

## Chapter 2

# Belongingness Motivation

## A MAINSPRING OF SOCIAL ACTION

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In the first edition of Lindzey's *Handbook of Social Psychology*, published in 1954, Gardner Murphy proposed that a full understanding of human behavior must begin with an examination of the "raw material" of human nature—the "primitive mainsprings of social action" that underlie social and cultural behavior (p. 601). Murphy pointed out that theories of social motivation tend to fall into three general types: one-drive theories (such as psychoanalytic theory) that trace most if not all behavior to a single motivational process; drive catalogs that identify large numbers of basic motives or needs (such as McDougall's system of instincts); and middle-range theories that identify a limited number of basic, flexible tendencies upon which other, more complex motives are built. Murphy himself offered such a middle-range model of motivation, in which complex social motives—such as motives for conformity, communication, leadership, love, and prestige—are derived from more basic catego-

ries of visceral, activity, sensory, and emergency drives.

Midway through his chapter, Murphy (1954) mentioned, almost in passing, that people are motivated to be accepted and supported by others. He noted that "in every society . . . there appears to be a considerable amount of satisfaction from sheer functioning as a member of a group," and that studies of group dynamics reveal "the very strong positive satisfactions of discovering closeness with others" (p. 602). However, he did not seem to place any special emphasis on the motive to be accepted, relative to the other motives he discussed.

In the years since Murphy's (1954) chapter was published, many other psychologists have also noted that people desire to be accepted by others. And, like Murphy, most of them have not placed any special importance on belongingness, viewing it as just another motive alongside motives for affiliation, achievement, power, self-esteem, differentiation, cognition,

meaning, and so on. The primary theme of the present chapter is that the human motive for social acceptance and belonging should not be viewed as simply one among many equally important and potent social motives. Rather, we argue that the need for acceptance and belonging (or *belongingness motivation*) is a fundamental social motive that underlies and helps to explain a great deal of human behavior. In fact, this motive is so basic to human behavior that the first premise of virtually every theory of social or cultural behavior could be that people "have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (Baumeister & Leary, 1995, p. 497). We are not claiming that other social motives do not exist, or that all social behavior may be traced to the need to belong. However, as we hope to show, the belongingness motive provides a fundamental psychic "engine" or "energy source" (to use Murphy's [1954] metaphor) for a great deal of human social behavior.

This chapter is organized as follows. We first review evidence, previously described in much greater detail by Baumeister and Leary (1995), that belongingness motivation should be considered a fundamental motive that is not reducible to other motives, and we grapple with the question of whether belongingness should be considered a single motive or a set of motives. We then examine an array of social psychological phenomena that appear to stem from people's need for acceptance and belongingness, showing the generality and the applicability of belongingness for understanding aspects of attraction, conformity, group behavior, attitudes, self-presentation, culture, and other behavior. Operating from the assumption that a fundamental motive will be mediated by neural and neurochemical systems, we then explore possible physiological mechanisms that underlie people's quest for belonging.

### EVIDENCE FOR THE NEED TO BELONG

Many theorists have acknowledged that people seek to develop and maintain social bonds with other people (e.g., Bowlby, 1969; Horney, 1945; James, 1890; Maslow, 1968), but none has accorded belongingness motivation the prominence that we believe it deserves. The fullest exposition of the centrality of belongingness to human behavior was offered by

Baumeister and Leary (1995), who reviewed an extensive body of evidence to support the notion that the need to belong is a fundamental human motive. Without revisiting all of the evidence they offered for this claim, we begin by briefly summarizing just a few major points.

Baumeister and Leary (1995) pointed out that people form social bonds very easily, without special eliciting circumstances (and even in adverse situations when the presence of other people is associated with negative experiences). People in every culture belong to small primary groups (Mann, 1980) and form a variety of relationships with family members, friends, mates, and others. Cultures differ in the type, number, and permanence of the relationships that people form, but there are no societies in which people do not form social connections with one another. Furthermore, psychological research has repeatedly demonstrated that people quickly and easily develop group identifications (e.g., Billig & Tajfel, 1973; Sherif, Harvey, White, Hood, & Sherif, 1961), attachments with caregivers (Bowlby, 1969), and relationships with strangers (Wilder & Thompson, 1980). Thus the need to belong appears to be universal and innate, occurring in all normal individuals in all cultures, without any special circumstances needed for it to emerge.

Once social bonds form, people are very reluctant to allow them to dissolve, even when relationships have no functional value and may even cause distress or harm. For example, people who are part of time-limited relationships (e.g., participants in weekend retreats or encounter groups, fellow cruise passengers, and members of seasonal teams) may find the end of their time together upsetting and vow to maintain contact afterwards. In the case of established relationships, events that undermine connections—as when people move away—are distressing and accompanied by going-away rituals and promises to maintain the relationship. And, as Baumeister and Leary (1995) observed, "These patterns seem to occur even if the dissolving relationship (e.g., with neighbors) had no important or instrumental function and there is no realistic likelihood of further contact" (p. 502). Reunions also signify people's interest in maintaining at least occasional contact with those with whom they once had ongoing relationships. Perhaps most interesting are instances in which people maintain unsatisfying, unhappy relationships, as when people seem unwilling to leave bad relation-

ships and abusive spouses. Clearly, people are strongly motivated both to establish and to maintain social connections with other people.

Another piece of evidence to support the importance of belongingness motivation is that a great many of people's thoughts, emotions, and conversations involve the state of their interpersonal relationships, indicating that relationships are personally important. People think a great deal about other people, drawing inferences about their characteristics, making attributions for their behavior, and trying to discern how others perceive them. Similarly, changes in social connections are a primary source of emotions. Given that negative emotions arise from events that people perceive as threats to their well-being (Frijda, 1986), the strong aversive emotions that accompany real, potential, and imagined threats to social connections—such as hurt feelings, loneliness, anger, sadness, and jealousy—suggest that damage to social bonds constitute a perceived threat (Leary, Koch, & Hechenbleikner, 2001). Conversely, the formation and strengthening of interpersonal bonds are typically accompanied by positive emotions, such as happiness and joy, suggesting that these events are highly desired.

Of course, people may be happy when their desires are met and unhappy when they are not, but such reactions do not necessarily indicate that those desires should be regarded as "needs" or fundamental motives. Rather, the concept of a need implies that failure to satisfy the need results not only in distress but in dysfunctional outcomes. Indeed, deprivation effects may be the defining features that distinguish needs from mere wants or wishes. People who do not satisfy important needs typically demonstrate evidence of deprivation by experiencing adverse effects and being particularly motivated to satisfy the needs. Along these lines, people who do not experience adequate belongingness show an array of adverse effects, including stress, depression, poor psychological adjustment, a lowered ability to self-regulate, and compromised physical health (for a review, see Baumeister & Leary, 1995). Furthermore, they tend to dwell on their weak social connections and seek ways to strengthen them. Moreover, like other basic motives, the need to belong shows evidence that it can be satiated. People who have adequate social bonds are less interested in seeking additional relationships than those whose need to belong is unfulfilled.

A final consideration in assessing whether belongingness ought to be regarded as a fundamental need involves its evolutionary significance. Many theorists have noted that interpersonal relationships and group memberships were an absolute necessity for the survival and reproductive success of *Homo sapiens* and their hominid ancestors (Barash, 1977; Baumeister & Leary, 1995; Hogan, Jones, & Cheek, 1985). Lacking speed, ferocity, and evasive behaviors (such as winged flight, tree climbing, or burrowing), our ancestors survived throughout evolutionary history primarily because they lived in cooperative social groups that provided mutual protection and support. Natural selection would have favored those individuals who established and maintained supportive relationships with others, and those who had no urge to associate with and be accepted by others would have fared quite poorly in the struggle to survive and reproduce. The fact that human beings (as well as other social mammals) appear to have physiological systems designed to mediate relationships with conspecifics further supports the notion that people are biologically prepared to seek and maintain social relationships. We will return later to the physiology of belongingness.

### ONE MOTIVE OR MANY?

Baumeister and Leary (1995) implicitly conceptualized the need to belong as a single motive that involves fostering and maintaining a wide array of relationships with other people. In their review of the literature, they presented evidence regarding people's relationships with friends, romantic partners, family members, group members, and even strangers. In a broad sense, there seems to be little doubt that people are motivated to establish and maintain lasting, positive, and significant interpersonal relationships of all kinds. Yet one may raise the question of whether belongingness motivation reflects a single broad motive that can be directed toward establishing relationships with an array of targets (e.g., friends, family members, mates, group members), or whether it actually consists of several discrete motives that direct efforts to establish relationships with various categories of individuals.

The possibility that people possess several distinct belongingness motives is raised by evolutionary psychology's assumption that the

mind is composed of many domain-specific mechanisms or modules that evolved to handle particular adaptive challenges. Given that different adaptive problems require different solutions, a separate mechanism is needed for each qualitatively different problem (see Symons, 1992). In the interpersonal arena, different kinds of relationships are characterized by different behavioral and emotional features; pose different problems that require different solutions; and, at least in the ancestral environment, would have involved different implications for survival, reproduction, and inclusive fitness.

Along these lines, Kirkpatrick and Ellis (2001) identified four fundamental types of social collectives to which people seek to belong, to which we add a fifth. First, people form into macro-level groups, such as tribes, villages, communities, or nations. The members of these groups may or may not have direct contact with all other members, but they nonetheless identify as members of these collectives because the groups offer various benefits, such as access to resources and defense against members of other groups. Second, people form instrumental coalitions—groups of people who work directly together to achieve mutually desired goals. Hunting parties were perhaps the earliest instrumental coalitions. Today, people join committees, teams, gangs, work groups, army units, civic organizations, unions, neighborhood associations, and other task-oriented groups.

Third, people form relationships for the purpose of mating. Indeed, they may form different sorts of mating relationships, ranging from one-time liaisons to long-term monogamous pairings. Fourth, people in every culture have an array of kin relationships that are maintained primarily on the basis of genetic relatedness rather than (or in addition to) social exchange, because each person has a biological interest in the well-being of genetic relatives.

To these, we add a fifth category—namely, supportive friendships. Friendships develop on the basis of a mutual communal orientation in which each individual can rely on the support of his or her friends. Friendships provide ongoing companionship and support that span time, roles, and tasks, and provide an interpersonal insurance policy for occasions when one is in dire need. People seem to have a limited number of friendship niches that they desire to keep filled (Tooby & Cosmides, 1996).

Presumably, most people are motivated to form and maintain all five kinds of relationships, at least sooner or later. Furthermore, belongingness in each kind may be monitored and regulated by a different system (Kirkpatrick & Ellis, 2001). However, we believe that a strong qualification is in order. Specifically, two facts raise the possibility that people may be motivated to be accepted generically, as well as motivated to form certain kinds of relationships.

First, as Baumeister and Leary (1995) noted, one relationship may, to an extent, substitute for another. This is most obvious when relationships are of the same type: A new friendship or romantic relationship may quickly replace a former one, and people may wish to belong to one or more instrumental coalitions but may not care very much precisely what the group does or who else is in it. However, some substitution also occurs across relationships. For example, people in new romantic relationships often withdraw from their same-sex friends, seeming to need them less than before. Similarly, a person without close friends may derive a great deal of social satisfaction from working in instrumental groups or spending more time with family members. To be sure, the substitution is rarely total; family members do not fully replace friends or lovers, for example. But the fact that substitution occurs at all suggests that all relationships may satisfy some generic need to belong, in addition to whatever special features each type of relationship may have.

Second, as Kirkpatrick and Ellis (2001) noted, the criteria for acceptance into and rejection from these various kinds of relationships differ greatly. Community memberships are typically based on shared heritage or attitudes; instrumental coalitions on competence and ability to contribute to the group; mating relationships on mate value; kin relationships on genetic relatedness and willingness to sacrifice for family members; and friendships on the basis of being a reliable source of companionship and support. In light of this, it seems unlikely that a single mechanism could have evolved to monitor one's inclusion in all five types of groups. Even so, many criteria for acceptance and rejection apply across all kinds of relationships. A person who behaves in an untrustworthy, selfish, duplicitous, or cruel fashion toward other individuals is not valued as a relational partner, no matter what type of rela-

tionship we might imagine. Just as people can be said to be generally motivated to eat, yet also to be motivated to eat certain kinds of foods (as when a deficiency causes cravings for foods containing a particular nutrient), people may be said to have a general need to belong, even though they are also motivated to establish and maintain certain kinds of relationships that provide specific benefits.

### IMPLICATIONS OF THE NEED TO BELONG FOR UNDERSTANDING HUMAN BEHAVIOR

As noted earlier, the assumption that people have a pervasive drive to form and maintain a minimum number of lasting, positive, and significant interpersonal relationships can be viewed as the first and most fundamental principle in social psychology. Little else in social psychology makes sense without reference to the fact that people desire to be accepted and to avoid rejection. A species that was otherwise identical to *Homo sapiens* but that lacked this basic motive would behave quite differently than modern human beings do. We are not in any way suggesting that all interpersonal behavior emerges from the need to belong; clearly, behavior is determined by a wide array of factors, many of which have nothing whatsoever to do with belongingness. Even so, we maintain not only that a great deal of interpersonal behavior directly reflects concerns with belongingness, but also that, whatever other goals people may pursue, they typically do so in ways that do not jeopardize their acceptance by other people. Thus concerns with social acceptance not only determine certain behaviors directly, but also constrain most other behaviors in which people engage.

Space does not permit us to discuss all of the areas of psychology that may be illuminated by considering the need to belong. Thus, to provide a sense of how important belongingness is in human behavior, we overview only seven relevant topics: conformity and compliance; interpersonal attraction; enhancing personal acceptability; intergroup processes; attitudes and social influence; aggression; and cultural institutions.

#### Conformity and Compliance

A great deal of behavior has been explained with reference to the fact that people regu-

larly conform to social norms, bringing their opinions and behaviors into line with those of other people. Traditionally, theorists have distinguished two general reasons why people conform: because others' behavior provides useful information regarding the most effective or accurate response (*informational influence*), or because others' beliefs and actions provide information regarding socially appropriate ways to respond, and deviations from these norms are criticized and punished (*normative influence*) (Kelley, 1952). Although informational influence is largely unrelated to belonging, normative influence emerges directly from people's concerns with rejection. Given that people who violate social norms and deviate too extensively from the behaviors of the majority tend to be devalued, marginalized, and ostracized (Marques, Abrams, Pàez, & Hogg, 2001; Schachter, 1951), it is not surprising that people routinely conform, even when doing so requires them to disregard their own sensory perceptions and personal values (Asch, 1955). People are sometimes willing to sacrifice their well-being, violate their standards, and hurt others in the pursuit of acceptance and belonging.

Of course, people conform more to the standards of certain individuals and groups than to others. Merton and Kitt (1950) adopted the concept of *reference group* to describe the groups to which people most strongly tailor their attitudes and behavior. In our view, reference groups may be conceptualized as consisting of those individuals whose acceptance a person most strongly desires; this explains why people conform so strongly to reference groups.

Conformity is often regarded as a superficial, and typically undesired, acquiescence to others' judgments. However, the belongingness perspective suggests that the inclination to conform is both natural and adaptive. Because satisfaction of most personal and social needs typically requires people to be at least minimally accepted by others, an individual who never accommodated his or her behaviors to social norms or the actions of other people would be unable to satisfy even the most basic needs. The problem, then, is not that people conform, but rather that some of the norms that guide people's behavior lead to actions that are harmful to themselves or others.

### Interpersonal Attraction

Although people are highly motivated to establish and maintain an array of relationships, they are nonetheless selective in their choices of those with whom they interact and establish interpersonal connections. Research has identified many factors that affect the degree to which people like and desire to relate to others, but one prevailing finding is that people are most inclined to like and pursue relationships with those they believe are likely to like and accept them (Aron, Dutton, Aron, & Iverson, 1989; Gold, Ryckman, & Mosley, 1984). This pattern is also reflected in people's preference for those similar to them on almost any dimension—racial and ethnic background, attitudes, level of physical attractiveness, educational level, social status, and so on. Many explanations have been offered for the link between similarity and attraction, but one may be the fact that people believe they are most likely to be accepted by those to whom they are similar. Put differently, people are not inclined to waste their time trying to establish relationships with those who—by virtue of differences in personality, attitudes, background, or lifestyle—are not likely to become or remain a source of belongingness.

Recently, Leder (2004) showed that people report greater feelings of love toward individuals they believe have the potential to provide them with closeness, support, validation, acceptance, and other evidence of psychological intimacy. Again, it seems that people naturally gravitate toward those they believe are likely to accept them. Furthermore, once in a close relationship, people regulate their closeness with their partners depending on how accepted they feel. According to Murray, Holmes, and Griffin's (2000) dependency regulation model, people are willing to extend themselves to relationship partners only to the degree that they feel secure about the relationships. Furthermore, people usually abandon relationships in which they feel insufficiently valued and accepted. The recognition that one is no longer accepted typically results, sometimes after efforts at reconciliation, in the dissolution of a relationship.

### Enhancing Personal Acceptability

Not only do people tend to seek out and like those who may accept them, but they also devote a great deal of effort to making themselves

acceptable to others as well. Most obviously, people use a wide array of self-presentational tactics to convey particular impressions of themselves to others (Leary, 1995). Of course, the impressions that people try to convey depend on their goals in a particular situation, and often those goals have little to do with belonging. For example, people may wish to appear intimidating to influence others to do as they wish, or to seem helpless to gain others' assistance. Yet it seems likely that people devote more self-presentational effort to trying to be accepted by other people than to any other interpersonal goal.

Jones and Pittman (1982) identified ingratiation, self-promotion, and exemplification as three fundamental self-presentational strategies that are designed to convey images of being likeable, competent, and exemplary, respectively. These three self-presentational strategies are fundamentally important, in part, because they are the most important determinants of interpersonal acceptance. People who are viewed as likeable, competent, and exemplary are more valued as social interactants and relational partners than those who are not. Thus people desire to foster these kinds of impressions (and try not to behave in ways that negate them), and are quite attuned to evidence that others see them as unlikeable, incompetent, or deviant. Much of self-presentation is directed toward fostering and maintaining social acceptance (Leary, 1995).

People promote their acceptance in other ways as well. For example, research shows that people distance themselves from those who outperform them on tasks that are important to their own identity. According to *self-evaluation maintenance* theory (Tesser, 1988), people do this to maintain a favorable self-evaluation, but concerns with belongingness may also be involved. Being outperformed by another person has implications for one's social acceptance, particularly if the other person is a member of one's social network, because those who are superior on some personally relevant dimension render one's own social value lower. Thus people may either distance themselves from the other person or belittle the other's accomplishments (Tesser, 1988), thereby taking steps to make sure that their unique position is not superseded by others who may be more capable.

A similar effect may be seen in Brewer's (1991) work on *optimal distinctiveness*. Ac-

According to optimal distinctiveness theory, the maintenance of a person's social identity is driven by two basic needs—a need for group inclusion and belonging (assimilation), and a need for distinctiveness from other group members (differentiation). Because people seek to maintain an optimal level of assimilation and differentiation, perceiving that one is either too similar to or too dissimilar from other group members leads to behaviors that rectify the imbalance. Viewing optimal distinctiveness from the standpoint of belongingness sheds a somewhat different light on the process, however. In our view, only a single motive underlies optimal distinctiveness phenomena. Although people undoubtedly possess a genuine need for belongingness and inclusion, we doubt that they also possess a “need” for differentiation. People strive for differentiation not because they need to be different, but rather to maximize their value to the group, and thus to enhance their belongingness. A fully assimilated individual who is just like everyone else is essentially redundant and dispensable. Maximizing one's social acceptance requires people to be sufficiently assimilated to share fundamental attributes with the group, but sufficiently differentiated to be uniquely valued.

### Intergroup Processes

People are highly motivated to be accepted, but they do not indiscriminately or promiscuously seek acceptance from everyone they meet. This fact can perhaps be seen most clearly in intergroup phenomena through which people create boundaries between themselves and others, such as ingroup favoritism, outgroup derogation, and prejudice. The process of establishing belongingness with one group seems to be accompanied by the process of forgoing, if not discouraging, belongingness with other groups. The *minimal group* paradigm has repeatedly shown how little is required for members of one group to erect boundaries between themselves and others, devaluing, disadvantaging, and rejecting members of other groups (Diehl, 1990). People regularly treat members of other groups in ways that undermine the connections between them, often for no apparent reason.

Although the ease with which people distance themselves from and discriminate against others may seem inconsistent with a pervasive and powerful need to belong, such behaviors may in fact promote social acceptance. For

starters, people do not need to be accepted by everyone. Once they are accepted by a minimum number of supportive individuals with whom they can establish cooperative, mutually beneficial relationships of various kinds, further relationships are of relatively little value. (As the number of one's relationships grows, the marginal utility of additional relationships decreases.) Not only are additional relationships less valuable, but, given constraints on one's time and energy, attempting to pursue and maintain additional relationships may undermine the relationships that one already has. The costs of unbridled sociality are very high (Kurzban & Leary, 2002), so people conserve time and energy by actively discouraging further relationships. Perhaps this is why people seem to have a relatively small number of friendship niches (Tooby & Cosmides, 1996) and usually do not pursue new friendships unless one of those niches becomes vacant.

In making choices among groups and relationships, people presumably assess the potential value of those relationships. Because such decisions must often be made quickly in the absence of concrete information about others' characteristics, people may rely on heuristics to assess the degree to which a potential relationship is likely to provide desired outcomes, including social acceptance and support. As noted earlier, acceptance is generally facilitated by similarity, so proxies for psychological similarity (e.g., skin color, ethnicity, language, and indicators of social status) may be used, resulting in the dismissal of members of superficially dissimilar groups.

Derogating and rejecting members of other groups may foster acceptance in yet another way. External threats increase ingroup cohesion and enhance members' attraction for one another (Dion, 1979). Thus, when group members implicitly collude to identify members of another group as the “enemy,” the connections among ingroup members may be strengthened.

### Attitudes and Social Influence

Traditionally, attitudes have been conceptualized as intrapsychic structures, and attitude change has been viewed primarily as a cognitive process (albeit one that may be influenced by social factors). Yet there is no question that attitude acquisition and change are strongly affected by people's interpersonal concerns, including their concerns with social acceptance.

People tend to adopt attitudes that are likely to result in social acceptance from people whose acceptance they value—a point emphasized by Smith, Bruner, and White's (1956) discussion of the *social adjustment* function of attitudes. This is not to say that people do not sometimes hold attitudes that others disapprove of, but the general pattern is to have attitudes that facilitate rather than impede acceptance. And when people's private attitudes differ from those of significant others whose acceptance is important to them, they often express attitudes that are more similar to those of the others than is actually the case (see Schlenker, 1980, for a review).

Consistency processes, such as those assumed to underlie cognitive dissonance, also have a strong interpersonal component. Without denying that people prefer intrapsychic consistency over dissonance, it is also clear that people are at least as concerned with *appearing* consistent to others as with actually being consistent. The effects of performing counterattitudinal actions on attitudes are particularly pronounced when people's counterattitudinal behaviors are public and people are concerned with their image in other people's eyes (Schlenker, Forsyth, Leary, & Miller, 1980). In such cases, apparent attitude change is motivated by self-presentation concerns arising from the desire to appear consistent, presumably because inconsistency and hypocrisy undermine social acceptance and disqualify people as relational partners in good standing.

Similarly, many of the strategies by which people influence one another play upon the target's desire to be accepted. For example, the process of *reciprocal concessions*, in which people meet others' concessions with concessions of their own, seems to rely on people's desire to be seen as fair and conciliatory. Because obstinate, uncompromising individuals are not viewed as good friends or coalition partners, people feel compelled to reciprocate when others concede.

### Aggression

A wide variety of factors promote aggressive behavior, including frustration, aversive stimuli (e.g., heat, pain), and aggressive role models. One important set of precipitating events that has not received adequate attention involves those that connote interpersonal rejection. Peo-

ple who feel rejected often become angry and lash out at those who have rejected them (Buckley, Winkel, & Leary, 2004; Downey, Feldman, & Ayduk, 2000; Twenge, Baumeister, Tice, & Stucke, 2001).

The link between rejection and aggression is noteworthy not only because it demonstrates another important consequence of unfulfilled belongingness, but also because of what it implies about the nature of the belongingness motive. If, as emotion theorists suggest, anger and aggression are typically reactions to perceived threats (Frijda, 1986), the fact that rejection reliably makes people angry and inclined to aggress suggests that rejection is appraised as a serious threat to well-being.

The irony, of course, is that behaving aggressively is rarely a successful strategy for enhancing acceptance. Occasionally, aggression (or even threats of aggression) may deter rejection or abandonment (as in the case of an abusive spouse whose threats deter the partner from leaving), but almost always at the cost of liking and goodwill. Why, then, do people want to hurt those who reject them? In a review of the literature on the link between rejection and aggression, Leary, Twenge, and Quinlivan (2006) have recently examined several processes that might account for the effect. Although they conclude that the current literature is not adequate to resolve the issue of which explanation is most plausible, they discuss two possibilities that point specifically to the role of belongingness. First, Leary and colleagues suggest that feeling accepted may inhibit aggression in the face of stimuli that might otherwise make people respond aggressively. Because aggression nearly always damages interpersonal relationships, people generally avoid acting aggressively toward those who accept them. However, once acceptance from others is no longer forthcoming, those restraints are loosened, increasing the likelihood of aggression. Put differently, rejection greatly lowers the social costs of behaving aggressively. Thus, aside from whatever effects rejection may have on aggression directly, it may also loosen the constraints on aggressive behavior.

Second, aggression may function to drive away those who do not accept us. People who do not accept us are unlikely to provide valued outcomes (such as support and companionship); may exact costs that are not reciprocated; or, even worse, may try to do us harm. Thus, in a strictly pragmatic sense, there is not



only nothing to gain by relating to them, but possibly good reasons to dissuade them from interacting with us at all.

### Cultural Institutions

If belongingness is a fundamental human motive, we would expect to see widespread evidence of cultural institutions that offer opportunities for belonging. Perhaps the most obvious examples are the innumerable social groups to which people belong. Many groups have explicit purposes that can be achieved only through working with other people (e.g., political action groups, sports teams, neighborhood associations, and professional groups), and people may join these groups for reasons other than belongingness *per se*. Even so, one gets the impression that the appeal of joining these groups comes as much from the satisfaction of belongingness as from accomplishing the group's stated goals.

Even churches, temples, and synagogues—groups that, on the surface, exist for personal religious study and worship—provide important opportunities for interaction and belonging, and a climate of welcoming acceptance is viewed as essential for attracting and retaining members. Indeed, many people would hesitate to attend a church that did not sponsor occasional social events (dinners, picnics, interest groups) or that discouraged its members from interacting with one another. It is informative that people can more easily articulate the differences between the sorts of people who attend their own versus other churches than can describe how their own church's doctrine differs from that of other churches (Stark & Bainbridge, 1985); this suggests that people's choice of which church to attend is heavily influenced by interpersonal factors.

In addition to groups that have a purported nonsocial purpose, many other groups exist primarily, if not exclusively, to promote the belongingness of their members. Social fraternities and sororities, for example, may engage in various service activities, but their primary purpose is to foster the social lives of their members. (The fact that their members call one another "brothers" and "sisters" highlights the emphasis placed on forming close relationships.) Furthermore, in the case of certain leisure and recreation groups, a group's ostensible purpose—to play cards, bowl, ski, practice yoga, or discuss popular books, for example—

is often secondary to the opportunity to interact with and form relationships with other people.

On the dyadic level, the most obvious example of a cultural institution that promotes belonging is marriage. Marriage exists in almost every society to recognize the special social status of married individuals and to provide means of protecting the marital relationship from outsiders. But marriage may also reflect an institutional means of satisfying the desire for acceptance by offering a sanctioned way to promote long-term belongingness. The traditional marriage vow that promises unfaltering commitment "till death do us part" may reflect an institutionalized mechanism for helping to maintain belongingness.

Modern technological advances also reflect people's need for social connection. In the United States, the Internet is most commonly used as a means of communication via e-mail, and of the more than 200 million people who use the Internet worldwide, approximately 25% report visiting Internet chatrooms or online discussions (Madden, 2003). Online games also promote a sense of community, even though the players are not in one another's presence and may not even know one another's identities. Software developers develop multiplayer options for their games because they realize that providing an interpersonal feature will enhance the game's success.

### Summary

These and other patterns of social behavior make sense only with reference to the fact that people are pervasively and powerfully motivated to be accepted and to avoid rejection. People's social behaviors would be quite different had human beings evolved under conditions that did not put such a premium on social acceptance. To repeat a point made earlier, we are not claiming that all behavior, or even all social behavior, stems from the belongingness motive. Most notably, patterns of behavior involving dominance, status, and power typically involve efforts to influence other people without regard to social acceptance. Even so, however, people sometimes seek power and status to promote their social acceptance (Leary, Cottrell, & Phillips, 2001), and influence must often be exercised in ways that do not sacrifice one's own belonging.

### THE PHYSIOLOGICAL UNDERPINNINGS OF BELONGINGNESS

Given the adaptive significance of social acceptance, one would expect to find neurological substrates that facilitate the development and maintenance of social bonds. Over the last 30 years, researchers have become increasingly interested in the physiological aspects of social relationships (Levine, Caspi, & Laufer, 1997), focusing on the physiological underpinnings of parent-child bonding, mating/romantic relationships, and everyday social interactions.

Researchers have identified areas of the central nervous system that are involved in social relationships, as well as neuropeptides and endogenous neurochemicals that facilitate social interactions and bonding. Unfortunately, two factors have impeded progress in this area. First, some promising candidate neuropeptides are difficult to study in human beings because they do not cross the blood-brain barrier. As a result, their effects cannot be studied experimentally with peripheral administrations of the chemicals (Insel, 2000). Additionally, only a small number of laboratory animals demonstrate the kinds of selective affiliation and relationship development that are characteristic of human beings (Insel, 1997), which limits the ability to use animals as models. For example, only 3% of mammals display biological monogamy that resembles pair bonding in human beings (Insel, 2003).

One unlikely animal popular in this research area is the prairie vole found in midwestern North America. Prairie voles are useful both because they display a variety of selective social behaviors and because they are very similar to the nonsocial montane vole, which allows for comparisons between two closely related animals that demonstrate great differences in social behavior (Insel, 1997). Research with the prairie vole has identified several neurochemicals that appear to affect bonding, and the evidence for two of these appears particularly compelling. Specifically, oxytocin and vasopressin consistently play important roles in social affiliation and possibly bonding. Oxytocin and vasopressin are very similar compounds, differing in only two amino acids (Insel, 1997), and the gene for both of these neuropeptides occupies the same chromosome (Carter, 1998).

In prairie voles, the effects of oxytocin and vasopressin appear to be sexually dimorphic. Male prairie voles that receive a vasopressin

antagonist do not form pair bonds after mating, whereas female voles that receive an oxytocin antagonist do not form bonds after mating (Insel, 1997). However, strong doses of either oxytocin or vasopressin can induce pair bonding, which may indicate sex differences in sensitivity to these neuropeptides (Curtis & Wang, 2003). Likewise, newborn voles treated with oxytocin antagonists do not develop a normal preference for their mothers (Nelson & Panksepp, 1998).

Similarly, oxytocin plays a role in social recognition among rats. Rats given infusions of oxytocin show an increased recognition for other rats to which they have been previously exposed. In contrast, rats whose receptors for oxytocin are "knocked out" lose the ability to recognize familiar rats. This debility is specific to social memory, and other forms of memory function normally (Ferguson, Aldag, Insel, & Young, 2001). Vasopressin may play a similar role in facial recognition in human beings. Intranasal administration of vasopressin raises the electromyogram response to an emotionally neutral face to the level of the response of control groups to an angry face, which may indicate that vasopressin affects the overall response to social stimuli (Thompson, Gupta, Miller, Mills, & Orr, 2002).

Experimental research on the effects of oxytocin in human beings is difficult because oxytocin does not cross the blood-brain barrier (Curtis & Wang, 2003), though this may not be true of vasopressin (Thompson et al., 2002). Even so, research on oxytocin and vasopressin suggests that both are involved in human bonding. For example, breast stimulation releases oxytocin into the circulatory system in women during lactation. Given that oxytocin release may be a subjectively pleasant experience, the affective experience of the release may be then conditioned to the infant, thereby promoting maternal bonding (Carter, 1998). Additionally, evidence indicates that oxytocin is released during orgasm in both men and women (Riley, 1988).

In understanding how oxytocin and vasopressin facilitate social bonding, researchers have examined the locations of oxytocin and vasopressin receptors in the brain. The distribution of oxytocin and vasopressin receptors is species-specific (Carter, 1992). Insel (2003) has noted that the oxytocin receptors in prairie voles (the highly social species) are concentrated in the reward centers of the brain, such

as the nucleus accumbens, whereas the oxytocin receptors in the montane vole (the less social species) are located in regions of the brain associated with nonsocial behavior. The specific locations of these receptors may explain the different behavioral effects of oxytocin in these two species, particularly given that they do not differ in the distribution of receptors for other hormones. Indeed, after inserting a prairie vole vasopressin receptor gene into a mouse genome, researchers produced unique affiliative behaviors in the genetically altered mice by exposing them to vasopressin (Young, Nilsen, Waymire, MacGregor, & Insel, 1999).

Oxytocin and vasopressin receptors in the human brain have also been found in dopaminergic systems often associated with reward centers (Insel, 2000). Dopamine plays an important role in the reward system and may also facilitate the rewarding affective quality of social bonds (Carter, 1998). Noting that this pathway seems similar to pathways implicated in drug use, Insel (2003) has suggested that the pathways that evolved for social interaction may be utilized by addictive drugs, extending MacLean's (1990) speculation that substance abuse is an attempt to generate neurochemicals that are produced naturally during positive social interactions.

Brain areas involving social bonding are also implicated in research involving opioids and attachment. According to the brain opioid theory of social attachment, social contact causes the release of endogenous opioids, whereas social isolation lowers basal opioid levels, which motivates individuals to seek social contact (Nelson & Panksepp, 1998). One example of this pattern can be seen in rat pups. The ultrasonic vocalizations that rat pups emit when isolated are eliminated if pups either are placed with an anesthetized littermate (which provides the presence of a conspecific, albeit a nonresponsive one) or receive low doses of an opioid such as morphine. However, if an opioid antagonist, such as naltrexone, is administered, then the presence of a littermate does not affect ultrasonic vocalizations (Carden, Hernandez, & Hofer, 1996; see also Nelson & Panksepp, 1998). Also, administering morphine (an opioid) reduces the pursuit of social interaction in several species, including nonhuman primates (Martel, Nevison, Simpson, & Keverne, 1995).

Activity in the hypothalamic-pituitary-adrenal (HPA) axis is also associated with so-

cial bonding. In her review of the literature on the neuroendocrinology of attachment, Carter (1998) observed that social interactions decrease HPA axis activity and that negative interactions reduce it. For example, HPA hormones increase after an animal is separated from others and decrease during reunion (Carter, 1998). Oxytocin and vasopressin may also reduce HPA activity. As a result, peptidergic systems utilizing oxytocin and vasopressin may inhibit innate defensive behaviors (such as automatic defensive or aggressive responses to unfamiliar stimuli) and allow social bonds to develop (Carter, 1998).

As noted, rejection typically results in negative emotions, if not acute feelings of being hurt (Leary & Springer, 2000; MacDonald & Leary, 2005), so we should expect to find that rejection experiences involve neurophysiological systems that are associated with negative affect and pain. Panksepp, MacDonald, and others have proposed that during the course of mammalian evolution, the system that promotes and maintains social connections was built on top of more primitive systems that mediate physical pain (MacDonald, Kingsbury, & Shaw, 2005; Panksepp, 1998). Specifically, MacDonald and Leary (2005) argue that the "hurt feelings" that result from interpersonal rejection utilize the same system as *pain affect*—the emotionally aversive component of physical pain that can be distinguished from its physically aversive sensations. In support of this idea, Eisenberger, Lieberman, and Williams (2003) found in a functional magnetic resonance imaging study that social exclusion activates the anterior cingulate cortex (ACC), which has been implicated in the negative affect associated with physical pain. (However, if the social exclusion is inadvertent, the right ventral prefrontal cortex is also activated.) These findings suggest that the negative affect following social exclusion may utilize some of the same neurological mechanisms as physical pain.

In brief, researchers have begun to develop models of neurophysiological mechanisms that may underlie social affiliation and bonding. Oxytocin and vasopressin clearly play an important role in bonding, and research seems to indicate that these neuropeptides also suppress defensive behaviors toward individuals with whom the bond is shared. Neurochemicals in the reward system may also make bonding a phenomenologically rewarding experience,

while activation of the ACC makes social exclusion phenomenologically painful.

Much of this research raises the provocative idea that people (and nonhuman animals that show similar patterns of affiliation and bonding) are motivated to seek social connections because such connections affect neurophysiological systems that involve reward centers, and thus are inherently pleasurable. At its root, then, belongingness motivation may be fed by a desire for the pleasurable experience of being connected to another person. This research is in its infancy, and questions may be raised regarding the degree to which the systems identified in nonhuman animals are responsible for either the human need to belong or the rewarding features of interpersonal acceptance. Even so, given that social connections have been important throughout human evolution, specific neurological mechanisms seem to have evolved to support the pursuit and development of social bonds.

## CONCLUSIONS

We once heard of a social scientist who had contracted to write a scholarly book about hermits, setting out to locate and interview people who not only lived alone but avoided human contact and eschewed relationships of all kinds. He tracked down dozens of individuals whom other people identified as recluses, but he was eventually forced to abandon the project because he was unable to find even one bona fide well-adjusted hermit. Many of the so-called hermits lived alone, sometimes in very isolated places, yet had ongoing contact with friends or family members. (One fellow lived by himself in a tin-covered hole in the desert, but he regularly walked to town to have dinner with his mother.) Others were homeless people who often roamed the streets by themselves during the day but joined other homeless people at night. A good number were simply people, most of them elderly, who lived alone not out of choice, and who would have preferred greater social contact and more close relationships. The researcher did locate some true hermits, but they were uniformly seriously psychologically disturbed, unable to hold jobs or form meaningful personal relationships.

Perhaps there are a few well-adjusted people somewhere who happily and easily live for extended periods of time with no social relation-

ships whatsoever and with no desire to develop such relationships—but we doubt it. The drive to form some minimum number of lasting, positive, and significant interpersonal relationships is such a critical aspect of human nature that we consider it inconceivable that otherwise normal individuals would have no desire to connect with other people through friendships, romantic or mating relationships, instrumental coalitions, or kinship. Human beings are fundamentally not only social animals (as are many other group-living species) but also, for lack of a better term, “relationship animals.” No other species forms such a broad array of distinct relationships with conspecifics as human beings do, nor have lives that are so markedly affected by the development, maintenance, and dissolution of relationships. The need for acceptance and belonging is indeed a “mainspring of social action” (Murphy, 1954) that is connected, in one way or another, to most of the machinery of human life.

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