive settings, in contrast, where parties' goals conflict and trust tends to be low, individuals use their counterpart's emotions as strategic information to inform their behavior. This distinction has important implications for our understanding of the interpersonal effects of emotions in social decision making, as we demonstrate below.

This model helps us generate and address new questions about the role of emotion in social life. How do the emotional expressions of one party influence the social decisions of interdependent others? What are the distinct social signals that are conveyed by discrete emotions, and how do individuals respond to those signals? When do emotions spread from one individual to the other, and how does this affect social decision making? What strategic information do people distill from their counterpart's emotional expressions, and how do they act on those inferences? We rely on the EASI model and recent empirical work to provide preliminary answers to these and other questions. To do so, we proceed as follows. We first build on the aforementioned assumptions to develop our model. Next, empirical support for the main propositions of the model is reviewed by considering research evidence from our own and others' laboratories. We close with a section summarizing our main conclusions and their implications, highlighting some key gaps in our knowledge, and offering suggestions for further research.

## 2. The Structure and (Perceived) Nature of Social Decision Making

People live in and depend on groups, and much of the human brain capacity is devoted to managing the social environment. In fact, it has been argued that the human brain evolved into its current size and form precisely because of the need to manage social interdependencies where decisions and choices of the parties involved influence not only their own but also the other party's material and non-material outcomes (Barton & Dunbar, 1997; Kelley, Holmes, Kerr, Reis, Rusbult, & Van Lange, 2003). Examples of such social decision making include helping a colleague, making a group decision, deciding whether or not to pay taxes, and making or accepting an offer in a negotiation.

In their analysis of interdependence structures, De Dreu and Carnevale (2003) distinguished between 'coordination' and 'agreement' situations. Coordination situations are those in which individuals make independent decisions that influence their own as well as some other individual's outcome. An example is the classic and widely studied Prisoner's Dilemma (Komorita & Parks, 1995; Von Neumann & Morgenstern, 1947), capturing all those social dilemmas in which both parties are better off when both cooperate than when both defect, yet each party is best off when he or she defects and the other cooperates. For example, a husband and wife may each prefer doing nothing to clean the house, yet each party probably prefers a clean to a dirty house. Mutual cooperation (both clean the house) generates more value than mutual defection, but each party is best off when he or she defects and the other cooperates. A large number of studies, including some discussed here, have used the prisoner's dilemma game or some derivative social dilemma to study the conditions that lead people to make cooperative or non-cooperative choices.

In addition to coordination situations in which individuals take independent actions that affect their own and others' outcomes, social decision making often involves parties making moves and countermoves until a common understanding or agreement is reached.



Examples of these agreement games include teamwork, leader-follower exchanges, and negotiation (De Dreu & Carnevale, 2003). Many studies, including several reviewed below, use (modifications of) the Ultimatum Bargaining Game (UBG), in which an allocator divides a certain amount of money (e.g., €10) between him- or herself and a recipient. The recipient either accepts the proposed distribution, in which case the proposed distribution takes effect, or rejects the proposal, in which case neither allocator nor recipient receives anything. From a "rational" self-interest maximizing perspective, one would expect recipients to accept any offer that provides them with an outcome greater than zero and, as a corollary, allocators to offer as little as possible (e.g., out of 10, one offers 1 and keeps 9). Interestingly, however, a long list of studies shows that allocators tend to propose fair, or close to fair distributions, and that recipients reject unfair distributions (Camerer & Thaler, 1995).

Both coordination and agreement situations are mixed-motive in that each participant has incentives (a) to cooperate to serve collective, joint welfare and (b) to compete to serve personal, selfish concerns (Deutsch, 1973; Schelling, 1960). There is good evidence that because of temperament, socialization, or situational pressures, some individuals emphasize cooperative elements and de-emphasize or ignore competitive incentives, whereas other individuals do the reverse, emphasizing competitive rather than cooperative elements (Carnevale & Pruitt, 1992; De Dreu, *in press*; Deutsch, 1973; Komorita & Parks, 1995; Rusbult & Van Lange, 2003). Thus, one and the same social decision situation may be perceived and interpreted quite differently, with important consequences for cooperative action.

However, situations in and of themselves may also differ in degree of cooperativeness or competitiveness (De Dreu, Nijstad, & Van Knippenberg, 2008; Kelley et al., 2003; Rusbult & Van Lange, 2003; Weber, Kopelman, & Messick, 2004). Some situations offer more cooperative than competitive incentives and thereby drive people towards cooperation; other

situations offer more competitive than cooperative incentives and predispose individuals towards competition and conflict. Thus, colleagues in a work team, friends on an annual outing, or parents discussing what school their children should attend may all perceive their situations to be predominantly cooperative. In contrast, a buyer and a seller negotiating the sale of an old-timer, opposing politicians in a public debate, and partners divorcing on bad terms who discuss the distribution of financial resources are likely to perceive their situation as predominantly competitive. As we will see, making a distinction between cooperative and competitive settings significantly furthers our understanding of the interpersonal effects of emotions in social decision making.

### **3. Sense-Making and the Signaling Functions of Discrete Emotions**

The rational decision making approach that has long dominated theorizing and research on social decision making rests on the premise that individuals have full and accurate knowledge about their own and their interdependent partner's goals, needs, and desires. However, such complete information is unlikely to exist in most social decision making situations. Most of these situations are "fuzzy," in the sense that participants do not have full and accurate insight into the structure of the social situation (De Dreu et al., 2007). Individuals lack information about their partner's utility functions in that they do not know what is and what is not important to their partner; they do not know the amount of gain or loss their partner faces on specific issues; and they do not know what goals their partner seeks to achieve. Furthermore, people may have good reasons to doubt the accuracy and trustworthiness of explicit information about their partner's utility functions. According to Glimcher (2003), organisms that create "irreducible uncertainty" for competitors have an evolutionary advantage because such uncertainty cannot be learned and exploited by opponents. In social decision making individuals may therefore promote uncertainty by withholding accurate information and providing inaccurate information (e.g., De Dreu et al.,

2007; DePaulo, 1992; Steinel & De Dreu, 2004). This fundamental capacity and motivation to confuse and mislead others adds further to the fuzziness of social decision making situations.

Situational fuzziness forces individuals to *make sense* of their social environment, including interdependent others. Because parties typically lack information about their partner's needs, desires, and goals, they must rely on a variety of cues to infer what to do, whether to help and cooperate or, instead, exploit and compete (De Dreu et al., 2007). A basic assumption underlying our model is that social decision makers use their partner's emotions to make sense of the situation (Manstead & Fischer, 2001). Emotions are different from moods in that they are *intentional*, that is, directed toward a specific stimulus—be it a person, an object, or an event (Frijda, 1994). In other words, emotions are *about* something, whereas moods are not. A person in a cheerful mood is not necessarily happy about anything in particular; he or she is just in a good mood, for no apparent reason. Furthermore, emotions are characterized by distinct subjective experiences, physiological reactions, expressions, and action tendencies (Ekman, 1993; Levenson, Ekman, & Friesen, 1990; Parkinson, Fischer & Manstead, 2005; Roseman et al., 1994). For these reasons, discrete emotions are inherently more informative than diffuse moods.

Emotions provide information not just to oneself (Schwarz & Clore, 1983) but also to one's social environment (Keltner & Haidt, 1999; Manstead, 1991; Oatley & Johnson-Laird, 1987; Van Kleef, 2009). For instance, emotions convey information to observers about the sender's current feelings, social intentions, and orientation toward the relationship (Ames & Johar, 2009; Knutson, 1996; Manstead, Fischer, & Jakobs, 1999; Van Kleef, De Dreu, & Manstead, 2004a). Further, emotional expressions may evoke reciprocal or complementary emotions in others that in turn help individuals to respond adaptively to social events (Van Kleef, Oveis, Van der Löwe, LuoKogan, Goetz, & Keltner, 2008). Finally, emotions serve as

positive or negative reinforcers of others' behavior (Klennert, Campos, Sorce, Emde, & Svejda, 1983). Happiness, for instance, may encourage others to continue their current course of action, whereas anger may serve as a call for behavioral adjustment (Cacioppo & Gardner, 1999; Fischer & Roseman, 2007).

We propose that in making sense of fuzzy social decision making situations so as to act in a strategically wise and normatively appropriate fashion, individuals consider emotions as vital sources of information. When pondering whether and to what extent to cooperate and help others or to compete with and exploit them, individuals implicitly or explicitly, unconsciously or deliberately, use their own and their partner's emotions to inform their behavior. This broad proposition is further developed below, and examined in terms of the available research evidence.

#### **4. The Emotions as Social Information (EASI) Model**

The EASI model is grounded in the two basic assumptions outlined above: that individuals use other's emotions to make sense of fuzzy situations; and that the interpersonal effects of emotions are shaped by the cooperative or competitive nature of the situation. The model posits that interpersonal emotional influence occurs via inferential processes and/or affective reactions (Van Kleef, 2008, 2009). In the following sections we specify what these processes entail, when they are likely to occur, and what the consequences are for the social decisions people make.

##### ***4.1. Inferential Processes: Distilling Information from Others' Emotions***

Emotions arise as a result of an individual's conscious or unconscious evaluation (appraisal) of some event as positively or negatively relevant to a particular concern or goal (Frijda, 1986; Lazarus, 1991). Because specific emotions arise in specific situations, observing a particular emotion in another person provides relatively differentiated information about how that person regards the situation. Such specific information is not

provided by positive or negative moods, which only indicate whether things are generally going well or not. For instance, according to appraisal theories (e.g., Frijda, 1986; Lazarus, 1991; Roseman, 1984; Scherer, Schorr, & Johnstone, 2001; Smith et al., 1993), happiness arises when goals have been met (or good progress is being made towards attaining them) and expectations are positive. Expressions of happiness therefore signal that the environment is appraised as favorable and benign. Anger arises when a person's goals are being frustrated and s/he blames someone else for it. Expressions of anger therefore signal appraisals of goal blockage and other blame. Sadness arises when one faces irrevocable loss and experiences low coping potential. Expressions of sadness therefore signal appraisals of lack of control and helplessness. Guilt arises when one feels that one has transgressed some social norm or moral imperative. Expressions of guilt therefore signal that one feels bad about one's misdemeanor and imply that one is motivated to make amends.

We propose that individuals use the information provided by others' emotional expressions as inputs to their social decisions. Early work on social referencing indicates that such processes are already evident in infants. In a classic series of studies, infants were more likely to cross a visual cliff when their mother smiled at them than when she looked fearful (Klinnert et al., 1983). Presumably the mother's emotional displays signaled that the environment was safe (happiness) or unsafe (fear), which informed the infant's behavior. Such processes are functional in social decision making because the information individuals distill from their interaction partner's emotional expressions helps them to make sense of a fuzzy situation in which the implications of the setting and the goals, desires, and intentions of the other are imperfectly understood. The other's emotional expressions add to the individual's understanding of the situation, and thereby help the individual to develop an adaptive course of action.

We propose that, when sufficiently motivated, individuals distill complex and highly useful pieces of information from their counterpart's emotional expressions. Returning to the previous examples, expressions of happiness signal that the other is satisfied with the way things are going. This makes it unlikely that the other will resort to contentious behavior to get his or her way—strategically valuable information in uncertain social situations.

Conversely, anger signals frustration of goals and other blame. When one is the target of an anger expression, one may infer that one did something wrong and this inference may in turn inform behavior (e.g., apologizing, changing one's conduct, acceding to the other's wishes).

Following the same logic, observers of sad displays may infer that the expresser is in need of help, and observers of guilty expressions may infer that the other is motivated to make up for his or her transgression.

#### ***4.2. Affective Reactions: Emotional Contagion, Affect Infusion, and Mood Management***

Emotional expressions can also wield interpersonal influence by eliciting affective reactions in observers (Van Kleef, 2009). Others' emotions may engender emotional contagion (Hatfield, Cacioppo, & Rapson, 1994)—the tendency to unintentionally and automatically "catch" other people's emotions through their facial expressions, vocalizations, postures, or bodily movements (e.g., Anderson, Keltner, & John, 2003; Hawk, Van Kleef, Fischer, & Van der Schalk, 2009; Hess & Blairy, 2001; Neumann & Strack, 2000; Wild, Erb, & Bartels, 2001), or through verbal expressions of emotion (e.g., in computer-mediated interaction; Friedman, Anderson, Brett, Olekalns, Goates, & Lisco, 2004; Thompson & Nadler, 2002; Van Kleef et al., 2004a).

When people catch others' emotions, the resulting feeling state may influence judgments and decisions via different types of affect infusion (cf. Forgas, 1995). First, individuals may (mis)attribute the affective state to the situation at hand, using their feelings as input to their social judgments and decisions—a "how do I feel about it?" heuristic (i.e.,

affect-as-information; Schwarz & Clore, 1983). If they catch others' happiness and thereby come to experience positive feelings, they may judge the situation as safe and free from problems, which allows for generosity and exploration rather than rigid exploitation (Ashby et al., 1999; Baas, De Dreu, & Nijstad, 2008). Second, the emerging affective state may selectively prime related ideas and memories that are part of an associative network, thereby facilitating their use when planning and executing behavior (i.e., affect priming; Bower, 1981; Isen, Shalke, Clark, & Karp, 1978). For example, individuals working with a partner on a joint task may catch their partner's happiness, causing them to selectively focus on the partner's cooperative efforts, which may lead them to increase their own cooperation. In a classic study, Carnevale and Isen (1986) manipulated the mood of negotiating pairs. Half the pairs were put into a positive mood by giving them a bag of candy and having them read funny cartoons prior to the negotiation; the other half did not receive these treatments. Being in a happy mood facilitated cooperative information exchange among negotiators, which helped them to craft creative solutions that allowed both sides to settle for something beyond a 50-50 split (i.e., they realized the "integrative potential" of the negotiation).

In addition to these different forms of affect infusion, the emotions individuals catch from their counterparts can influence social decisions through mood maintenance and negative state relief. The core assumption here is that people strive to promote and maintain positive mood states and to avoid experiencing negative mood states (Carlson, Charlin, & Miller, 1988; Clark & Isen, 1982). This basic drive motivates people in a negative mood to engage in behaviors associated with positive feelings (e.g., helping others) in order to relieve their negative feeling state (e.g., Cialdini, Darby, & Vincent, 1973; Schaller & Cialdini, 1988). Likewise, individuals in a positive mood are motivated to exhibit behaviors that produce positive feelings and to abstain from activities that entail the risk of spoiling the good mood (i.e., positive mood maintenance; Wegener & Petty, 1994). In the current context,

this means that when one's partner feels happy, one may catch the partner's happiness and become motivated to maintain the positive feeling by acting in a friendly and generous way. Similarly, when the other expresses sadness, one may become equally somber through emotional contagion and become motivated to relieve oneself of the negative feelings by acting generously.

#### ***4.3. Dual Functions: Inferential Processes and Affective Reactions***

Figure 1 depicts the EASI model and the two processes that lie at the heart of it: inferential processes and affective reactions. Inferential processes and affective reactions are distinct but mutually influential, and they may relate to one another in different ways (Van Kleef, 2009). In some cases inferences and affective reactions lead to the same behavior. For example, the distress of a significant other signals that help is required (inference) but also triggers negative feelings in the observer (affective reaction), both of which foster supportive behavior (e.g., Clark, Pataki, & Carver, 1996). In other cases, however, inferences and affective reactions are likely to motivate opposite behaviors. For instance, when faced with an angry opponent in a negotiation, one's own reciprocal anger may provoke competition and retaliation, but one's inference that the other is upset because his or her limits have been reached may encourage strategic cooperation (Van Kleef et al., 2004a). Which process takes precedence in guiding social decisions depends on two critical moderators, which follow from the two basic assumptions underlying our analysis.

First, we propose that the cooperative versus competitive nature of the situation fundamentally changes the meaning and social consequences of emotional expressions. Specifically, as elaborated in greater detail below, we posit that affective reactions become more predictive of social decisions to the extent that the situation is (perceived as) cooperative, and strategic inferences become more predictive of social decisions to the extent that the situation is (perceived as) competitive. Second, because emotional expressions carry



information that potentially disambiguates fuzzy and uncertain social situations, we propose that the interpersonal effects of emotions depend on observers' motivation to consider and process the information conveyed by the other's emotional expressions. Specifically, we propose that inferential processes become more predictive of social decisions to the extent that observers are motivated to scrutinize the meaning of their counterpart's emotional expressions, and that affective reactions become more predictive of social decisions to the extent that such motivation is reduced (see Figure 1). Thus, both processes inform and guide observers' behavior, but under different circumstances. In other words, both inferences and affective reactions may be regarded as *functional*, but they are functional for different reasons, and in different situations. In the next two sections we elaborate on these two core moderators – the (perceived) cooperativeness of the setting in which emotions are expressed and observed, and the perceiver's motivation to engage in deep and deliberate information processing.

#### ***4.4. Differential Responses to Discrete Emotions in Cooperative vs. Competitive Settings***

The (perceived) cooperative or competitive nature of the social setting is a first crucial determinant of the mediating processes involved in the interpersonal effects of emotions in social decision making. We propose that when parties' goals are cooperatively linked, they are more likely to come to feel each other's emotions and to be influenced by subsequent affect infusion and mood management processes. Indeed, evidence suggests that emotional contagion is more prevalent in cooperative rather than in competitive situations. In a study involving professional cricket teams, Totterdell (2000) found that players' moods were more strongly correlated with the aggregate mood of their *own* team members (with whom they had a cooperative relationship) than with the mood of the other team's members (with whom they had a competitive relationship). Furthermore, Lanzetta and Englis (1989) demonstrated that individuals who anticipated a cooperative encounter with another person showed

empathic emotional reactions to that person's displays of pleasure or distress (reflected in congruent facial muscle activation and levels of autonomic arousal), whereas individuals who expected a competitive encounter showed counter-empathic reactions (reflected in opposite patterns of facial muscle activation and autonomic arousal).

In addition to the lower likelihood of emotional contagion and concomitant affect infusion and mood management processes, competitive situations are typically characterized by lower levels of trust (e.g., Deutsch, 1973). Therefore, any information that reveals a counterpart's intentions takes on heightened strategic importance. A counterpart's emotions provide strategic information because they signal what is important to the counterpart, how he or she feels about the situation, and what steps he or she plans to take (Van Kleef, 2009). We therefore propose that social decisions in competitive situations are driven less by affective reactions and more by the strategic inferences that decision makers draw from their counterpart's emotional expressions. This is not to say that emotional contagion does not occur at all. It is less prevalent, however, and if it occurs it is likely to be only weakly related to social decisions because the effects of the individual's own emotional state are overruled by strategic considerations (Van Kleef et al., 2004a).

We focus our analysis on four classes of emotions that frequently arise in social decision making and that have received research attention. We classify these emotions in terms of their main signaling functions and develop propositions regarding how recipients react to these emotions as a function of the perceived cooperativeness versus competitiveness of the situation. These propositions are summarized in Table 1. Note that the distinction between cooperative and competitive settings is not a strict dichotomy, and that situations may fall anywhere on a continuum from purely cooperative to purely competitive (Deutsch, 1973; Schelling, 1960). As such, the action tendencies highlighted in Table 1 should not be interpreted as occurring *only* in cooperative or competitive settings, but as becoming *more or*

*less prominent* as situations become more or less cooperative or competitive.

We conceptualize the recipient's action tendencies in terms of Horney's classic distinction between "moving towards," "moving away," and "moving against" (Horney, 1945; also see Deutsch, 1973). *Moving towards* captures cooperative activities such as making concessions in a negotiation, donating money to a charity, making a cooperative decision in a prisoner's dilemma game, offering a fair division of resources in ultimatum bargaining, and so on. *Moving away* captures what Lewin (1951) referred to as "leaving the field," and includes ending the relationship, avoiding the interaction partner, suppressing thoughts about the situation, refusing to take action, and adopting a passive stance. *Moving against*, finally, includes behaviors such as taking a firm stance in bargaining, refusing to make concessions, engaging in deception, stealing a beggar's money, and making a non-cooperative decision in a social dilemma. As we will see later, most empirical work on emotion in social decision making has focused on moving toward and moving against tendencies.

The first class of emotions in Table 1 consists of positive goal-congruent emotions, which arise when events are congruent with an individual's concerns. A prominent example is happiness, which "occurs when we think we are making reasonable progress towards the realization of our goals" (Lazarus, 1991, p. 267). It is associated with a state of pleasure, security, and generosity, which is manifested in outgoingness and approach-related behaviors (Lazarus, 1991). It is also associated with well-being and a broadening of momentary thought-action repertoires, which enables individuals to identify and seize opportunities to build enduring (social) resources (Fredrickson, 2001). Happiness may further signal a desire to affiliate, socialize, and play (Fridlund, 1994). Several scholars have argued that smiles are often communicative acts (Fridlund, 1991; Hess, Banse, & Kappas, 1995; Jakobs, Manstead, & Fischer, 1999a, 1999b; Kraut & Johnston, 1979; Manstead et al., 1999); indeed, people sometimes knowingly smile in order to get others to like them (Godfrey, Jones, & Lord,

1986; Rosenfeld, 1966). We thus summarize the main social signals of happiness and related emotions as *affiliation and opportunity*.

Such signals, we propose, have fundamentally different effects in cooperative versus competitive settings. In cooperative settings, where parties' goals are positively correlated, one party's happiness implies that the other also has reason to be happy. In such settings the strategic value of the counterpart's happiness is relatively low, because parties are likely to trust one another, to communicate openly, and to work together to achieve their shared goals (De Dreu et al., 2007). As a result, the happiness is likely to spread from one person to the other and to influence social decision making via infusion of positive affect (cf. Forgas, 1995). Thus, in cooperative settings, happiness elicits "moving towards" tendencies and cooperative behavior. By contrast, in competitive settings, a partner's happiness may be taken as a sign that the other is gaining at one's own expense (Lanzetta & Englis, 1989), triggering "moving against" tendencies. Furthermore, the implication that the other is (close to) attaining his or her goals and being satisfied implies that one may be able to get more for oneself. In competitive settings expressions of happiness may be perceived as a sign of weakness (Van Kleef et al., 2004a). When one's opponent appears soft, this leaves scope for placing high demands oneself without risking negative consequences. Thus, we propose, in cooperative settings a partner's happiness engenders "moving towards" tendencies and cooperative and helpful behavior, but in competitive settings it triggers "moving against" tendencies and competitive and exploitative behavior.

The second class of emotions listed in Table 1 consists of negative emotions associated with the (deliberate) frustration of goals. A prominent example is anger, which arises when a person's goals are frustrated and s/he blames someone else for it. Anger is associated with a tendency to aggress against the person (or object) seen as responsible for the goal blockage and with a desire to bring about change (Averill, 1982; Fischer &

Roseman, 2007). Anger is facilitated when the individual perceives attack as a viable option to restore the unfavorable situation (Lazarus, 1991). Perhaps in part because of the associated action tendency of attack, anger signals power and dominance (Tiedens, 2001). Thus, the main social signals of anger are *dominance and aggression*.

Signaling dominance and aggression through anger and frustration is likely to have different effects in cooperative and competitive settings. As can be seen in Table 1, we propose that the most likely consequence of anger and related emotions in cooperative settings is reduced cooperation. First, anger signals aggression and blame, and such signals are not conducive to favorable interpersonal relations and fruitful collaboration. Second, the spreading of anger from one person to another may undermine cooperation via affect infusion (Forgas, 1995). Although expressions of anger in cooperative settings may motivate parties to withdraw from the situation (move away), this is often not a feasible option in situations of mutual dependence, leaving reduced cooperation (move against) as the most likely consequence of anger. In competitive settings, too, targets of anger may feel like leaving the situation but lack the leeway to do so. Because anger signals aggression and dominance, adversaries may feel pressured to give in to the angry party's desires so as to prevent actual aggression or other negative consequences (e.g., failure to reach an agreement)—risks that are more imminent in competitive as opposed to cooperative settings. In short, even though individuals who are faced with another's anger may be motivated to leave the situation in both cooperative and competitive settings, mutual interdependence often eliminates this option. Thus, expressions of anger are likely to trigger competition in cooperative settings and cooperation in competitive settings.

The third class of emotions arises when individuals face a loss (sadness), when outcomes fall short of expectations (disappointment), or when negative events may occur (worry, fear). Although these emotions have different secondary appraisal components (e.g.,

Lazarus, 1991; Smith et al., 1993), they may be thought of as sharing a "supplication" function; that is, they serve as a call for help (Clark et al., 1996; Eisenberg, 2000; Eisenberg & Miller, 1987; Kennedy-Moore & Watson, 2001; Timmers, Fischer, & Manstead, 1998). Sadness, for instance, increases perceptions of neediness and dependency (Clark & Taraban, 1991) and both worry and fear communicate a need for assistance (Côté, 2005; Eisenberg, 2000; Kennedy-Moore & Watson, 2001; Yee & Greenberg, 1998). Such signals are functional in that they can trigger helping and support from observers (Clark et al., 1996). Thus the main social function of these emotions is *supplication*.

Supplication emotions are more likely to elicit support in cooperative settings than in competitive settings (see also Table 1). In cooperative settings individuals typically care about each other's outcomes, and they are therefore motivated to support an interaction partner who feels disadvantaged and calls for help. Such benevolent behavior is less likely in competitive settings, where signs of weakness could even be taken as encouragement to go for a definitive win. Additionally, the spreading of sadness via emotional contagion—which is more likely in cooperative settings than in competitive settings—may increase cooperation through mood management processes. Thus we propose that the main action tendency associated with supplication in cooperative settings is to "move toward" and cooperate, whereas the most likely tendencies in competitive settings are to "move away" or "move against."

The fourth and final class of emotions listed in Table 1—guilt, interpersonal regret, and embarrassment—occur when one feels that one has transgressed a social norm or moral imperative (Lazarus, 1991). In social decision making situations, guilt and interpersonal regret may arise when one claimed too much or offered too little to a counterpart (Van Kleef, De Dreu, & Manstead, 2006a). Such emotions serve an "appeasement" function (Baumeister, Stillwell, & Heatherton, 1994; Keltner & Buswell, 1997). Feeling guilty is a way of showing

that one cares and is willing to make amends for a transgression (Baumeister et al., 1994). Similarly, embarrassment signals that one feels bad about a *faux pas* and implies that one will conform to social norms in the future (Goffman, 1967; Keltner & Buswell, 1997). Finally, interpersonal regret signals that one is committed to engaging in "behavioral repair work" or "ameliorative behavior" (Gilovich & Medvec, 1995). In sum, the main signal conveyed by emotions such as guilt, embarrassment, and interpersonal regret is *appeasement*.

We propose that these emotions, too, have different consequences in cooperative versus competitive situations. In cooperative situations signs of appeasement are likely to contribute to the quality of cooperative relationships by signaling remorse and caring. As such, appeasement emotions can be expected to reduce competitive tendencies that might otherwise arise due to a social transgression. In competitive settings, by contrast, appeasement emotions may invite competition and exploitation. Because such emotions signal that the transgressor is willing to compensate, it becomes less necessary to make concessions oneself; instead, one can wait for the other to give in and exploit the situation to further one's own goals.

#### ***4.5. Epistemic Motivation and the Processing of Emotional Information***

The second crucial determinant of the interpersonal effects of emotional expressions in social decision making, and the processes that drive them, is the individual's information processing motivation. We propose that the more thorough the information processing, the stronger will be the predictive power of strategic inferences relative to affective reactions; the shallower the information processing, the stronger will be the relative predictive strength of affective reactions (see Van Kleef, 2009). Information processing depth depends on the individual's *epistemic motivation*, that is, his or her willingness to expend effort to achieve a rich and accurate understanding of the world, including interdependent others (De Dreu & Carnevale, 2003; De Dreu et al., 2008; Kruglanski, 1989; Kruglanski, Pierro, Mannetti, & De

Grada, 2006). Individuals with higher epistemic motivation have lower confidence in their knowledge and experience less certainty. To render judgments and make decisions they tend to engage in rather deliberate, systematic information search and processing (De Dreu et al., 2008; for similar accounts and models, see e.g., Chaiken & Trope, 1999; Evans, 2008; Kruglanski & Webster, 1996; Smith & DeCoster, 2000).

Epistemic motivation is partly rooted in temperament and socialization, so that individuals with higher need for cognition, lower need for cognitive closure, lower personal need for structure, and higher openness to experience have chronically higher epistemic motivation, and therefore engage in more deliberate information processing (De Dreu & Carnevale, 2003; De Dreu et al., 2008; Homan, Hollenbeck, Humphrey, van Knippenberg, Ilgen, & Van Kleef, 2008; Neuberg & Newsom, 1993; Webster & Kruglanski, 1994; also see Chaiken, 1987; Petty & Cacioppo, 1986). In current terms, these individuals are more likely to reflect on their partner's emotions and therefore the effects of their partner's emotional expressions are more likely to be mediated by deliberate inferential processes than by relatively automatic affective reactions.

Epistemic motivation also depends on situational constraints. Power differences, process accountability, time pressure, fatigue, and environmental noise are factors known to affect the individual's epistemic motivation and concomitant tendencies to process information deliberately and systematically (De Dreu et al., 2008; Fiske & Neuberg, 1990; Kruglanski et al., 2006; Tetlock, 1992). Thus, individuals with low rather than high power and those who feel accountable have higher epistemic motivation and engage in more systematic information processing (e.g., De Dreu & Van Kleef, 2004; Fiske, 1993; Lerner & Tetlock, 1999). Individuals facing acute time pressure, who are fatigued, or who are working under environmental noise experience increased need for closure, have lower epistemic motivation, and engage in more superficial and less deliberate information processing (De



Dreu, 2003; De Grada, Kruglanski, Mannetti, & Pierro, 1999; Van Kleef, De Dreu, & Manstead, 2004b). In terms of our present argument, these individuals are less likely to be influenced by their partner's emotions via deliberate inferential processes than via relatively automatic affective processes.

Before moving on, it is important to consider the relationship between the (perceived) competitiveness of the situation and the perceiver's epistemic motivation. Because personal outcomes are more easily endangered in competitive settings than in cooperative settings, perceivers may have stronger motivation to develop an accurate understanding of their situation. Thus perceived competitiveness in and of itself may heighten epistemic motivation. However, there is evidence that perceived competitiveness and epistemic motivation are not necessarily correlated. De Dreu, Koole and Oldersma (1999) reported small and non-significant correlations between competitive predisposition and proxies of epistemic motivation such as need for cognition and need for cognitive closure. Furthermore, various studies in which cooperative motivation and epistemic motivation were studied in conjunction found the two constructs to be independent (e.g., De Dreu, Beersma, Stroebe, & Euwema, 2006; De Dreu, Koole, & Steinel, 2000). In short, although it is conceivable that (perceived) competitiveness of the situation and epistemic motivation co-vary under particular circumstances, the two variables are conceptually and empirically distinct.

#### ***4.6. Summary of Model and Propositions***

The EASI model provides a framework for understanding the effects of an interdependent other's emotional expressions on a decision maker's tendency to move toward, away from, or against that other. We highlighted four discrete classes of emotions that individuals may experience and express in social decision making, and proposed that these emotions convey distinct social signals, including opportunity/affiliation (happiness and related emotions), dominance/aggression (anger and related emotions), supplication (sadness

and related emotions), and appeasement (guilt and related emotions). These signals may be picked up and subjected to inferential analysis or, alternatively, processed in a more automatic way involving emotional contagion and subsequent affect infusion or mood management. We propose that inferential processes take precedence over affective processes when the situation is perceived as predominantly competitive and/or recipients have high epistemic motivation and a concomitant tendency to engage in deliberate information processing. Conversely, we propose that affective reactions take precedence over inferential processes when the situation is perceived as predominantly cooperative and/or epistemic motivation is low. In the following sections we consider the empirical evidence for our model and its propositions, discussing research in cooperative and competitive settings in turn.

### **5. The Interpersonal Effects of Emotions in Cooperative Situations**

In this section we review pertinent research on the interpersonal effects of emotions in predominantly cooperative settings. The section is organized in terms of the main social signals that are conveyed by the four classes of emotions summarized in Table 1. We examine the extant empirical evidence for each of the propositions that can be derived from the table. It is worth noting in advance that although some of the theoretical propositions in Table 1 refer to "moving away" tendencies, such behavioral responses to other's emotions are rarely studied. We return to this point towards the end of this section.

#### ***5.1. Signs of Opportunity and Affiliation (e.g., Happiness) Facilitate Cooperation***

A general hypothesis that can be derived from our model is that in cooperative settings happiness and related emotions trigger a tendency to "move toward" the expresser, which, in the context of social decision making, should result in increased cooperation. In keeping with this hypothesis, research shows that expressions of happiness are associated with increased liking (Clark & Taraban, 1991; Shaver, Schwartz, Kirson, & O'Connor, 1987). People prefer being with and working with happy people (Lazarus, 1991). Accordingly,

studies have shown that expressing happiness and related positive emotions can have favorable outcomes at work in terms of supervisor evaluation and co-worker support (Staw, Sutton, & Pelled, 1994). Perhaps for these reasons, people have been reported to exaggerate their expressions of positive emotions toward their boss (Duck, 1986) and to strategically present displays of happiness (e.g., smiles) for purposes of ingratiation or flattery (Clark et al., 1996).

More direct tests of the happiness-cooperation hypothesis are provided by Krumhuber and colleagues. Krumhuber, Manstead, Cosker, Marshall, and Rosin (2009) found that female interviewees who displayed authentic smiles during a job interview were rated more positively and were more often short-listed for the job than were interviewees who displayed no smiles or inauthentic smiles. Moreover, in another study, participants involved in a trust game were more likely to trust counterparts who displayed an authentic smile compared to those who displayed an inauthentic smile or no smile. As displayed in Figure 2, participants cooperated more with authentically smiling counterparts (Krumhuber, Manstead, Cosker, Marshall, Rosin, & Kappas, 2007).

The happiness-cooperation hypothesis is further supported by a study on group decision making by Barsade (2002). She found that laboratory groups including a happy or serene confederate developed more pleasant group emotions, which in turn promoted cooperation and reduced conflict in the group. Along similar lines, several studies showed that when team leaders express positive emotions they are seen as more effective (Gaddis, Connelly, & Mumford, 2004) and charismatic (Bono & Ilies, 2006), and they elicit more prosocial behavior (George & Bettenhausen, 1990), creativity (Visser, van Knippenberg, Van Kleef, & Wisse, 2009), and better group performance (Gaddis et al., 2004; George, 1995). For example, Sy, Côté, and Saavedra (2005) had participants perform a tent-building exercise in groups while blind-folded. They were coached by a leader who had just viewed a film clip

inducing either happiness or not. The authors found that teams exposed to a happy leader developed a positive mood themselves, and as a result cooperated better.

To summarize, in cooperative settings such as job interviews, teamwork, and leader-follower exchanges there is converging evidence supporting the hypothesis that expressing positive emotions such as happiness promotes trust, liking, affiliation, and cooperation. Several of these studies also corroborate the notion that these effects are mediated by emotional contagion and subsequent affect infusion processes (e.g., Barsade, 2002; Sy et al., 2005; Visser et al., 2009).

### ***5.2. Signs of Dominance and Aggression (e.g., Anger) Undermine Cooperation***

Few studies have directly addressed the interpersonal effects of anger in cooperative settings. The studies that have been conducted support the idea that the dominant response to anger in cooperative settings is reduced cooperation. In the group decision making study by Barsade (2002) described above, groups that included an angry confederate tended to catch the confederate's anger, and their resulting negative affect reduced cooperation and increased conflict (see also George, 1990). Other studies found that exposure to others' anger can produce emotional exhaustion and hamper performance (Rafaeli, Rozilio, Ravid, & Derfler, 2009), especially when such affect is shared in the group (Barsade, Ward, Turner, & Sonnenfeld, 2000). These studies implicate emotional contagion as a mediator of the relationship between anger expression and social decision making.

In an illustrative study described by Clark and colleagues (1996), participants were invited to the lab supposedly to participate in a text-proofing experiment. Participants were led to believe that they would work in a group of three, and that one participant could leave early while the other two would proofread each other's work. The experimenter explained to the participant that the other two participants were hoping that they would be allowed to leave early, and that the participant could choose who would be dismissed and who would

have to stay. Participants then received the work of the other participants, which included ratings of how they were supposedly feeling at the time. The results showed that participants who were described as angry were less likely to be selected to leave early. This finding supports the idea that, in predominantly cooperative situations, signs of anger undermine cooperation.

There is some evidence, consistent with the EASI model in Figure 1, that these effects of other's anger expressions are moderated by the perceiver's epistemic motivation. In one study, Van Kleef, Anastasopoulou and Nijstad (2009) engaged the participant in the role of 'generator of ideas' working with another participant in the role of 'evaluator.' After the participant had generated ideas, a prerecorded video message from the evaluator (in fact a trained actor) appeared on the participant's computer screen in which he provided feedback and tips in an angry or neutral way. Participants with low epistemic motivation (operationalized in terms of personal need for structure; Neuberg & Newsom, 1993) were less willing to cooperate after their colleague had expressed anger rather than no emotion, and consequently they generated fewer ideas. Participants with high epistemic motivation, however, became more motivated to cooperate on the task after their colleague had expressed anger, and they generated more ideas.

Another study yielded compatible results. Van Kleef, Homan, Beersma, van Knippenberg, van Knippenberg, and Damen (2009) investigated the effects of leader emotional displays and follower epistemic motivation on team cooperation and performance. Four-person teams collaborated on a task, during which they were supposedly observed by their leader via a video camera setup. After a while, the leader (a trained actor) appeared on a video screen and provided standardized feedback and tips to the team, expressing either anger or happiness by means of facial expressions, vocal intonation, and bodily postures. Members of teams with an angry leader also became angry themselves, and members of teams with a

happy leader became happy, indicating that emotional contagion occurred. There were also effects on cooperative team performance, as shown in Figure 3. Followers with low epistemic motivation (again measured in terms of need for structure; Neuberg & Newsom, 1993) worked less well together and performed less well due to their negative affective state. Followers with high epistemic motivation, by contrast, inferred from the leader's anger that they were performing suboptimally, leading them to increase their efforts and to exhibit better cooperative performance.

Taken together, and in keeping with the EASI model, there is converging evidence that in cooperative settings such as teamwork and leader-follower exchanges, people typically respond to their partner's anger and frustration by reduced cooperativeness and increased tendencies to move against their partner. These tendencies are mediated by affective reactions rather than inferential processes. This pattern changes when epistemic motivation is increased: When targets have high epistemic motivation, expressions of anger trigger inferential processes in them that stimulate task engagement and cooperative behavior.

### ***5.3. Signs of Supplication (e.g., Sadness, Distress, Disappointment) Invite Cooperation***

Several pieces of evidence converge to support the idea that, in cooperative settings, sadness and related supplication emotions trigger a tendency to "move toward" the expresser, resulting in increased cooperation and support. Expressions of sadness (e.g., crying) and worry increase perceptions of neediness and dependency (Clark & Taraban, 1991) and evoke helping behavior in both children (Barnett, Howard, Melton, & Dino, 1982) and adults (Clark, Oullette, Powell, & Milberg, 1987; Labott, Martin, Eason, & Berkey, 1991; Yee & Greenberg, 1998). For example, Van Kleef and colleagues (2008) prompted same-sex dyads of unacquainted individuals to talk about instances in their life that had caused them a great deal of suffering and distress. Participants who were motivated to get to know and collaborate with their counterpart and who were therefore in a cooperative mindset responded more

compassionately and supportively to their partner's distress than did those who were less motivated to befriend their partner. Interestingly, individuals who relayed a story of suffering to a conversation partner who was motivated to invest emotionally in the conversation experienced more trust and understanding than did those whose partner was not so motivated, indicating that supportive responses to another's suffering contribute to the quality of cooperative interpersonal relationships.

More direct evidence for the supplication-cooperation hypothesis comes from the text-proofing experiment by Clark and colleagues (1996) described earlier. They found that fellow participants who were described as sad were significantly more likely to be selected by participants to leave the experiment early (something they had indicated that they would prefer), compared to those who were not described as sad. Interestingly, Clark and colleagues (1987) further demonstrated that expressions of sadness had stronger effects on helping among individuals desiring a "communal relationship" than among those desiring a more businesslike, "exchange relationship," suggesting that supplication is a more effective strategy in cooperative settings than in more competitive settings.

Compatible findings were obtained in a negotiation study by Van Kleef and colleagues (2006a). They found that negotiators who thought they were interacting with a cooperative partner (as manipulated through bogus feedback about the other's personality) made larger concessions when the other verbally expressed disappointment (rather than no emotion) regarding his or her outcomes, whereas those who thought they were dealing with a competitive counterpart did not yield when confronted with the other's disappointment.

Figure 4 shows the average demands participants made across the six rounds of the negotiation. These findings lend further credence to our assertion that supplication triggers a stronger tendency to "move toward" in cooperative as opposed to competitive settings.

#### ***5.4. Signs of Appeasement (e.g., Guilt, Regret, Embarrassment) Decrease Competition***

According to our analysis in Table 1, guilt and related appeasement emotions should, in cooperative settings, trigger a tendency to "move toward" the expresser, resulting in increased relationship quality and reduced competition. Several studies support this idea (e.g., Baumeister et al., 1994; Keltner & Buswell, 1997; Leith & Baumeister, 1998; M. Lewis, 2000). Feeling guilty is a way of showing that one cares and is willing to make amends for a transgression (Baumeister et al., 1994). Similarly, embarrassment signals that one feels bad about a *faux pas* and implies that one will conform to social norms in the future (Goffman, 1967; Keltner, 1995; Keltner & Anderson, 2000; Keltner & Buswell, 1997; Keltner, Young, & Buswell, 1997; Leary, Britt, Cutlip, & Templeton, 1992). A study by Semin and Manstead (1982) showed that displays of embarrassment after a social transgression had effects on social evaluations that were as positive as restitution behavior, suggesting that signs of embarrassment can help to maintain or restore cooperative relations.

Cooperative relationships may also be restored by expressing interpersonal regret, which signals that one is committed to repairing the damage done (Gilovich & Medvec, 1995). This was illustrated in a study by Zeelenberg, van der Pligt, and Manstead (1998), which demonstrated that feelings of interpersonal regret can indeed motivate "behavioral repair work." In one study, they coded cases from a Dutch television show called "I Am Sorry"—a show that provides people with the opportunity to undo regrets arising in social relationships by apologizing and offering flowers to the target of the regret. They found that apologies were indeed often motivated by interpersonal regrets, especially those stemming from action rather than inaction. Apologies, in turn, signal interpersonal sensitivity and a willingness to appreciate another person's perspective—important relationship repairing qualities (Steiner, 2000). Empirical evidence indicates that apologizing after a transgression may reduce blame and punishment (Darby & Schlenker, 1982), increase forgiveness (Bachman & Guerrero, 2006), reduce aggression (Ohbuchi, Kameda, & Agarie, 1989), and



enhance liking and positive impressions (Darby & Schlenker, 1982; Ohbuchi et al., 1989).

Thus, just like expressing guilt and embarrassment, expressing regret and making an apology can prevent competitive and retaliatory responses and help sustain cooperative relations.

### ***5.5. Emerging Patterns in Cooperative Settings***

Several conclusions emerge from our review of research in cooperative settings. First, expressions of positive emotions such as happiness facilitate cooperation, at least in part via emotional contagion. Second, expressions of negative emotions such as anger typically undermine cooperation (again at least in part via emotional contagion), except when recipients have high epistemic motivation and infer from the other's anger that they should invest more in the cooperative effort. Third, expressions of supplication emotions such as sadness, distress, and disappointment signal a need for support and thereby evoke cooperation. Fourth, appeasement emotions such as guilt, embarrassment, and interpersonal regret signal a concern for the other and thereby sustain cooperative relationships. These observations support the propositions of our model summarized in Table 1.

In addition, two broader patterns emerge that resonate with the two basic assumptions underlying our model. First, the available evidence points to a mediating role for affective rather than inferential processes in cooperative situations. Several studies indicate that emotional contagion and subsequent intrapersonal processes (i.e., affect infusion, mood management) are at least partly responsible for the interpersonal effects of emotional displays of happiness and sadness on social decision making (e.g., Barsade, 2002; Sy et al., 2005; Van Kleef et al., 2008). Few studies have found evidence of a role for inferential processes, and such inferences only seem to play a role in the case of anger and when individuals have high epistemic motivation (Van Kleef et al., 2009). As we will see below, this is quite different in the competitive domain, where the mediating role of inferential processes is much more apparent.

The second broad conclusion is that the effects of the emotions reviewed here cannot be understood in terms of their valence. For instance, expressions of happiness and of sadness both enhance cooperation, even though they differ in valence. Furthermore, anger has negative effects on cooperation whereas sadness and guilt have positive effects, even though they are all negatively valenced. This conclusion resonates with other observations about the effects of mood states that cannot be explained simply in terms of valence (e.g., De Dreu, Baas, & Nijstad, 2008). It is also consistent with our assumption that social decision makers use others' emotions to make sense of a fuzzy situation. Discrete emotions provide differentiated and fine-grained information to observers. Thus, individuals can use their partner's emotions to inform their social behavior, provided that they are sufficiently motivated to consider the implications of the other's emotion.

As noted earlier, few if any studies have examined tendencies to move away from one's partner, and thus some of the theoretical propositions in Table 1 remain untested. Furthermore, past work has often focused on cooperation (versus non-cooperation) and thus inadvertently restricted the perceiver's behavioral repertoire. Although we have seen that in cooperative settings perceivers become less cooperative when their partner expresses anger, it is unclear whether such tendencies were not partly due to the fact that "moving away" options were simply not available. In leader-follower exchanges and in teamwork, there is often some opportunity to "move away," ranging from explicitly leaving the field (searching another job, asking for a change of role) to more implicit actions such as disengagement and reduced effort (which is probably what cause the reduced cooperation in some of the studies reviewed above). We suspect that in cooperative settings the presence versus absence of "moving away" possibilities may be of lesser importance when facing a happy or guilty partner because these emotion expressions strongly predispose the partner to cooperate and move towards the partner. When it comes to anger and frustration, however, the presence of a

moving away possibility may have substantial behavioral repercussions. Here lies an important issue for future research.

## **6. The Interpersonal Effects of Emotions in Competitive Situations**

In this section we review research on the interpersonal effects of emotions in competitive situations. Like the preceding section on cooperative situations, our discussion is organized in terms of the four classes of emotions summarized in Table 1 and their associated social signals and behavioral responses. We will again see a trend for research to ignore the perceiver's option to "move away." However, in contrast to the preceding section, some findings do speak to this tendency, if only indirectly.

### ***6.1. Signs of Opportunity and Affiliation (e.g., Happiness) Invite Competition***

Unlike cooperative settings, we propose that happiness and related emotions trigger a tendency to "move against" the expresser in competitive settings, resulting in increased competition. Most research on the interpersonal effects of emotions in competitive settings has focused on negotiation. This line of research began with a series of studies by Van Kleef and colleagues (2004a), who investigated the interpersonal effects of happiness and anger using a computer-mediated negotiation task. In the course of the negotiation, participants received information about their (simulated) opponent's emotional state. For instance, the other would write that s/he was "really happy" or "really pissed off" with the way things were going. Negotiators who learned that their opponent was happy inferred that the opponent was lenient and "easy to get," felt no need to concede to avoid impasse, and accordingly made tougher demands and smaller concessions than those who were confronted with a non-emotional or angry opponent. This initial study thus suggested that negotiators use their counterpart's emotions as strategic information to inform their behavior.

More direct support for this notion was provided in a later set of studies, which demonstrated that the interpersonal effects of happiness and anger are moderated by the

negotiator's epistemic motivation and concomitant tendency to engage in thorough information processing (Van Kleef et al., 2004b). Specifically, negotiators were more strongly affected by their opponent's expressed emotion when they had low need for cognitive closure, time pressure was low, and they had low power (all conditions that heighten epistemic motivation; De Dreu & Carnevale, 2003). The interaction between the opponent's emotional expression and time pressure is displayed in Figure 5, which presents average demands across the six rounds of the negotiation. When time pressure was low, negotiators engaged in more thorough information processing and used their counterpart's emotions as strategic information in their decision making process, which led them to increase their demands when confronted with a happy rather than an angry opponent. By contrast, when time pressure was high, information processing was reduced, and the effects of the opponent's emotional expressions were mitigated.

In another recent study the implications of the use of a counterpart's emotional expressions were examined in the context of an integrative negotiation task, in which a better joint outcome than a 50-50 split is possible if both parties give up on their lower priority issues and stand firm on their higher priority issues. Using both verbal and nonverbal manipulations of the counterpart's emotion, this study showed that negotiators used their counterpart's expressions of happiness (versus anger) to infer that the other attached relatively low (rather than high) value to a particular issue. These inferences led them to stand firm on that high-value issue and to give in on those issues that appeared more important for the counterpart, thereby exploiting the integrative potential of the task (Pietroni, Van Kleef, De Dreu, & Pagliaro, 2008).

To summarize, converging evidence suggests that in competitive settings such as bargaining and dispute resolution, expressing happiness and joy provokes inferential processes: Rather than catching the other's happiness and responding cooperatively,

perceivers think through the strategic implications of the other's happiness. They infer that the other is doing well and may be ready to make concessions. There seems to be no pressing need to concede to a happy partner, so perceivers hold out and make relatively tough demands.

### ***6.2. Signs of Dominance and Aggression (e.g., Anger) Induce Cooperation***

In Table 1 we make the general prediction that, in competitive settings, anger and related emotions signaling dominance and aggression will trigger a tendency to "move toward" the expresser, resulting in increased cooperation. The model further suggests that this tendency should be especially apparent when observers have high epistemic motivation, and that it might be reversed when they have low epistemic motivation. Initial evidence for this idea was provided by the negotiation study by Van Kleef and colleagues (2004a) described above. Participants who learned that their opponent felt angry (rather than happy or neutral) estimated the opponent's limit to be ambitious, and in order to avoid a costly impasse they made relatively large concessions.

This finding has been replicated and qualified in a number of studies. Using a face-to-face as well as a scenario negotiation paradigm, Sinaceur and Tiedens (2006) showed that participants conceded more to angry as opposed to non-emotional counterparts because the former were perceived to be tougher than the latter. As in the case of happiness, these effects are mitigated when negotiators are low in epistemic motivation and fail to scrutinize the implications of their counterpart's emotions. Thus, when negotiators have a high need for cognitive closure, when time pressure is high (Van Kleef et al., 2004b) or when they have high power (Sinaceur & Tiedens, 2006; Van Kleef, De Dreu, Pietroni, & Manstead, 2006b) the effects of anger are absent (see Figure 5 for the time pressure case).

Research in the related field of dispute resolution has yielded compatible findings. Friedman and colleagues (2004) used data from e-Bay dispute resolution incidents to

demonstrate that a counterpart's expressions of anger may elicit concessions, but only when targets have a vulnerable position (i.e., an unfavorable reputation) and concomitant heightened epistemic motivation. When targets had a strong position (a good reputation) and therefore, presumably low epistemic motivation, the counterpart's anger expressions backfired, reducing the likelihood of settlement. In similar vein, data from face-to-face dispute resolution simulations indicate that disputants who adopt a negative, demanding emotional style in negotiations with a relatively powerful opponent who has a salient alternative option are less likely to reach an agreement or to secure a future relationship with the opponent than are those who display positive or neutral affect (Kopelman, Rosette, & Thompson, 2006). These studies also indicate that the emotional expressions of higher-power counterparts have more sway, and that social decision makers become more likely to use their counterpart's emotions as strategic information to the extent that they themselves have relatively low power and therefore high epistemic motivation (see also Keltner, Van Kleef, Chen, & Kraus, 2008).

The role of strategic inferences also emerged from a series of studies that did not (directly) manipulate epistemic motivation. First, Steinel, Van Kleef, and Harinck (2008) differentiated between emotions that are directed toward a negotiator's *offer* (relatively informative) and emotions that are directed toward the negotiator *as a person* (relatively uninformative). When emotional statements were directed at the participant's offer (e.g., "Your offer makes me angry"), participants used the opponent's emotion to assess his or her limits, and conceded more to an angry opponent than to a happy one. However, when the emotions were directed at the negotiator as a person (e.g., "You make me angry"), negotiators conceded *less* to an angry opponent than to a happy one. In this case, participants apparently did not find useful information in their opponent's emotions and felt personally attacked. As a result, they reacted more competitively to angry counterparts than to happy ones. It seems

that expressions of anger in negotiation are effective to the extent that they are perceived as appropriate by the target and therefore processed in greater depth; and that they backfire when they are deemed inappropriate and the target has a strong negotiation position with concomitant low epistemic motivation (Van Kleef & Côté, 2007).

Second, Van Dijk, Van Kleef, Steinel, and Van Beest (2008) showed that bargainers who received angry communications from their partner inferred that the partner had high limits, which led them to make more generous ultimatum offers compared to those who received happy communications. However, subsequent experiments revealed that these effects are mitigated when the consequences of offer rejection are reduced. Bargainers who received angry communications were more likely to deceive their counterpart when given the opportunity, giving them false information about the relative value of the payoffs in the game in order to get a better deal for themselves. Furthermore, when participants were given a more powerful bargaining position, they made less generous ultimatum offers to angry as opposed to happy counterparts. This negative effect of anger communication was mediated by the participant's own anger. Thus, in keeping with the dual-pathway logic of the EASI model, cooperative responses to expressions of anger were mediated by strategic inferences (i.e., estimates of the other's limits) when consequences of offer rejection were high (and epistemic motivation was therefore also high), whereas competitive responses to expressions of anger were mediated by affective reactions (i.e., own feelings of anger) when consequences of rejection (and therefore epistemic motivation) were low.

Whereas the studies reviewed above all focused on (non-)cooperation as a function of other's anger, some of them suggest that the other's anger expressions also motivate "moving away" tendencies. Specifically, when asked afterwards whether they would like to meet their partner again and work together on fresh tasks, those who had been paired with an angry partner expressed less desire for future interaction than did those in a non-emotional control

condition (e.g., Kopelman et al., 2006; Van Kleef et al., 2004b). This tendency to distance oneself from an angry counterpart was also found in recent work on coalition formation, in which three parties had to determine how to distribute a reward, and who should be included in (or excluded from) the coalition that would benefit from the reward. Van Beest, Van Kleef, and Van Dijk (2008) investigated the interpersonal effects of anger expressions in such a situation, using a computer-mediated three-person coalition formation simulation. They found that when participants had to form a coalition involving an angry party, they made larger concessions to the angry party than to the non-emotional other party. However, when participants were free to exclude parties from the coalition, they were more likely to exclude angry parties than non-emotional parties, thereby denying those parties their share of the joint payoff. These effects could be explained in terms of the negative feelings participants developed about angry parties. These findings lend additional support to our proposition that the effect of anger expression is moderated by epistemic motivation: When participants depended on an angry partner to cut a deal and epistemic motivation was therefore presumably high, they inferred from the partner's anger that large concessions were required to reach agreement. However, when they were not so dependent on the partner (and epistemic motivation was therefore likely to be low), affective reactions (in this case negative feelings about the partner) led them to be more likely to exclude angry partners than non-emotional partners from the coalition.

Overall, there is reasonably strong evidence for our proposition that when facing a partner expressing anger in a competitive context, perceivers tend to move towards their partner and increase their cooperative effort. This tendency is mediated by inferential processes and strategic analyses; to the extent that other's anger appears grounded in blocked goals and undesirably slow progress, perceivers increase their cooperation so as to not endanger an otherwise attractive deal with their angry counterpart. Furthermore, indirect



evidence suggests that when there is an opportunity to move away from angry counterparts, for example by avoiding them in the future or by excluding them from a temporary coalition, people tend to do so. We suspect, however, that the trade-off between moving toward versus moving away largely depends on strategic considerations (e.g., a cost-benefit analysis of the different behavioral options).

### ***6.3. Signs of Supplication (e.g., Sadness, Distress, Disappointment) Are Ignored***

Our model suggests that, in competitive settings, sadness and related supplication emotions have a lesser effect than they do in cooperative settings, most likely resulting in a relatively passive and reactive stance, rather than a proactive one. Preliminary evidence supports this hypothesis. In the negotiation study by Van Kleef et al. (2006a) described earlier, participants were led to believe that their counterpart had a cooperative or competitive personality. When the other was described as cooperative, participants conceded in the face of the other's disappointment. When the other was portrayed as competitive, however, such effects were not observed (see Figure 4). Similarly, participants who trusted their opponent (which is more common in cooperative exchanges) exhibited greater cooperation in response to expressed disappointment compared to no emotion, but those who distrusted their opponent (symptomatic of competitive interactions) showed no such effect. Finally, the previously mentioned study by Clark et al. (1987) demonstrated that expressions of sadness had stronger effects on helping behavior among individuals who desired a cooperative relationship than among those who wanted a more businesslike exchange.

A recent study provides some preliminary evidence that in competitive encounters individuals may take their counterpart's disappointment into account when they have high epistemic motivation (Van Kleef & Van Lange, 2008). In this study, participants with a more calculating, strategic personality were found to be sensitive to their counterpart's signs of supplication. These individuals were more motivated to consider the other's emotions because

they feared that not considering them might have consequences detrimental to their own outcomes, and they therefore conceded more to a disappointed counterpart than to a non-emotional one.

In sum, a number of studies show that in competitive encounters individuals are unresponsive to their counterpart's signs of supplication, unless they believe their counterpart to be cooperative and trustworthy (which essentially transforms the situation to a more cooperative one) or they have high epistemic motivation.

#### ***6.4. Signs of Appeasement (e.g., Guilt, Regret, Embarrassment) Invite Competition***

A final hypothesis that can be derived from Table 1 is that, in competitive settings, guilt and related appeasement emotions trigger a tendency to "move against" the expresser, which should result in increased competition. Van Kleef and colleagues (2006a) examined the effects of an opponent's expressions of guilt, interpersonal regret, or no emotion on participants' average demands in a negotiation. Figure 6 shows that participants whose opponents expressed emotions of appeasement (guilt or interpersonal regret) adopted a more competitive stance in the negotiation than did those whose opponents expressed no emotion. Additional experiments revealed that participants interpreted the other's expressions of guilt as a sign that the other felt s/he had claimed too much, which led participants to raise their demands because they expected the other to make concessions. In competitive interactions people may therefore use their counterpart's signs of appeasement as strategic information to inform their behavior.

#### ***6.5. Emerging Patterns in Competitive Settings***

Our review of the interpersonal effects of emotions in the competitive domain allows four conclusions to be drawn regarding the effects of the discrete classes of emotions that have been studied. First, expressions of happiness typically elicit competitive responses from observers because they signal easy-goingness. Second, expressions of anger tend to elicit

cooperation because they signal toughness, except when observers have low epistemic motivation. Third, supplication emotions such as sadness and disappointment tend to have little effect, unless parties have high epistemic motivation. Fourth, another's signs of appeasement tend to trigger competition and exploitation because they suggest that the other is prepared to make concessions. These observations lend support to the propositions summarized in Table 1.

In addition to these specific conclusions, two broader patterns are worth noting. First, unlike cooperative settings, the interpersonal effects of emotions in competitive settings are driven by strategic inferences rather than affective reactions. Almost all the studies discussed above provide support for a mediating role of strategic inferences and/or a moderating role of epistemic motivation (e.g., Sinaceur & Tiedens, 2006; Steinel et al., 2008; Van Dijk et al., 2008; Van Kleef et al., 2004a, 2004b, 2006a; Van Kleef & Van Lange, 2008). People become more competitive when their counterpart shows signs of happiness because they infer that the other is undemanding and ready to concede more. People become more cooperative when faced with expressions of anger because they infer that the other has ambitious goals and is a tough player. People exploit their counterpart when s/he shows guilt or regret, because such appeasement emotions are taken as a sign that the other feels s/he has already claimed too much and is willing to make concessions.

The second broad conclusion is that, just as in the cooperative domain, the interpersonal effects of emotions in competitive settings cannot be understood simply in terms of their valence. Displays of happiness and guilt both trigger competition, despite differing in valence. Furthermore, even though anger and guilt share negative valence, the former often elicits cooperation whereas the latter tends to evoke competition. These effects are better understood in terms of the distinct social signals that these emotions convey and the strategic inferences decision makers draw from these signals than in terms of the positive or

negative hedonic quality of these emotions.

As with research on cooperative settings, studies examining behavioral responses to other's emotions in competitive settings have rarely addressed "moving away" tendencies. One exception is work on anger, which suggests that expressing anger may provoke partners to increase cooperation in the short run (so as to not endanger deal-making) but to move away from future interactions in the long run, or to exclude those angry counterparts from beneficial coalition formation. We return to this issue later, when we discuss avenues for future research

## **7. Theoretical Implications**

The EASI model and the related empirical evidence shed new light on the role of emotion in social decision making and in social life more generally. Below we discuss several implications of the model for theorizing about the social functions of emotions, the role of the social context, the evolution of emotion, and the study of discrete emotions.

### ***7.1 The Importance of Putting Emotion into Context***

As is clear from the preceding review, the types of social decisions studied in cooperative and competitive settings differ substantially, with helping and support, group decision making, and leadership and cooperative team performance exemplifying predominantly cooperative settings, and negotiation, ultimatum bargaining, and coalition formation exemplifying predominantly competitive settings. Despite the different contexts and dependent variables, meaningful comparisons can be made between the interpersonal effects of emotions in cooperative and competitive settings, with respect to both their consequences for social decisions and the underlying processes involved. The most general conclusion that emerges from these comparisons—and one that is in line with a central tenet of the EASI model—concerns the relative prominence of affective reactions in cooperative settings and strategic inferences in competitive settings.

In cooperative settings people tend to catch one another's emotions (e.g., Anderson et al., 2003; Bartel & Saavedra, 2000; Van Kleef et al., 2008), and the resulting emotional convergence tends to influence social decision making via affect infusion or mood management (e.g., positive emotions promote cooperation; Barsade, 2002). There is less evidence for emotional contagion in competitive situations, and *if* emotional contagion occurs in such settings it does not necessarily translate into social decisions (e.g., Friedman et al., 2004; Van Kleef et al., 2004a). This only seems to happen when epistemic motivation is undermined and strategic considerations are eliminated from the situation (e.g., Van Dijk et al., 2008). In competitive settings reactions to others' emotional expressions are more strongly mediated by inferential processes. Targets of anger expressions infer that the other is tough and ambitious, which promotes cooperation (e.g., Sinaceur & Tiedens, 2006; Van Kleef et al., 2004a, 2004b). Targets of expressed guilt and regret infer that the other thinks that s/he has already received too much, which reduces cooperation (Van Kleef et al., 2006a). Targets of happiness infer that the other is undemanding, which also reduces cooperation (Van Kleef et al., 2004a, 2004b). These patterns occur regardless of the fact that angry counterparts evoke reciprocal anger in observers and are more disliked than happy or guilty ones, providing compelling evidence for the prominence of strategic inferences relative to affective reactions in predicting social behavior in competitive settings.

Apart from this general pattern, several more specific conclusions can be drawn about the interpersonal effects of discrete emotions in cooperative versus competitive settings. First, whereas people tend to respond supportively and cooperatively to expressions of happiness in cooperative settings (e.g., Barsade, 2002; Clark et al., 1996), they respond exploitatively to similar expressions in competitive settings (e.g., Van Kleef et al., 2004a, 2004b). The beneficial effects of expressions of positive emotion in cooperative settings can be explained in terms of emotional contagion (Barsade, 2002) and increased levels of interpersonal liking

and sympathy (Clark et al., 1996). Although positive emotions have similarly beneficial effects on liking in competitive settings (Kopelman et al., 2006; Van Kleef et al., 2004a, 2004b), this interpersonal liking does not generally influence behavior. Instead, individuals read the other's positive emotion as a sign of weakness, leading them to adopt a competitive stance.

Second, individuals respond differently to another's expressions of anger as a function of the nature of the situation. Anger typically undermines cooperation in cooperative settings (e.g., Barsade, 2002; Clark et al., 1996; Sy et al., 2005), but promotes cooperation in competitive settings (e.g., Sinaceur & Tiedens, 2006; Van Kleef et al., 2004a, 2004b). Regardless of the nature of the situation, anger tends to elicit negative impressions, reciprocal feelings of anger, and a reduced desire to work together (e.g., Friedman et al., 2004; Kopelman et al., 2006; Van Beest et al., 2008; Van Kleef et al., 2004a, 2004b). However, in competitive settings these affective reactions have few consequences for the social decisions people make, unless epistemic motivation is undermined (Van Dijk et al., 2008). Instead, decisions are fueled by the strategic inferences people draw regarding the other's toughness, which tend to overrule tendencies to react negatively to a counterpart's anger. Thus, even though individuals may experience a desire to retaliate to their counterpart's anger, they often choose not to do so in order to secure an agreement (Van Kleef & Côté, 2007).

Third, people respond differently to others' signs of supplication in cooperative versus competitive situations. In cooperative encounters people tend to respond supportively to others' expressions of sadness and distress (e.g., Clark et al., 1996; Van Kleef et al., 2008), whereas in competitive situations they tend to ignore such expressions (e.g., Van Kleef et al., 2006a). These differences can be explained in terms of the greater prominence of emotional contagion in cooperative settings (e.g., Totterdell, 2000), where individuals who come to feel their partner's distress become motivated to relieve the negative feeling by helping the other

(cf. Cialdini et al., 1973; Schaller & Cialdini, 1988).

Finally, the cooperative or competitive nature of the situation shapes behavioral reactions to a partner's signs of appeasement. In both cooperative and competitive situations, signs of guilt, regret, and embarrassment contribute to the quality of the interpersonal relationship (e.g., Baumeister et al., 1994; Keltner & Buswell, 1997; Van Kleef et al., 2006a). However, in competitive settings they have the additional effect of eliciting exploitative behavior from others (Van Kleef et al., 2006a)—an effect that is not observed in cooperative settings. Thus, although the interpersonal sensitivity that is conveyed by signs of guilt is also appreciated in competitive settings, strategic considerations in such settings typically lead individuals to exploit a guilty counterpart.

In sum, a key conclusion is that the structure of the social situation serves as a fundamental moderator of the interpersonal effects of emotions. Future research could therefore profit from systematically considering the context in which social decision making occurs, for instance by making direct comparisons between cooperative and competitive situations within a single study.

## ***7.2. Why Do We Have Emotions? Insights from the Interpersonal Approach***

A fundamental question in emotion theory is why emotions have evolved. Although this question is not one that is easily addressed through empirical research, most attempts to answer it have tended to attribute the existence of emotions to their intrapersonal functions, including the provision of information to the individual about features of the environment that are relevant to important concerns, altering cognition so as to function adaptively under the conditions at hand, and preparing the body for action (for reviews, see Oatley & Jenkins, 1992; Parrott, 2001). A classic example is the fear experienced by someone who encounters a dangerous snake and runs away, thereby increasing his or her chances of reproducing and contributing to the gene pool.

It is not our purpose here to dispute this intrapersonal functionality (although we note in passing that a recent review has cast doubt on the assumption that emotion has direct effects on behavior; see Baumeister, Vohs, DeWall, & Zhang, 2007). Rather, our review suggests that we need to take seriously the possibility that the evolution of emotions has been shaped by their interpersonal functions (cf. Darwin, 1872). It seems reasonable to suggest that children who more effectively convey distress to their caregivers are more likely to be nurtured, and that parents who are better attuned to their children's suffering are more likely to intervene when needed, thereby increasing the chances of their offspring's survival. Similarly, individuals who display anger at appropriate times and in the appropriate manner are more likely to scare off dangerous enemies, just as attackers who are better attuned to signs of anger in their enemies are more likely to avoid deadly combat (see also Fridlund, 1992). Finally, people who express happiness in the right circumstances probably develop better social networks, receive more social support in times of suffering, and lead more successful social lives (see e.g., Lopes, Salovey, Côté, & Beers, 2005). In sum, appropriate uses of and responses to emotional expressions are features of adaptive social behavior that are likely to increase the likelihood of survival and reproduction.

### ***7.3. Not All Emotions Are Created Equal: The Promise of Studying Discrete Emotions***

It is still common in the social decision making literature to conceptualize emotions in terms of their positive or negative valence. Our findings challenge this practice. We showed that in competitive settings expressions of anger typically elicit cooperation but expressions of guilt and regret elicit competition, whereas the reverse pattern emerges in cooperative situations. Thus it appears that the effects of appeasement emotions such as guilt, embarrassment, shame, and regret are opposite to the effects of dominance-related emotions such as anger, even though all are negatively valenced. Together with a growing body of research outside of social decision making documenting distinct effects of discrete negative



emotions (e.g., Bodenhausen, Sheppard, & Kramer, 1994; DeSteno, Petty, Wegener, & Rucker, 2000; Fischer & Roseman, 2007; Keltner, Ellsworth, & Edwards, 1993; Lerner & Keltner, 2000, 2001; Tiedens & Linton, 2001) the present review suggests that there is more promise in conceptualizing emotions in terms of their unique appraisal patterns and action tendencies than in terms of their valence. For instance, the "core relational themes" of anger and guilt are other-blame and self-blame, respectively (Smith et al., 1993), which helps to explain why they have opposite effects. Accordingly, future research would do well to measure or manipulate discrete emotions, rather than diffuse mood states. The predictive validity of affect can be expected to increase as a function of the level of specificity, because more specific emotions carry more clear-cut behavioral implications (Weiner, 1986).

When it comes to discrete emotions, our review also highlights important gaps in our knowledge. Although we are beginning to understand the effects of happiness, anger, sadness, distress, disappointment, guilt, and regret, the effects of many other emotions have yet to be explored. A focus on other discrete emotions is needed to gain a more complete understanding of the role of emotion in social decision making. One question that new research could address is whether different positive emotions (e.g., happiness, pride, gratitude, relief, hope, compassion) have differential effects on social decisions, as is the case for negative emotions. For example, it seems plausible that in cooperative situations positive emotions with an "other" focus (e.g., gratitude, compassion) would be more likely to facilitate cooperation than positive emotions with a "self" focus (e.g., pride).

### **8. Avenues for Future Research**

Before closing we want to highlight four areas that we believe offer especially promising avenues for future research: the role of emotional intelligence; the relationship of the emotion with the situation at hand; the issue of mixed emotions; and the neglected option of "leaving the field."

### ***8.1. Emotional Intelligence: Recognition and Regulation***

Some of the conclusions that stem from our review resonate with theorizing in the area of emotional intelligence. Two of the central skills that are featured in the four-branch ability model of emotional intelligence relate to the accurate recognition and adequate regulation of one's own and others' emotions (Mayer, Salovey, & Caruso, 2004). Clearly, many of the interpersonal effects reviewed here rest on the assumption that individuals perceive their partner's emotional state. However, people vary in their ability to accurately recognize emotions in others (Salovey & Mayer, 1990). There is some evidence that successful decoding of emotion is an important factor in negotiating interpersonal relationships (Elfenbein, Foo, White, Tan, & Aik, 2007). In a similar vein, it has been suggested that emotional expressivity, which arguably enhances the recognizability of one's emotions by others, facilitates trust and cooperation (Boone & Buck, 2003). These notions point to the importance of studying the social consequences of emotion recognition.

Our review also points to the importance of emotion *regulation*. For instance, the finding that expressions of positive emotion elicit helping and social support in cooperative settings but exploitation in competitive settings points to some clear advantages of adaptive emotion regulation (cf. Côté, 2005; Elfenbein, 2007). Individuals who successfully navigate social decision making situations are likely to be those who know when and how to show particular emotions. Importantly, successful emotion regulation requires not just showing the right emotion at the right time, but also showing the right emotion in the right way. Research by Krumhuber and colleagues (2007, 2009) shows that, in cooperative situations, authentic displays of happiness are more likely than inauthentic displays to elicit cooperation from others. Along similar lines, Côté, Van Kleef, and Hideg (2009) found that, in a competitive negotiation situation, "deep acted" displays of anger made a target more conciliatory, whereas "surface acted" anger displays had the reverse effect. This difference could be explained in

terms of lower levels of authenticity and trust in the latter condition. Future research is needed to develop a fuller understanding of the role of emotion regulation in social decision making.

### **8.2. *Why Are You Angry? Integral vs. Incidental Emotions***

The question of whether emotions arise during social decision making ("integral emotions") or are spillovers from other situations ("incidental emotions"; cf. Lerner, Small, & Loewenstein, 2004) seems highly relevant, yet is largely unexplored. This is unfortunate, because knowing where emotions come from should allow for better predictions regarding their effects. Schwarz and Clore's (1983) affect-as-information model describes how, at the intrapersonal level, a person's judgments may be influenced by a positive or negative mood evoked by an unrelated and irrelevant event. According to this perspective, stronger affective influences occur when ambiguity regarding the source of one's mood leads one to *misattribute* the mood to the target of judgment, such as when a cheerful mood arising from beautiful weather is used to guide responses to questions about one's life satisfaction. By analogy, stronger intrapersonal affective influences in social decision making might be expected in the case of incidental as opposed to integral affect. At the interpersonal level, however, we propose that stronger effects are likely when the other's emotion is perceived as arising from the social interaction itself, because in this case the emotion carries more diagnostic information that observers can use to inform their behavior. Future work could compare the effects of incidental and integral emotions in social decision making.

### **8.3. *Mixed Emotions: Blends and Contrasts***

Without exception, the studies reviewed here have examined the effects of one-dimensional affective states (e.g., relatively "pure" happiness, anger, sadness, or guilt). However, in everyday life individuals often experience "blends" of emotions (Scherer & Tannenbaum, 1986). These blends may even comprise emotions with a different valence. For

instance, individuals reported that they simultaneously experienced happiness and sadness on graduation day (Larsen, McGraw, & Cacioppo, 2001) and after a "disappointing win" or a "relieving loss," where one wins less well or loses less badly than expected (Larsen, McGraw, Mellers, & Cacioppo, 2004). To date, very little is known about how these mixed emotions influence social decision making. Evidence suggests that the simultaneous experience of positive and negative emotions enhances individual creativity (Fong, 2006), suggesting that emotion blends might affect social decision making at the intrapersonal level of analysis. In addition, the alternating or simultaneous expression of positive and negative emotions can be an effective instrument of social influence (Rafaeli & Sutton, 1991; Sinaceur, Adam, Van Kleef, & Galinsky, 2009), suggesting that patterns of mixed emotions may also affect social decision making at the interpersonal level. Future research is needed to shed more light on the mechanics of such configurations of emotion.

#### ***8.4. Moving Away: When Do Emotional Expressions Lead a Target to "Leave the Field"?***

We framed targets' repertoire of behavioral responses to another's expressed emotions in terms of Horney's (1945) distinction between "moving towards," "moving away," and "moving against" tendencies. To date, research on the interpersonal effects of emotions in social decision making has focused almost exclusively on the tendencies to move toward (cooperate with) or move against (compete with) the expresser. As a result, little is known about when targets of emotional expressions decide to avoid or end interaction with the expresser (moving away).

Ignoring moving away tendencies has two critical implications. First, in many situations – both cooperative and competitive ones – individuals do have the option of leaving the field, of ending the interaction or of dissolving the interdependent relationship. Intimate partners may divorce, friends may decide to avoid each other, employees may find a job elsewhere, negotiators may seek a better deal with someone else, and in social conflict

disputants may avoid constructive problem solving and hope that the problem (or their counterpart) will "just go away." By overlooking such behavioral options we inadvertently limit our analysis, and the conclusions we draw about the interpersonal effects of emotions may not be as generalizable as we would like them to be.

Furthermore, in a variety of settings, moving away can be a strategically smart way to maximize personal outcomes. In cases where the perceiver wants to maintain and defend the status quo yet is faced with a partner who seeks to change the status quo, it is probably strategically wise to move away from the partner and avoid interaction: Defenders are likely to be better off if they stall, delay, and avoid their partner, than if they move toward or against their partner. This applies to judicial cases where a defendant seeks a "not guilty" verdict, to organizational change programs where employees prefer no change whatsoever, to social conflicts where one or more parties benefit more from the ongoing conflict than from its resolution, and so on. In these "asymmetrical" cases, the tendency to move away readily takes precedence over moving towards or moving against tendencies. New research is needed to uncover how "defenders" and "challengers" respond to their counterpart's emotional expressions under these conditions.

The second implication of ignoring moving away responses is that researchers may force their participants into certain behavioral tendencies. When the natural tendency to move away cannot be realized simply because that option is not made available, we may erroneously conclude that people tend to cooperate. Recall the research showing that, in competitive settings, another's anger provokes concession making and conciliatory behavior. Because this work did not allow participants to move away, a safer conclusion might be that the other's anger mitigates moving against behavior (competition) rather than promoting moving toward behavior (cooperation). Put differently, when designing new studies, incorporating options to "move away" should considerably enhance our understanding of the

social functions of emotions in social decision making.

## 9. Conclusion

Emotions play an important role in shaping the social decisions people make in everyday life. Motivated by three key concerns with past research—its focus on intrapersonal rather than interpersonal effects, its focus on positive and negative mood rather than discrete emotions, and its neglect of the social context within which social decisions are made—we advanced the Emotions as Social Information (EASI) model. The model is grounded in two fundamental assumptions, namely (a) that individuals use interdependent others' emotional expressions to make sense of ambiguous and uncertain social situations, and (b) that the cooperative or competitive nature of the social situation fundamentally influences the interpersonal effects of emotions.

Building on these assumptions and previous theorizing about the social functions of emotions, we proposed that emotions can exert interpersonal influence via affective reactions (including emotional contagion, affect infusion, and mood management) and/or inferential processes (most notably the strategic inferences individuals draw from their counterpart's emotional expressions). We developed the argument that affective reactions take precedence when the social situation is (perceived as) cooperative and/or decision makers have low epistemic motivation (i.e., low motivation to develop and maintain an accurate understanding of the situation), whereas inferential processes take precedence when the situation is (perceived as) competitive and/or decision makers have high epistemic motivation.

Guided by this model, we reviewed evidence showing that the interpersonal effects of emotions and the processes that drive them differ as a function of the nature of the situation, with effects in cooperative settings being best explained in terms of emotional contagion, affect infusion, and mood management, and effects in competitive contexts being better understood in terms of the strategic inferences individuals draw from their counterpart's

emotional expressions. We have seen that these interpersonal effects cannot be explained in terms of the positive versus negative valence of emotions, and should instead be understood in terms of the unique social information conveyed by each discrete emotion. We hope that the EASI model will stimulate new research that acknowledges the dynamic and social nature of emotional phenomena. Such work is needed to develop a more complete understanding of the pervasive influence of emotion on our social lives.

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Table 1

*Social Signals of Discrete Emotions and Dominant Behavioral Reactions in Cooperative vs. Competitive Settings*

| Emotion                                     | Social Signal            | Dominant Action Tendencies and Associated Behavior       |  |
|---|--------------------------|--|--|
|   |                          | <i>Cooperative Setting</i>                               | <i>Competitive Setting</i>                                 |
| Happiness, Joy, Contentment                 | Opportunity, Affiliation | Move Toward<br>=> Increased Cooperation                  | Move Against<br>=> Increased Competition                   |
| Anger, Frustration, Irritation              | Dominance, Aggression    | Move Against / Away<br>=> Reduced Cooperation / Inaction | Move Toward / Away<br>=> Increased Cooperation / Inaction  |
| Sadness, Distress,<br>Disappointment, Worry | Supplication             | Move Toward<br>=> Increased Cooperation                  | Move Away / Against<br>=> Inaction / Increased Competition |
| Guilt, Regret, Embarrassment                | Appeasement              | Move Away / Toward<br>=> Inaction / Reduced Competition  | Move Against<br>=> Increased Competition                   |

Figure Captions

*Figure 1.* The Emotions as Social Information (EASI) Model

*Figure 2.* Cooperation in a Trust Game as a Function of the Partner's Emotional Expression  
(based on data reported in Krumhuber et al., 2007)

*Figure 3.* Team Cooperative Performance as a Function of Leader's Expression of Anger or  
Happiness and Team Members' Epistemic Motivation (based on data reported in Van Kleef et  
al., 2009)

*Figure 4.* Competitiveness in a Negotiation as a Function of Counterpart's Expression of  
Disappointment and Counterpart's Cooperative vs. Competitive Personality (based on data  
reported in Van Kleef et al., 2006a; Exp. 3)

*Figure 5.* Competitiveness in a Negotiation as a Function of Counterpart's Expression of  
Anger or Happiness and Participant's Epistemic Motivation (based on data reported in Van  
Kleef et al., 2004b; Exp. 2)

*Figure 6.* Competitiveness in a Negotiation as a Function of Counterpart's Expression of  
Guilt, Regret, or No Emotion (based on data reported in Van Kleef et al., 2006a; Exp. 1)

Figure 1

*The Emotions as Social Information (EASI) Model*

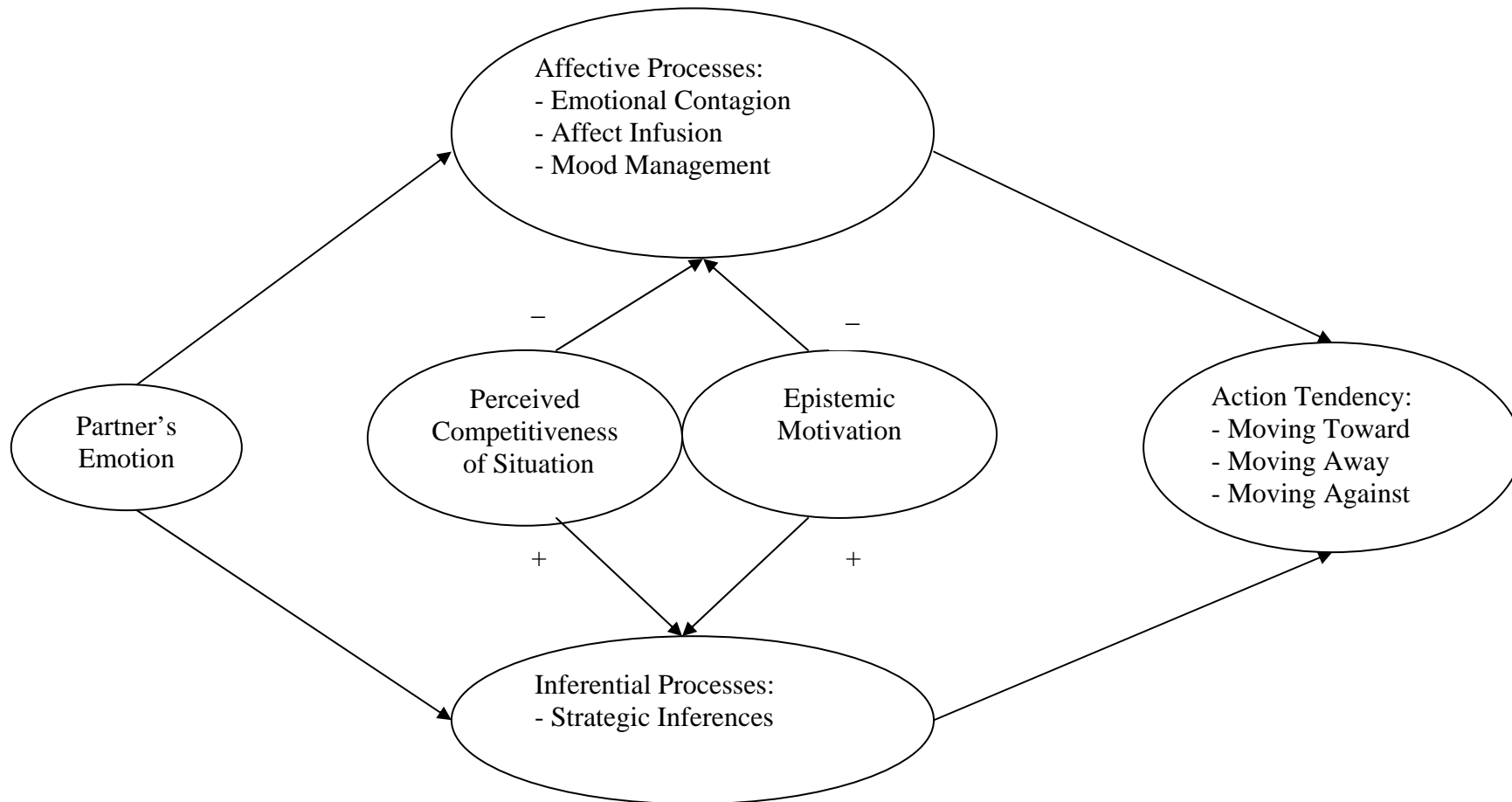


Figure 2

*Cooperation in a Trust Game as a Function of the Partner's Emotional Expression*

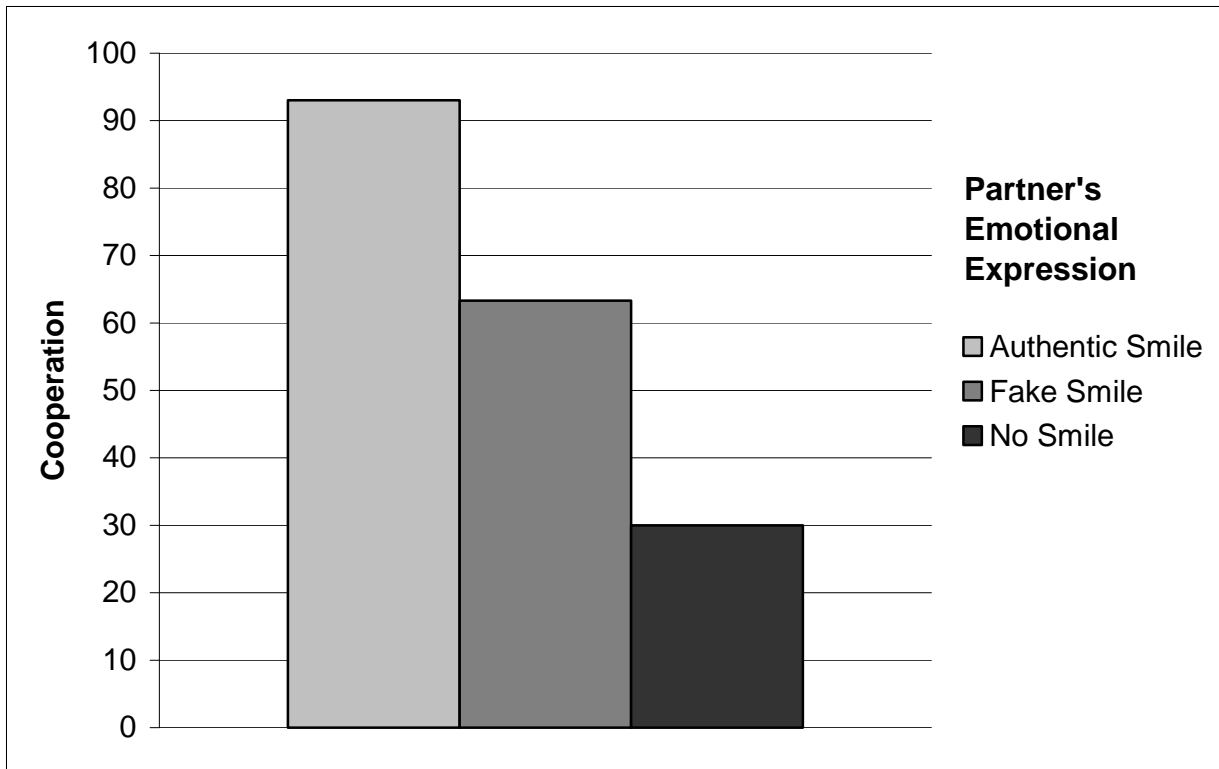


Figure 3

*Team Cooperative Performance as a Function of Leader's Expression of Anger or Happiness and Team Members' Epistemic Motivation*

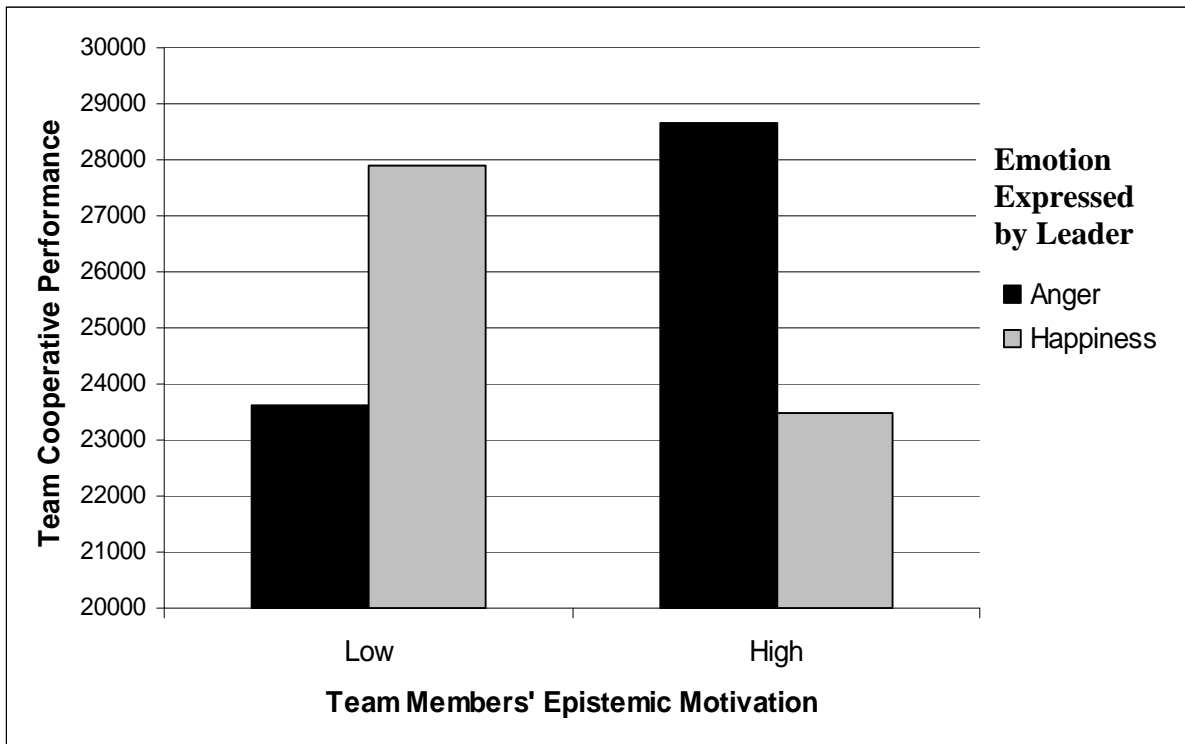




Figure 4

*Competitiveness in a Negotiation as a Function of Counterpart's Expression of Disappointment and Counterpart's Cooperative vs. Competitive Personality*

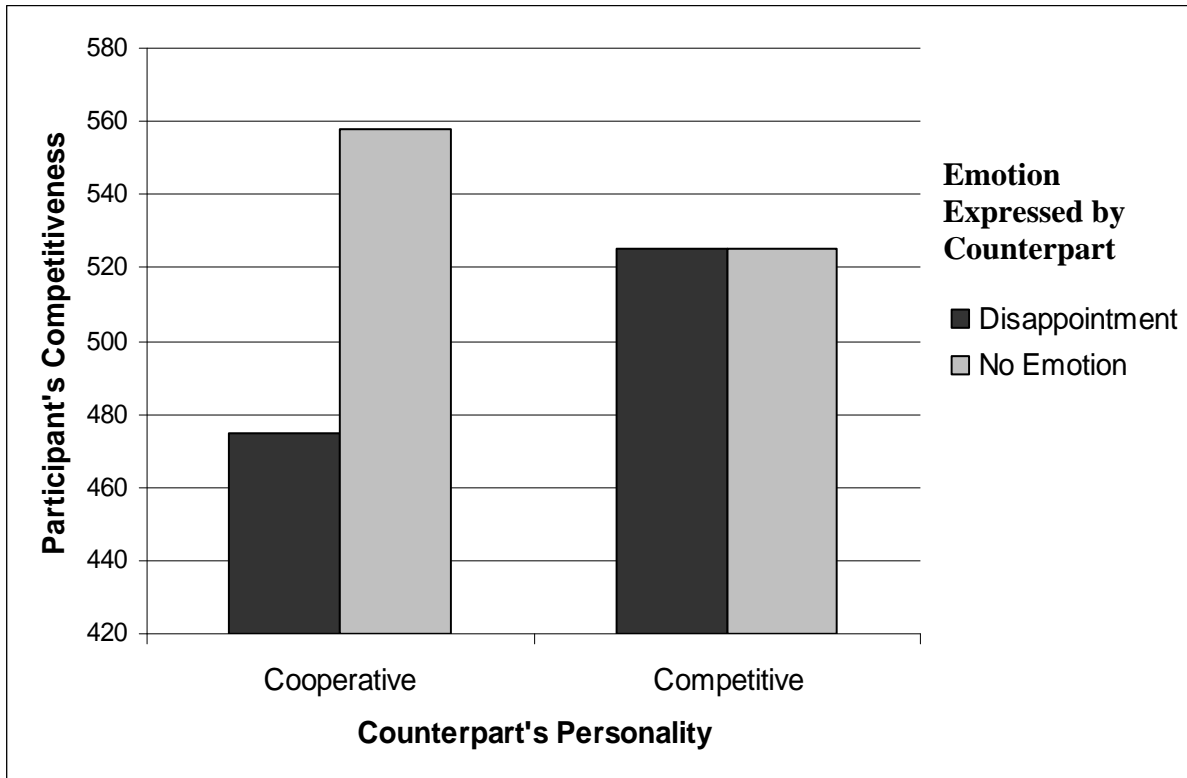


Figure 5

*Competitiveness in a Negotiation as a Function of Counterpart's Expression of Anger or Happiness and Participant's Epistemic Motivation*

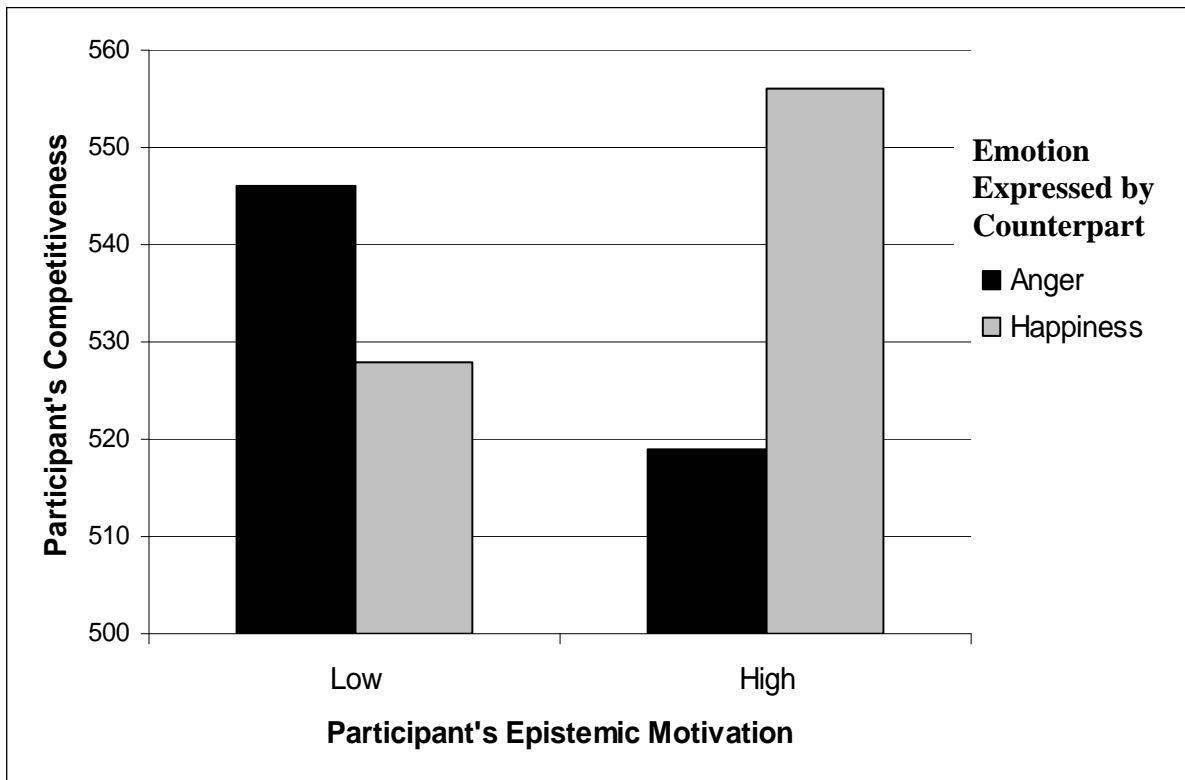


Figure 6

*Competitiveness in a Negotiation as a Function of Counterpart's Expression of Guilt, Regret, or No Emotion*

