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Positive Emotion and the Regulation of Interpersonal Relationships

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Emotions serve a wide range of important social functions, including the regulation of interpersonal relationships. Positive emotions, although understudied, are particularly critical to the formation and maintenance of social bonds. This chapter presents a framework for understanding the social functions of positive emotion, associating specific positive emotions with particular types of relationships and particular regulatory tasks. Evidence for the importance of positive emotion experience and expression in regulating interpersonal relationships is reviewed according to this framework, and implications for future research on the social functions of positive emotion are discussed.

Although emotion theorists disagree about many things, most agree on the premise that emotions are functional (Ekman, 1992; Lazarus, 1991; Shweder, 2000; Tomkins, 1984; Tooby & Cosmides, 1990). From one perspective, emotions serve

intrapersonal functions including the regulation of memory, perception, attention, and a number of physiological processes (Ekman, 1992; Levenson, 1999; Tooby & Cosmides, 1990). In the past decade, however, the social functions of emotion within relationships have received increasing attention (Averill, 1980; Barrett & Campos, 1987; Keltner & Haidt, 1999; Keltner & Kring, 1998; Lutz & White, 1986). Humans are social creatures by nature, for whom group living is a key survival strategy (de Waal, 1996). Humans depend on social connections for survival across the life course, performing tasks such as generating, collecting, and sharing resources, detecting and responding to threats, and raising offspring in groups (Ainsworth, 1989; Caporael & Brewer, 1995; de Waal, 1996). Extended dyadic and group interaction presents specific opportunities and problems that must be resolved for social units to succeed (Krebs & Davies, 1993; Trivers, 1971). Emotions play a critical role in the negotiation of this social terrain.

Positive emotions, in particular, serve important interpersonal functions. For instance, it is claimed that some positive emotions, such as love for attachment figures, evolved specifically to facilitate social bonding (Bowlby, 1979; Buck, 1999; Panksepp, 1998). Several positive emotions, such as sympathy and desire, involve social targets by definition (Buck, 1999; Eisenberg et al., 1989; Panksepp, 1998). In this chapter we discuss the functions of several positive emotions—joy, love, desire, compassion, gratitude, pride, amusement, awe, and interest—from a social functional perspective. Earlier analyses of these emotions have emphasized intrapersonal functions, such as "undoing" the effects of negative emotions on the autonomic nervous system (Fredrickson, Mancuso, Branigan, & Tugade, 2000) and the broadening of immediately salient thought–action repertoires to facilitate responses to opportunities (Fredrickson, 2001). We build on these theories by describing the functions of several positive emotions at another level of analysis—that of interpersonal relationships.

In this chapter we present a new social functional perspective on positive emotion that differentiates among specific emotions, relationship tasks, and relationship types. We begin by describing three processes through which emotional experience and display help to shape social interactions. We then describe three fundamental tasks relationships face: the identification of relationship partners, the development and maintenance of relationship structure, and the coordination of successful collective action. Next we present examples of ways in which specific positive emotions might facilitate performance of these tasks in the context of four types of relationships: parent–child dyads, romantic dyads, friendships, and small groups. In concluding, we discuss particular challenges and questions that emotion researchers working from a social functional perspective must address in future research.

HOW EMOTIONS SHAPE SOCIAL INTERACTION

Emotional experience and expression help to shape social interactions through three processes: by providing information, by evoking emotional responses in others, and by providing incentives for others' behavior (see also Keltner and Kring, 1998). First, emotional experience and expression are sources of information about the social world—the informative function. Emotion displays convey information about the sender's current emotions, behavioral intentions, and perceptions of his or her relationship with the target (Ekman, 1993; Fridlund, 1992; Keltner, 1995). Emotion displays convey information about the environment external to the relationship as well, allowing individuals to coordinate their responses to outside opportunities or threats (e.g., Klinnert et al., 1984; Sorce, Emde, Campos, & Klinnert, 1985). Emotion experience also provides information about the state of a particular social relationship, allowing people to decide quickly how to behave toward an interaction partner. For instance, the experience of embarrassment and shame is related to perceptions of diminished social status relative to others in an interaction (e.g., Tangney, Miller, Flicker, & Barlow, 1996). Emotional experiences can influence the perception of a particular relationship even when the emotion elicitor is external to the relationship (e.g., Keltner, Ellsworth, & Edwards, 1993). In providing information about social relationships, emotional experience—an intrapersonal phenomenon—promotes behavior with social consequences.

Second, emotion displays have evocative functions in the context of social interactions, eliciting complimentary or matching emotions from relationship partners (Eibl–Eibesfeldt, 1989; Keltner & Kring, 1998). For example, photographed facial displays of anger tend to enhance fear conditioning in observers, even when the photographs are not consciously perceived (Esteves, Dimberg, & Ohman, 1994; Ohman & Dimberg, 1978). Several studies have also shown that expressions of distress evoke compassion or sympathy in observers (e.g., Batson & Shaw, 1991; Eisenberg et al., 1989). Empathy, or the actual experience of another's emotion, may also contribute to processes such as moral regulation and altruistic helping (Batson & Shaw, 1991; Hoffman, 1984). We expect that both of these phenomena help to coordinate successful social exchange.

Third, emotion displays provide incentives for desired social behavior (Keltner & Kring, 1998). Displays of positive emotion are often used by parents to reward desired behaviors in children, thus increasing the probability of those behaviors in the future (e.g., Tronick, 1989). Laughter from interaction partners also rewards desirable social behavior in adults (Owren & Bachorowski, 2001). Thus, emotion displays can have long-term consequences for relationships, as shared norms for behavior are developed and communicated.

Through these three processes emotions have significant impact on interpersonal relationships. In the section that follows, we describe three tasks, fundamental to interpersonal relationships, to which these processes provide partial solutions. Later in the chapter we discuss some of the ways in which particular positive emotions aid in the completion of particular relationship tasks, in the context of particular types of relationships, via the processes outlined earlier.

FUNDAMENTAL TASKS FOR SOCIAL RELATIONSHIPS

Understanding the functional role that positive emotions play in social interaction requires identifying the major tasks encountered during the course of social relationships. Keltner and Haidt (1999) have described a social functional approach to emotion that differentiates among various levels of social analysis (e.g., dyads vs. small groups vs. cultures). We expand on that approach by identifying general categories of tasks, fundamental to relationships but unfolding differently in different kinds of relationships. Positive emotions, in turn, meet these tasks in different ways. Three tasks are common to all relationships: the identification of relationship partners, the development and maintenance of a particular intrarelationship style, and preparation for and enactment of collective agency.

Identifying Relationship Partners

A potential relationship begins when one individual becomes aware of the other for the first time (Berscheid & Graziano, 1979; Levinger, 1974). Beyond that, one must determine how much energy, and of what kind, to invest in that person. The determinants and implications of this "allocation of resources" decision vary across relationship types, depending on the goals for the relationship, the biological and social fixedness of the relationship, and the extent to which the relationship is exclusive. This variability is important because, as we shall see, the factors indicating a promising relationship partner are linked to the elicitors of particular emotions that facilitate a particular type of bonding.

At one extreme, parent–child relationships are biologically fixed and relatively exclusive, and the goal is the survival of the child. Successful parent–child relationships require unique recognition of one's caregivers or offspring—a necessity when rapid decisions about whom to call for or protect must be made in the face of danger or want. Because human childhood is so long compared to other mammalian species, extended needs for protection, nurturance, and education translate into tremendous parental investment in each child (Hrdy, 1999). Failure to identify one's offspring leads at best to wasted energy (from a reproductive standpoint), and at worst to the loss of offspring if one chooses the "wrong" child to protect from threat. From the child's perspective, vigilance in keeping one's parents in close range is necessary to ensure that someone motivated to offer this level of protection and care is always available (Bowlby, 1979). Evidence from several mammalian species suggests that "decisions" about who is one's parent or child are correspondingly based on a few triggers that evoke rapid, intense emotional bonding, such as childbirth, nursing, and early physical contact for parents and contingency of care for infants (Bowlby, 1979; Hrdy, 1999).

A wider range of factors should predict investment in less fixed relationships, such as romantic dyads and friendships. In the domain of romantic relationships,

our attention must be guided toward promising reproductive partners. Information as to whether a given person is likely to produce healthy offspring and to prove an effective and committed parent can come from many features, however, and our weighting of that information will depend on whether we are seeking a short-term sexual encounter or a long-term, exclusive mate (Buss, 1989; Cunningham, Roberts, Barbee, Druen, & Wu, 1995; Gross & Crofton, 1977; Langlois & Roggman, 1990; Sadalla, Kenrick, & Vershure, 1987).

Friendships are on the low end of the exclusivity spectrum, and as a result a greater number of "chance" or superficial factors appear in the selection process. Friend selection is driven by proximity, familiarity, similarity, and physical attractiveness, as well as more complex processes such as self-disclosure, emotion matching, and empathy (Brockner & Swap, 1976; Hatfield, Cacioppo, & Rapson, 1992; Provine, 2000; Reis & Shaver, 1988; Segal, 1974).

At the group level, it is necessary to distinguish one's ingroup from the outgroup for the purposes of coalition forming and resource distribution. The bulk of empirical research in this area has emphasized the role of cognitive factors such as stereotypes and differential perceptions of within-group variability in group identification (Ostrom & Sedikides, 1992). New studies provide evidence, however, that automatic processes contributing to prejudice involve particular emotional responses, such as fear (Phelps et al., 2000). People also consistently respond to emotional threats by derogating outgroups and reaffirming ingroup values (Greenberg et al., 1990).

Emotion display and experience are among the processes that contribute to the identification of relationship partners. In particular, positive emotions serve informative functions relevant to this relationship task. The experience of positive emotion can indicate that a current interaction partner deserves a high level of resource investment based on a close genetic relationship or signs that the relationship will be profitable. In addition, displays of positive emotion by a potential relationship partner advertise his emotional and interpersonal traits, and thus provide useful information about that person as a relationship partner. We discuss specific examples of these processes later. Although other factors also contribute to partner identification, such as formal roles (e.g., teacher–student or coworker), emotions are one important proximal mechanism by which this task is completed.

Developing, Negotiating, and Maintaining Key Relationships

For a relationship to succeed, the relevant individuals must negotiate and agree on rules of interaction, such as communication styles, expected behaviors, and roles. During this process, emergent properties of the relationship itself are developed—qualities not of the individuals, but reflecting interdependence of their behavior in each other's presence (Kelley et al., 1983). Relationship development of this kind rarely involves deliberate, conscious negotiation. On the contrary, subtle

exchanges of emotion—often unintentional or uncontrolled—lead to behavioral coordination. For example, emotion expression helps to establish what behaviors are desired by others, as well as which are inappropriate, by using positive or negative displays as a reward or punishment (Keltner & Kring, 1998). For example, a parent might smile when a child pets a dog gently, thus reinforcing the behavior, and might frown or express fear when the child pulls the dog's tail. In this way positive emotion displays serve important incentive functions.

Social partners must also establish roles for each person in the relationship. In groups, for example, negotiation of the status hierarchy is a necessary and ongoing process (Ohman, 1986), required to organize the distribution of labor and resources among members (de Waal, 1986, 1988). Individuals must also keep track of their obligations to others—a key to human reciprocal altruism (de Waal, 1996; McCullough et al., 2001). Finally, long-term romantic partners and friends benefit from emotion displays that reaffirm mutual commitment to the relationship (Gonzaga, Keltner, Londahl, & Smith, 2001). Several of these social processes involve informative functions of emotion display, in that displays of emotion communicate perceptions of and intentions regarding the relationship to the relationship partner(s).

To the extent that a particular aspect of relationship development is common to multiple relationship types, the same emotion may be involved in this task across parent–child dyads, romantic pairs, friendships, and so on. For instance, affirmation of commitment to the relationship is a key feature of all three; thus, expression of the emotion "compassion," a signal of commitment, should facilitate relationship development in each relationship type. Some tasks are more specific to relationship type, however, such that a given positive emotion will only be relevant in that context. For example, status hierarchies are more prominent features of small groups than of friendship pairs (Fiske, 1992), so we would expect expressions of pride and embarrassment to be more central to relationship negotiation in the context of small groups. Such expression might even be problematic in the context of an egalitarian friendship, unless conditions make "shared pride" appropriate.

Collective Agency

The importance of social interaction to human survival lies not only in the care we provide for each other, but also in the enhanced ability of dyads and groups to act successfully on the outside world. Humans typically raise children, pursue resources, and respond to threats in groups rather than alone (Ainsworth, 1989; Caporael & Brewer, 1995; DeWaal, 1996). For this reason, social units must coordinate the performance of activities external to the relationship—a process we call "collective agency." At this "systemic" level of analysis the dyad or group prepares to interact as a unit with the larger social or physical world. This involves reaching a shared understanding of the nature of the situation ("Is that large mammal prey or threat? Is it strong or weak?"), agreeing on the proper course of action ("Do we attack with spears, try to trap it, or run away?"), and commitment to supporting others in the group ("If you attack, I won't run").

Collective agency begins in infancy, and continues throughout life. Around the last quarter of the first year of life, infants begin to engage in two-person communication about third events in the world—an ability known as *secondary intersubjectivity* (Butterworth & Jarrett, 1991; Cohn & Tronick, 1987; Tomasello & Farrar, 1986; Trevarthen, 1993). The development of secondary intersubjectivity is a critical milestone, as it expands the life of the infant and facilitates exploration and learning. This new ability allows parents and offspring to communicate with each other about the nature of and proper response to novel objects and situations. At this point, collective agency largely involves parents "teaching" infants how to interpret and react to the world (although infants teach parents as well, as any parent knows). In later relationships characterized by more equal power distribution, such as friendships and marriages, collective agency evolves from this top-down process to more mutual "discussion" of situations and exploration of possible responses. Dyad and group members send each other cues about the presence of opportunities and threats in the local environment (Seyfarth & Cheney, 1990), and reach decisions about collective action (Turner, Pratkanis, Probasco, & Leve, 1992) in part by expressing emotion and monitoring the emotional displays of others.

Unfortunately, social processes at the systemic level of analysis, such as collective agency, have generally received less empirical attention than the individual- or dyad-level processes occurring during relationship formation or relationship development—the other two fundamental relationship tasks we have identified (Berscheid & Reis, 1998). As a result, little empirical evidence is available regarding the role of positive emotion in collective agency in the context of some relationships, such as long-term romantic couples. By contrast, more evidence supports the role of positive emotion in the collective agency of parent–child dyads and friends. In the remainder of the chapter, collective agency will only be discussed when earlier research has specifically examined the role of positive emotion in this process.

Summary and Discussion

Coordinating successful relationships involves a number of tasks, which we have grouped into three categories: identifying relationship partners, developing and maintaining the relationship, and collective agency. Emotions contribute to the performance of these relationship tasks in a number of ways. Emotions promote communication between relationship partners of needs, expectations, and intentions via facial expressions and other behavioral channels (Ekman & Friesen, 1971). Positive emotional displays, in particular, serve a number of important

functions during communication: they indicate that the partner should continue interaction, they regulate the other's emotional state, and they help to coordinate communication between partners. We now describe some specific roles played by each of the positive emotions in the three relationship tasks across several kinds of relationships.

FUNDAMENTAL TASKS AND POSITIVE EMOTION: FOUR RELATIONSHIP MODELS

The particular form taken by each of the three relationship tasks—identifying relationship partners, developing and maintaining the relationship, and collective agency—depends on the type of relationship in question. We expect that different processes will be involved in the identification and development of parent–child relationships, romantic and mating relationships, friendships, and group interactions, as well as in collective agency by each of these social units (Fiske, 1992; Keltner & Haidt, 1999). As a result, the particular positive emotions involved in any given task will vary according to the type of relationship. In this section we examine ways in which the three tasks described earlier play out in the context of these four relationship types, and explore the roles of positive emotions within each relationship.

Parent–Offspring Relationships

Identifying Parents and Offspring. The roles of positive emotion in identifying parents and offspring, developing the parent–child relationship, and parent–child collective agency, are summarized in Table 5.1. Early in life, infants must figure out who are their primary caregivers. Considering their perceptual limitations, infants begin to differentiate between the mother and other adults surprisingly soon after birth on the basis of facial characteristics, scent, and voice (DeCasper & Fifer, 1980; Pascalis, de Schonen, Morton, Deruelle, & Fabre–Grenet, 1995). Once infants learn to crawl, and face the trade-off between exploring the world and risking separation from protective parents, the ability to recognize when parents are "out of range" and summon them quickly depends on distinguishing them from other adults. By the second half of the first year of life, infants specifically and intentionally direct their emotional displays toward parents and other frequent caregivers whose behavior seems to be contingent on their own—at this point, the infant has formed an *attachment* to the caregiver (Sroufe, 1996).

Emotion is an integral part of the attachment process (Bowlby, 1969; Sroufe, 1996). Parent and child each use displays of emotion to regulate the other's behavior. Although the negative side of attachment-related affect or "social panic" receives the bulk of empirical attention, the positive emotion we call "love" is prominent as well (Panksepp, 1998). The English word "love" is used in the con-

TABLE 5.1

Positive Emotions Contributing to Completion of Parent-Child Relationship Tasks

Fundamental Task	*Emotion*	*Social Process*	*Emotion Function*
Identify parents	Love	Attachment	Informative (experience)—Parents are those in whose presence one experiences intense love.
Identify offspring	Compassion	Bonding	Informative (experience)—Offspring are those toward whom one experiences intense compassion.
Develop relationship	Joy	Social smiling	Evocative—Duchenne smile elicits parent's attention.
	Joy	Social learning	Incentive—Parental joy rewards desired behavior.
Collective agency	Joy	Social referencing	Informative (display)—Parental expression of joy signals safety of novel situation and promotes exploratory behavior by infant.
	Joy	Affect Sharing	Evocative—Infant displays of joy in response to an experience; elicit attempts by parents to repeat exposure to that experience.
	Interest, joy	Joint attention	Evocative—Parental displays direct child's attention to an object, thus facilitating learning.

text of a wide range of feelings, but we follow a number of theorists in distinguishing among three fundamental love-related emotions, which we have labeled *love*, *compassion*, and *desire* (Bowlby, 1979; Panksepp, 1998; Shaver, Morgan, & Wu, 1996; Sternberg, 1988). Although all three share the common functional element of proximity maintenance, each also has distinct components (Ainsworth, 1989). Following Bowlby (1979), we define love as the positive emotion experienced during closeness or reunion with an attachment figure. Love differs from compassion and desire in that it involves feelings of security, dependence, and comfort derived from proximity to the target (Ainsworth, 1989; Gonzaga et al., 2001). Thus, the experience of intense love serves an informative function to the infant, identi-

fying parents or other primary caregivers and highlighting their proximity. Once attachment has been established, infants rely on parents to act as a secure base during exploration of the larger world, as well as a safe haven during unfamiliar or dangerous situations.

Whereas attachment refers to the emotional tie of the infant to the caregiver, the term *bonding* typically refers to the caregiver's affective tie to the infant (Klaus & Kennell, 1976; Sroufe, 1996). We have used the label compassion to denote the emotion that evolved along with increasing periods of infant dependence to seal parents' commitment to the needs of their offspring (Klaus & Kennell, 1982; Shaver er al., 1996). Compassion facilitates nurturing, care giving behavior toward those who are small, weak, or in distress. In the mother–infant relationship, bonding may be related to the release of oxytocin and prolactin during childbirth and nursing (Panksepp, 1998), as well as skin-to-skin touch during the first few hours of the infant's life (Klaus & Kennell, 1976), and thus provides a potent cue to the identity of offspring. In this way, compassion serves an important informative function for the parent. Compassion is typically elicited in response to displays of distress (e.g., crying) by the infant, and more generally by apparent weakness and helplessness (Keltner & Haidt, 2001). In our own research leading to the development of the Dispositional Positive Affect Scale (DPAS; a 75-item self-report measure of trait levels of 11 positive affects), we found that statements such as "I often notice people who need help" and "It's important to take care of people who are vulnerable" correlate substantially with statements such as "I am a very compassionate person" (Shiota, Keltner, & John, 2003). People with high scores on the Compassion scale of the DPAS are more likely than others to report that their favorite activities include tutoring and playing with children (Shiota, 2003). Infants are demanding, labor-intensive creatures; without the compassionate affective bond that typically occurs between caregivers and their infants, the latter can easily become the victims of neglect and abuse rather than love and care (Hrdy, 1999).

Developing and Maintaining the Parent–Offspring Relationship. Positive emotional displays play a central role in the infant–caregiver communication system . As the first social relationship in an infant's life, the parent–child unit acts as a "training ground" for future interactions. In this unit, children learn some of the fundamentals of social exchange, such as reciprocity and turn-taking (Tronick, 1989). The infant–caregiver communication system is dynamic and bidirectional. Parent and child shape and are shaped by each other's evocative emotional displays.

For instance, the infant's *social smile*–which develops by about 10 weeks of life—is one of the most powerful social regulatory tools that the infant possesses. These smiles involve a brightening and crinkling of the eyes with the corners of the mouth in a full "grin", a display linked to the experience of "joy" or "happiness" (Ekman et al., 1987). The breadth of effects of the social smile has led theorists to call it the "most significant aspect of social development to occur in the first

half-year of life". One major effect of the social smile is to elicit frequent positive interaction with and assistance from others (Bower, 1977). Thus, the infant's expression of positive affect serves both evocative and incentive social functions, as it motivates the parent to engage in and continue moment-to-moment interaction.

Evidence demonstrating the regulatory effect of smiling comes from children with Down's syndrome, whose social smiling is impoverished. In one study, parents of these children reported that their infants were not as "rewarding" as other infants because they did not return their smiles as intensely (Emde, Katz, & Thorpe, 1978). Some parents indicated that they lacked an incentive to interact with their children when they received no smiling behaviors during their interactions.

Until now we have emphasized the crucial role that positive emotional displays play in infant–caregiver communication. However, positive emotion expression continues to play an important role throughout childhood. Parental expression of emotion is a key part of the *social learning* process (Bandura, 1986; Campos, Campos, & Barrett, 1989; Tronick, 1989). Parents' expressions of joy when their children attain a goal or standard of conduct not only increase the frequency of the desired actions by rewarding behavior—an incentive function (Tronick, 1989), but also generate and facilitate the development of self-esteem in children (Saarni, Mumme, & Campos, 1998). As discussed in detail by Eisenberg, Spinrad, and Smith in this volume, the behaviors rewarded by parents often themselves involve children's regulation of emotion displays. This process is especially helpful because many of the behaviors parents wish to reward—such as concentration on some task or restraint of an undesirable behavior—involve self-regulation and, as Tice, Baumeister, and Zhang Case (this volume) noted in their contribution to this volume, the positive affect experienced by the child in response to the parent's display may help to "recharge" the child's self-regulatory batteries.

Collective Agency: Social Referencing, Affect Sharing, and Joint Attention. Infants become capable of two-person communication toward the end of the first year of life, a process referred to earlier as secondary intersubjectivity . Once infants are able to communicate with others about objects, people, and situations, their emotional world both expands and deepens . Researchers have investigated a number of phenomena that involve secondary intersubjectivity including social referencing, affect sharing, and joint attention . Positive emotions are centrally involved in these phenomena, all of which allow parents to help their children explore, learn about, and successfully navigate an expanding world.

A developmental milestone occurs when infants begin to attend to others for information on how to feel about and respond to an unfamiliar event in the environment, a process known as *social referencing* . When a novel person or object is encountered, smiling and other positive affect displays by the parent prompt the infant to view the situation with comfort and interest . In essence, a parent's positive vocal and facial displays of joy are the "everything's ok" signal, indicating that a novel stimulus may be safely approached—an informative function (Walden

& Baxter, 1989). This process allows infants to explore new people (including potential caregivers) and objects such as toys and tools, and to take advantage of potential resources and learning opportunities. In this way, parent and infant collaborate in shaping the infant's interaction with the larger world.

A phenomenon known as *affect sharing* is also involved in the collective agency of parent and infant. Affect sharing is the complement of social referencing; whereas the infant "socially references" by seeking out information from a caregiver about an event, the infant "affect shares" by displaying her own emotional reaction to the caregiver . When children express joy on encountering novel and exciting objects or events, parents are encouraged to place similar events in their environment in the future. In this way, children use positive affect display to let parents know what will help them to develop and learn.

Shared interest about events in the environment also plays an important role in infant–caregiver collective agency. By the end of the first year of life, infants are capable of jointly attending to objects toward which caregivers direct their gaze or point (Butterworth & Jarrett, 1991). During episodes of *joint attention*, parents use displays of interest and joy to direct children's attention (Cohn & Tronick, 1987). This provides a context in which children can readily learn new information about the world. For example, parents are most likely to teach their children new vocabulary while the referent is the subject of joint attention (Tomasello & Farrar, 1986). Thus, the emotional communication between parent and child stimulates and facilitates the child's overall education.

Summary. Love and compassion are critically involved in the attachment and bonding processes by which infants claim parents' protection and nurturance. The development of the parent–offspring relationship involves exchanges of joy as children reward parents' investment of time and attention, and parents reward desired behavior in children. Social referencing, affect sharing, and joint attention all tie the expression of positive emotion to children's learning processes, as parents communicate reactions to and information about novel objects and events, and children let parents know what experiences provide ideal stimulation. This, in turn, prepares children to deal effectively with their ever-expanding world. In general, positive emotions play key roles as parents help their offspring to survive the vulnerable years of infancy, and to grow and develop agency throughout childhood.

Romantic Relationships: Mating and Reproduction

Identifying Reproductive Partners. The roles of positive emotion in mate selection and in the development and maintenance of the romantic bond are summarized in Table 5.2. Enhanced reproductive success depends on the selection of a mating partner (Buss, 1989), and positive emotion critically assists this process by providing the *attraction* that motivates individuals to form these relationships. The

TABLE 5.2

Positive Emotions Contributing to Completion of Relationship Tasks in Romantic Couples

Fundamental Task	*Emotion*	*Social Process*	*Emotion Function*
Identify partner	Desire	Attraction	Informative (experince)—Desire experienced in the presence of a person with strong reproductive potential.
	Compassion	Mate selection	Informative (display)—Displayed compassion signals high potential as a long-term partner and parent.
	Joy	Mate selection	Informative (display)—Duchenne smiles signal high affiliativeness, competence, emotional stability.
Develop relationship	Desire	Flirting	Evocative—Display of desire evokes comparable displays in potential partner, coordinating early stages of relationship development.
	Love	Attachment	Informative (experience)—Felt love indicates that a relationship partner is trustworthy and can be depended on.
	Compassion	Commitment	Informative (display)—Displays of compassion signal willingness to forego individual self-interest for the benefit of the relationship.
	Joy	Self-expansion	Informative (experience)—felt joy in the context of a novel experience with partner indicates continued growth of relationship and merging of expanded selves.

experience of desire signals to the individual that a particular person may be a promising reproductive partner (Buss, 1989; Buss & Schmidt, 1993). Some theorists have also proposed that the experience of desire can motivate an individual to engage in actions that promote the formation of a new reproductive bond, to the possible detriment of other relationships (Abu–Lughod, 1986).

Although many determinants of sexual attractiveness are idiosyncratic (Morse & Gruzen, 1976), some qualities are near-universally considered attractive (Cunningham et al., 1995). In women, a waist-to-hip circumference ratio of .80 (Singh, 1993) and baby-faced features (Cunningham, 1986) are considered attractive in most societies. In men, faces and behaviors suggesting maturity and dominance are appealing (Sadalla et al., 1987). In both sexes, physical symmetry predicts attractiveness, as well as high levels of agreeableness (Gross & Crofton, 1977; Langlois & Roggman, 1990). Some have argued that these qualities may indicate genetic strength, reproductive health, or high parenting ability (Buss, 1989; but see Hrdy, 1999, for a challenge to this interpretation).

In addition to emotion experienced by "choosers," emotion displayed by "targets" helps drive *mate selection*. Both men and women report that kindness, or displayed compassion, is one of the most important qualities they seek when looking for a long-term mate (Buss & Barnes, 1986). Displayed compassion thus serves an informative function by signaling capacity for long-term commitment to a romantic partner and offspring. Display of joy through a Duchenne smile is also widely considered attractive, possibly because of the correlation between these positive emotion displays and affiliativeness, competence, and emotional stability (Harker & Keltner, 2001).

"Flirting" and Maintaining the Bond between Mates. Desire also plays important evocative functions in coordinating the early stages of sexual relationship development. In all sexually reproducing species, mating is preceded by a more or less elaborate courtship ritual, in which behavioral cues communicate increasing mutual interest (Eibl-Eibesfeldt, 1989). Human behaviors associated with this *flirting* include neck displays and sidelong glances by women, status displays by men, and lip licks and puckers by both sexes (Gonzaga et al., 2001). Under the right circumstances, these displays may lead to mating.

Because human childhood is relatively long by mammalian standards, however, reproduction involves much more than mating, gestation, and delivery. Human offspring are most likely to survive to their own reproductive years if they are raised for many years by more than one caregiver (Alexander & Noonan, 1979; Hrdy, 1999). An emotional bond between parents that outlives the initial feelings of desire and facilitates long-term commitment to the relationship will benefit the child (Gonzaga, 2002; Hrdy, 1999). Love and compassion, discussed earlier in the context of the parent–child relationship, also contribute to pair bonding in romantic couples. In fact, the primary theoretical approach to adult romantic relationships involves application of the *attachment* construct (Hazan & Shaver, 1987, 1994). Many of the behaviors children exhibit toward attachment figures are also displayed by lovers, including hugging, wrestling, proximity maintenance, and separation anxiety (Shaver et al., 1996). Self-reported levels of love have been positively associated with higher levels of reported trust in a relationship (Wieselquist, Rusbult, Foster, &

Agnew, 1999). Thus, felt love serves an informative function, indicating that the romantic partner can be depended on in times of need.

Research with romantic couples has shown that displays of affection serve another informative function by signaling relationship *commitment* and willingness to forgo individual self-interest for the benefit of the relationship (Gonzaga et al., 2001; Van Lange et al., 1997). The self-reported momentary experience of romantic love—which includes both love and compassion as defined here—has been associated with nonverbal displays of "affiliative cues" such as Duchenne smiles, forward leans, and head nods (Gonzaga et al., 2001). These cues occur outside of the sexual context, during discussions of difficult topics, and predict couples' use of conflict-reducing, commitment enhancing approaches during the conversation. In turn, romantic partners who report feeling more committed toward each other also report greater willingness to sacrifice self-interest to benefit their partners (Van Lange et al., 1997). Thus, the display of compassion signals to the partner one's ongoing commitment to the relationship.

Finally, some researchers have suggested that the mutual experience of joy, in the context of a shared novel experience, can help sustain commitment to romantic bonds (Aron, Norman, Aron, McKenna, & Heyman, 2000). According to the *Self-Expansion* model, one motive for becoming close to others is the continued expansion of the self through new information and experiences (Aron et al., 2000). In several studies, romantic couples who shared "exciting" novel activities reported greater relationship satisfaction and less boredom with the relationship than couples who engaged in mundane activities (Aron et al., 2000). The experience of joy in these situations may be informative of continued personal growth in the context of the relationship, making ongoing commitment to the relationship beneficial. Converging evidence suggests that romantic partners' feeling and display of several positive emotions help to enhance and sustain the bonds between mates.

Summary. Perceptions of joy and compassion, as well as the experience of desire, provide information about others as promising reproductive partners or mates. Displays of desire also contribute to romantic relationship formation, as "flirting" helps to coordinate the initial stages of interaction and signals mutual interest. Later in romantic relationships, love and compassion signal increased reliance on, and commitment to, the romantic partner, and joy signals growth of the relationship itself. In these ways, several positive emotions contribute to the formation of a stable, long-term relationship that facilitates maximal investment by both parents in their common offspring.

Peers and Friendships

Identifying Friends. Human dependence on social units for survival extends beyond the bonds of family to include important relationships with genetically unrelated peers. Reciprocal altruism—a basis of friendship—is an important feature

of human sociality (Trivers, 1971). The subjective importance of friendships derives from qualities of emotional support and encouragement in the relationship, as well as material support (Hartup & Stevens, 1997). Friendships with peers develop early in life and become increasingly important sources of emotional support during development (Ainsworth, 1989). The roles of positive emotion in the identification of friends, the development of friendships, and collective agency by friends are summarized in Table 5.3.

How are trustworthy, loyal friends identified? Several predictors of one's attractiveness as a friend involve the informative functions of positive affect. For example, people who *smile* more often and more intensely tend to be thought of as better potential friends (Harker & Keltner, 2001; LaFrance & Hecht, 1995; Otta, Abrosio, & Hoshino, 1996; Reis et al., 1990). This is probably due to the correla-

TABLE 5.3

Positive Emotions Contributing to Completion of Relationship Tasks in Friendship

Fundamental Task	*Emotion*	*Social Process*	*Emotion Function*
Identify friend	Joy	Smiling	Informative (display)—Duchenne smiling associated with desirable traits such as affiliativeness, emotional stability.
	Love	Mere Exposure	Informative (experience)—Repeated exposure triggers early attachment processes.
Develop relationship	Love	Attachment	Informative (experience)—Felt love indicates that a relationship partner is trustworthy and can be depended on.
	Compassion	Commitment	Informative (display)—Displays of compassion signal willingness to forego individual self-interest for the benefit of the relationship.
	Gratitude	Reciprocity	Informative (experience)—Indicates that a relationship merits investment and reciprocal prosocial behavior.
			Incentive—Rewards another's prosocial behaviors from which one benefits.
Collective agency	Amusement	Social support	Informative (display)—Mutual laughter in novel or threatening situation is assurance of social support.

tion between Duchenne smiling and desirable personality traits such as competence and emotional stability—in one study, the intensity of Duchenne smiles in college yearbook photographs predicted a number of personality traits and life outcomes decades later, including affiliativeness, neuroticism, and marriage (Harker & Keltner, 2001). We also prefer people who are familiar over people who are less familiar, even when we are not aware of the previous exposure (Bornstein & D'Agostino, 1992; Zajonc, 1968). This "Mere Exposure Effect" (Zajonc, 1968) may involve very early activity in the love or "attachment" system. This suggests that the initial development of trust and security in a relationship can be based simply on a person's consistent presence in the environment.

Developing and Maintaining Friendships. Friendships, like romantic relationships, involve bonds of mutual support and sharing (Ainsworth, 1989). Love and intimacy and compassion play similar informative roles in both relationship types—signaling commitment to the relationship and motivating attachment, or reliance on the partner for support. Several studies have examined the interplay between love-related displays and compassion displays among adult peers. The display of "affiliation cues" previously related to romantic love has also been found to predict self-reported willingness to support friends during a conversation (Gonzaga et al., 2001). Adult facial displays of compassion include oblique brows and "concerned" gaze, and predict overt helping behavior in potential friends (Eisenberg et al., 1989). Thus, emotional behaviors that probably evolved to guide parent–child bonding have also proved relevant and functional in the domain of friendships and other reciprocal adult relationships.

Love and intimacy and compassion govern the exchange of support and caregiving in the moment of need. In long-term relationships within a social group, however, obligation must also be tracked over time (Trivers, 1971). This may be especially true when particular "gifts" are too great or unusual to be "repaid" immediately, such as a substantial loan or long-term caregiving during an illness or emotional crisis. To meet these demands, friendships may rely more heavily on emotional displays that reinforce and promote *reciprocity* over long periods of time. Gratitude is likely to serve this purpose through both incentive and informative functions (McCullough et al., 2001). First, experience of gratitude informs the grateful party that a given relationship is valuable, and motivates him to return the behavior in kind, leading to reciprocity. McCullough and colleagues (2001) have found that individuals scoring high on dispositional gratitude are more likely than low scorers to engage in prosocial activities, such as doing favors for others and volunteering time. Second, the display of gratitude rewards another's supportive behavior, and confirms the recipient's commitment to the relationship although actual reciprocation has not yet taken place —an expression that "I have not forgotten what you did for me."

Collective Agency. Friendships enhance the ability of relationship members to marshal strengths and resources in the service of common goals. Individuals often

report forming friendships based on shared experiences, such as being on the same sports team or starting a family at the same time (Hartup & Stevens, 1997). Friends then help each other in these contexts, to win soccer matches or to share successful parenting strategies. The reciprocity and goal-directedness of this type of bond may lead to enhanced perceptions of how much support the friendship provides. For example, McGuire and McGuire (1985) found that women reported receiving more child-care assistance from other women friends, although objective measures showed that family and romantic partners provided more consistent assistance. Although this sense of working toward mutual goals may reflect perceptions that are less than objectively accurate, it is clear that friendships are an important part of people's day-to-day interaction.

One important benefit of friendships is the enhanced ability of two people to deal with novel or threatening situations. There is some evidence that friendships with a strong love or attachment component are especially likely to form in dangerous situations in which members must be able to rely on each other, like wartime service (Ainsworth, 1989; Weiss, 1982). Indeed, the review by Zech, Rimé and Nils, in this volume, highlights the extent to which intense, emotion-eliciting experiences are likely to be shared with others, opening the door for emotional processing and more practical forms of support. Even in less intensely threatening situations, friends use positive emotion displays to inform themselves and each other of *social support*. In one study, an experimenter approached pairs of people in public places and asked them to participate in a study—a novel situation (Provine, 2000). A typical response was for the participants to make eye contact with each other—but not with the experimenter—and then to laugh in amusement, thereby establishing a united front. People do tend to laugh in tense or threatening situations, and given that laughter is an almost exclusively social phenomenon, shared laughter may serve to reassure relationship partners of mutual social support (Keltner & Bonnano, 1997; Provine, 2000). This tendency is so strong that some researchers have defined friends as "those you laugh with" (Provine, 2000). In this way, friendship dyads are able to take risks one person might not attempt alone.

Summary. Many qualities of a "good friend" can be predicted by one's smile, a display of joy. In addition, we tend to be drawn emotionally toward people who are around often, suggesting that early stages of love and attachment may be based on "mere exposure" to another person. Love and compassion become increasingly characteristic of friendships as trust in and commitment to the friend increases. As the friendship extends over time and is marked by the kinds of commitment gestures that are not rapidly repaid, gratitude reminds the recipient of the obligation and communicates to the giver that the gesture is valued and the implicit debt acknowledged. When friends encounter novel or even threatening situations, shared laughter and amusement help to reaffirm mutual support and defuse tension. These processes all allow the development of reciprocal altruism—the commitment to mutual support outside of, but similar to, kinship.

Group Relationships

The roles of positive emotion in ingroup identification, the development of group structure, and collective agency by small groups, are summarized in Table 5.4. Positive emotions serve instrumental functions in the process of group identification, although research has traditionally emphasized outgroup derogation and neg-

TABLE 5.4

Positive Emotions Contributing to Completion of Group Relationship Tasks

Fundamental Task	*Emotion*	*Social Process*	*Emotion Function*
Identify ingroup	Amusement	Collective laughter	Evocative/Informative (display)—Those who laugh when you do constitute a support network.
		Teasing	Informative (display)—When an outgroup member is teased, those who laught are clearly part of the ingroup.
			Evocative—Tends to elicit embarrassment, an attempt to show deference to the group.
	Awe	Cultural events	Informative (own experience and others' display)—Others who experience awe when we do are working with the same social units of meaning, or worldviews.
Develop relationship	Pride	Dominance	Informative (display)—Advertises a socially valued success, leading to increased status within the group.
	Awe	Leadership	Informative (experience)—Awe experienced in response to another's achievements associates them with greatness, leadership.
	Amusement	Groupthink	Informative (display)—Can signal group's rejection of dissenter.
			Incentive—Process may lead to self-suppression of dissent and increased motivation to maintain group cohesion.

ative emotions such as fear and anger (Greenberg et al., 1990; Phelps et al., 2000). Just as laughter and amusement mark the presence of individual friends, *collective laughter* in response to one's own laughter can help to identify a support network within a particular situation (Provine, 2000). Amused laughter and humor in the context of *teasing* can also be used to emphasize distance between laughing ingroup members and outgroup tease targets (Keltner, Young, Heerey, Oemig, & Monarch, 1998). This process serves an informative function, in which laughers demonstrate their allegiance to the teaser and thus the ingroup. Teasing also serves evocative functions. People often respond to a tease with embarrassment, which communicates a desire to appease the group and acknowledgment of the group's standards and norms (Keltner, 1995).

Awe—experienced during the formation or revision of cognitive schemas to cope with a challenging stimulus (Keltner & Haidt, in press; Shiota et al., 2003)—is also likely to contribute to the identification of group members. Because schemas are fundamentally social units of meaning (Shweder, 1990), people who are part of a common group culture will tend to experience awe in response to the same events. For example, collective awe may often be experienced in the context of *cultural events* such as the Olympics, political conventions, and holiday celebrations. In this way, collective awe may reinforce group identity (Heise & O'Brien, 1993).

Negotiating and Maintaining the Social Structure of a Group. Within a group of several people, the structure of relationships must be negotiated on a continual basis as members age, develop new skills, and make or break alliances, and as hierarchies change (de Waal, 1996; Ohman, 1986). In all human societies, the social structure includes some form of status hierarchy which helps guide the distribution of labor and resources (de Waal, 1986, 1988; Fiske, 1992). The role of negative emotions such as anger and fear in status negotiations has been documented in other literature (Anderson, John, Keltner, & Kring, 2001; Keltner et al., 1998), but positive emotion displays play important informative roles as well. Display of pride signals to the group that one has just succeeded at a valued endeavor, and that one's status within the group should rise (Gilbert, 2001). The result is increased *dominance* within the group, which carries a wide range of social and material benefits (Hrdy, 1999). People who experience frequent and intense pride (as measured via the Pride scale of our DPAS) are more likely to have been promoted or to have won an award and less likely to have been fired within the last 6 months than people scoring low on dispositional pride (Shiota et al., 2003). Awe also plays a role in the negotiation and maintenance of status hierarchies. Awe is often experienced in response to a remarkable achievement that tests the limits of human ability, and is generally associated with greatness (Keltner & Haidt, in press; Weber, 1957). As a result, group members endow those who perform awe-inspiring acts with increased social status or formal or informal *leadership*. The elicitation of awe (through artistic performances, apparent command over natural events, or spectacles such as fireworks) can also be used to justify the positions of group leaders (Keltner & Haidt, in press).

Positive affect displays are also involved in the day-to-day coordination of group interaction. For instance, humor or amusement may be used to inform group members whose opinion differs from that of the majority that their status within the group is at risk. This might result in greater overall group cohesion, but likely contributes to the phenomenon known as *groupthink* (Janis, 1982). For example, this process was observed when President Johnson once responded to assistant Bill Moyers's arrival at a meeting regarding the Vietnam War by saying, "Well, here comes Mr. Stop-the-Bombing." Ridicule such as this serves incentive functions as well, motivating the targeted individual to confirm his or her investment in the group, often by suppressing dissent. As noted by Hrubes, Feldman, and Tyler, in this volume, people often conceal their true opinions on a subject to preserve their own good mood, in this case by avoiding the humiliation of group derision. Although studies of group decision-making have tended to emphasize poor outcomes associated with groupthink in complex situations, emotion processes that intensify group cohesion may contribute to efficient, rapid decision making and collective action in more prototypical situations.

Summary. Amusement and awe both assist in the identification of ingroup members and the distinction and exclusion of the outgroup. Exchanges of amusement also help to maintain group cohesion. Expressions of pride contribute to the negotiation of the status hierarchy within the group, and necessary and never-ending process. Elicitation of awe provides an alternative to physical aggression as a way to justify leadership positions, thereby reducing costs of status negotiation to the group. Overall, positive emotion experience and expression assist in the difficult task of defining group structure—who is in the group, and how group members should relate to each other.

SUMMARY, CONCLUSIONS, AND FUTURE PROSPECTS

Emotion theorists from a wide range of theoretical and methodological traditions agree that emotions are functional. However, the functions of emotion cross multiple levels of analysis. Most theories of emotion emphasize intrapersonal function—the regulation of physiology, perception, cognition, and memory. Theories of the negative emotions fall largely into this domain. Earlier theories of positive emotion have also emphasized intrapersonal functions such as the "undoing" of the autonomic effects of negative affect and the "broadening and building" of individual thought and action repertoires (Fredrickson, 2001; Fredrickson et al., 2000). Although these functions of emotion are of strong theoretical importance, emotions clearly serve important social functions as well. This is especially true

for the positive emotions, which typically occur in the context of social interaction and in response to social elicitors.

The framework we have proposed in this chapter leads to a number of predictions about the roles of positive emotion in relationships. First, we hypothesize that certain positive emotions will be functional in the context of some relationships, but not others. Display of pride, for instance, may be functional in the context of small group interactions where status negotiation is necessary to establish group structure, but may be dysfunctional or threatening when expressed in the context of an egalitarian relationship, such as a romantic relationship. Similarly, desire promotes the formation of romantic relationships, but would be dysfunctional or inappropriate in family and friend relationships. We might also predict that the expression of gratitude is more important in the development and maintenance of friendships than in family or romantic relationships, where the expectation of certain kinds of care precludes the need for expressions of gratitude (Essock-Vitale * McGuire, 1985).

Second, we expect that within the context of a given relationship, positive emotions might be experienced or displayed more often at certain stages or periods than at others. For example, desire is typically felt most strongly by romantic partners early on in the relationship; as the relationship grows and develops, feelings of love and commitment should better predict relationship stability than desire. Similarly, experience and expression of joy should be most commonly observed during reunion of friends or lovers, and somewhat less often during the course of an actual interaction.

The social functional approach to positive emotion we have developed in this chapter raises two key questions, the answers to which will help direct and clarify future emotion research. One question stems from the impact emotion expression has on social interaction. The second involves the range of stimuli that can be said to elicit a given emotion, and of experiences that can justifiably be included in that emotion category.

First, what communication channels are used most often in the expression of positive emotion? Most research on emotion expression has emphasized facial display, and the Duchenne smile has been associated globally with positive emotion (Ekman et al., 1987). The face is an important medium for communication of negative emotion, because the target of the emotion is typically at some distance from the person experiencing the emotion. In positive affect, however, the two may be closer, making the use of other channels more feasible. Preliminary research suggests that other channels such as whole-body behavior, voice, and touch may be more critical to differentiating among the positive emotions (e.g., Hertenstein, 2002; Scherer, 1986). Studies of the channels listed earlier may succeed in identifying distinct markers of different positive emotions, where studies of the face have run into barriers. Some of our research is exploring the ways in which touch between parents and children can communicate specific positive emotions (e.g., Hertenstein, 2002). We also continue to examine the possibility

that some positive emotions are, in fact, marked by specific facial displays other than the Duchenne smile.

Second, what range of experiences will elicit each of the positive emotions? Because we have emphasized an evolutionary approach to emotion in this account, our theories of emotion function (and thus the situations in which emotions are likely to occur) have focused on prototypical, relatively universal elicitors. It is likely, however, that the increasing cognitive complexity that accompanied human evolution has led to a broader range of circumstances that can trigger a given emotion. For instance, although disgust originally evolved as a reaction to rotten or unhealthy foods, humans have generalized the appraisal "contaminated" to other elicitors, including peoples' behavior (Rozin, Haidt, & McCauley, 2000). As a result, we can be "disgusted" by another's social or sexual behavior. Processes like this may be crucial for positive emotions, in which the "stimulus" is typically social. For instance, to what degree and under what circumstances can roles prototypically observed in one kind of relationship—and the emotions that go with them—generalize to other types of relationships? Much of our own current research examines the distinct features of various kinds of relationships and the circumstances in which these boundaries are crossed—when does a friend become, emotionally, a member of the family, and what are the consequences?

We have proposed a framework for understanding the roles played by positive emotions in the context of several types of relationships, and the different tasks associated with those relationships. Embedded within this framework are predictions about the distinctive importance of particular emotions in the context of some relationships (but not others), and in particular aspects of the relationship (but not others). A social functional approach to emotion is particularly well served by the study of positive emotion, and this focus involves a number of new theoretical, methodological, and empirical questions to be addressed by future researchers.

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