

Running Head: A PSYCHO-EVOLUTIONARY THEORY OF INTERPERSONAL  
BALANCE

Managing Social Affiliation:

A Psycho-Evolutionary Theory of Interpersonal Balance

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### Abstract

A new psycho-evolutionary approach to human affiliation behavior, the so called theory of interpersonal balance, is presented. This theory integrates aspects of several existing affiliation theories into a broader evolutionary framework, thus revealing some facets of the affiliation motive that are neglected by other affiliation theories. Mainly, the theory points to the existence of a number of psychological mechanisms that could lead to the avoidance of social contacts. The theory of interpersonal balance is evaluated in the light of the strength and weaknesses of other conceptual approaches to social affiliation. It is shown that the theory is consistent with the main empirical findings in the domain. In addition, an empirical a priori test of the theory of interpersonal balance supports its main assumptions and clearly demonstrates that the theory makes testable predictions.

*Keywords:* theory of interpersonal balance, social affiliation, affiliation motive, social rejection, social systems

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Many of the goals humans try to achieve in their daily lives are genuinely social. Very often, the motive behind peoples' actions is the wish to be approved, accepted, or liked. In some cases, this motive may remain unconscious; and in some cases, the mentioned goals are achieved in a very indirect way.

At the same time, humans often try to avoid being socially excluded or rejected. Obviously, there is a strong desire for humans to be with other people; that is, there is an affiliation motive. Several psychological theories have focussed on the different facets of this subject, and a great deal of empirical findings already exists. There are reviews and even attempts to integrate much of the empirical research regarding human affiliation into global models and theoretical frameworks (e.g., Baumeister & Leary, 1995; Kulik & Mahler, 2000; Williams, 2007).

The purpose of this contribution, however, is to compare, criticize, and integrate non-critical aspects of the main conceptual approaches that have been dealing with social affiliation. In part, this is done by reviewing respective pivotal empirical findings. We consider the strength and weaknesses of the different concepts and findings. This results in the integrative theory of interpersonal balance which is a psycho-evolutionary orientated global model of the relevant interpersonal processes. We assume that taking over an evolutionary perspective can generally be a useful tool to integrate psychological theories and empirical findings, because this process can often provide researchers with plausible evaluation criteria. In addition, with the help of the evolutionary background of the theory of interpersonal balance we reveal some theoretical aspects that have been neglected in the relevant literature. This, primarily, refers to a number of factors that can lead to the avoidance of social contacts. Especially, it refers to an individual's active rejection of contacts which

wouldn't be functional for its survival and reproduction. Therefore, we hope that research investigating affiliate behaviors will be further stimulated and completed by our theory.

Much of contemporary research is strongly related to the question what the antecedences, mediators, moderators, and especially the consequences of social rejection, social exclusion, social ignorance, or social isolation are (e.g., Williams, 2001, 2007). As consequences, mood and emotions (Eisenberger, Lieberman, & Williams, 2003; Twenge, Catanese, & Baumeister, 2003), cognitions (Baumeister, Twenge, & Nuss, 2002; Gardner, Pickett, & Brewer, 2000), and behavioural responses (Catanese & Tice, 2005; Ouwerkerk, van Lange, Gallucci, & Kerr, 2005; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007; Twenge, Baumeister, Tice, & Stucke, 2001; Williams, Cheung, & Choi, 2000) were investigated – a more thorough examination of the relevant literature is presented in later sections. Most of these current studies are explicitly based on the background assumptions of the so called belongingness hypothesis by Baumeister and Leary (1995). But these attempts are rarely related systematically to more historical approaches (e.g., Schachter, 1959; Thibaut & Kelley, 1959) or to more personality-orientated approaches (e.g., Elliot, Gable, & Mapes, 2006; Gable, 2006; Schüler, 2000; Sokolowski & Heckhausen, 2006) to the affiliation motive. However, if the term affiliation motive is conceptualized widely – and in later sections we show that the term should be understood in a broader sense – then it could be very enriching to understand the relations between the different approaches.

But, perhaps there are good reasons for researchers to avoid connecting their special theories and empirical findings to other theories and approaches. First, of course, different approaches often refer to slightly different explananda. Second, as Kuhn (1983), for instance, has convincingly pointed out psychological theories can seldom be reduced to one another, primarily, because it is difficult to produce the relevant bridge laws. Nevertheless, theories can be compared with each other, they can be criticized on the basis of others theories, they

can be integrated into broader concepts, and it is possible to make theoretical revisions of empirical findings.

In our view, there is a theoretical perspective that is able to make such fruitful revisions, integrations etc. possible, namely, the perspective of evolutionary psychology (Buss, 2004; Tooby & Cosmides, 1992). This perspective is based on the theory of natural selection (Darwin, 1859) or rather the inclusive fitness theory (Hamilton, 1964). Evolutionary thinking in psychological research areas has not only led to fruitful revisions of existing data; it has also led to new enriching theories and integrated conceptual frameworks. The new insights coming from evolutionary psychology refer to the most profound questions about the human animal, and this is particularly true for research in social psychology (Boyer & Heckhausen, 2000; Buss, 2004; Simpson & Kenrick, 1997). The empirical evidence supporting evolutionary theory is so overwhelming that other theories, especially psychological ones, should, at least, be logical consistent with evolutionary assumptions and thus can be evaluated accordingly.

We start our analysis with some simple biological facts regarding the evolution of social systems. After that, we present a new psycho-evolutionary approach, our theory of interpersonal balance. Then, we try to relate the main approaches to the affiliation motive to our theory of interpersonal balance. One purpose is to show that there are some important evolutionary facts not being considered thoroughly in psychological affiliation theories. A second purpose is to demonstrate that the evolutionary-orientated perspective of our theory is a useful tool to reveal specific conceptual problems of other affiliation theories and that such a perspective is qualified to integrate the most important empirical findings in the respective research areas.

### Conceptual Background

#### *The Benefits of Group Living*

Theories which are aimed at explaining the biological function of affiliate behaviors proceed on the assumption that natural selection favours a social way of life over a solitary one when organisms are able to solve adaptive problems more efficiently through their participation in social systems. Seen from this perspective, the origin of forming social systems is due to the selection pressure weighing upon the genes of organisms. Therefore, not only the species *Homo sapiens* is confronted with the adaptive problem to establish social contacts. As state-building animals, herds, or swarms demonstrate, this does not even exclusively apply to primates. But for a better understanding of human affiliate behavior, non-human primates are of special interest because of their close genetic relatedness to humans. Numerous recent primate species are not only capable of increasing their hunting efficiency, but they are also able to defend themselves better against predators and to profit from the reciprocal sharing of work and resources when living in groups. In the following section, these and other classical findings are shortly sketched.

Effective defence against predators. Animals that hunt individually inferior prey run the risk of provoking a concerted action of defence and thus being injured themselves when the prey animals are capable of forming social systems. Supporting this hypothesis, it seems indeed possible for chimpanzees and baboons to put leopards and lions to flight (Boesch & Boesch, 1984; Dunbar, 1988; Smuts, 1985). In addition, Rasmussen (1983) observed baboons distancing themselves less from their conspecifics when living in areas with a high predator density compared to living in so called low risk areas. These animals also decrease the inter-individual distance between each other as soon as a predator or a dummy of a predator appears (Sigg & Stolba, 1981). Furthermore, it was demonstrated that certain primates form smaller groups in predator free areas than individuals of the same species in areas with a high frequency of predators (Anderson, 1981; Krause & Ruxton, 2002). Apart from that, van Schaik (1983) found a positive correlation between the group size of several primate species

and the distance that species needs to detect predators. This result indicates that an early detection of predators is another function social systems can have. In sum, the formation of social systems generally allows the initiation of effective defence strategies (Cresswell, 1994).

Optimized resource protection. The protection of resources (e.g., food or shelter) is particularly necessary to help species' offspring to survive. Territorial defence, therefore, is an extremely relevant adaptive problem that some species can solve better by the formation of social systems. This hypothesis is also supported by empirical data (see Dunbar, 1988). Evidence comes, for instance, from the fact that the variable group size strongly predicts the ability of a group to keep away competitors from the group's territory.

Increased hunting efficiency and food procurement. If there is only prey of big size available for a species, hunting in groups can be an efficient strategy for the little predators to catch and kill the bigger prey. Dunbar (1988) integrates the relevant facts into the following formula: "Larger groups can capture larger prey" (p. 111). In addition, there are some benefits of group formation concerning food procurement: For a group, it is possible to scour a larger territory for food, provided that individuals are able to practice work sharing and do not scour where conspecifics had already scoured. Most primates seem to possess this ability to share such work efficiently (Menzel & Juno, 1985). When food is found, other group members can be informed by "call giving," a practice often observed in chimpanzees (Reynolds & Reynolds, 1965). The disadvantage of competition for resources within the group seems to be offset by the described advantages (Krause & Ruxton, 2002).

Investment in offspring. Perhaps, social systems have also been evolved, because females breeding of the offspring could have been supported directly (e.g., through food supply) and indirectly (e.g., through territorial defence) by other group members (Dunbar, 1988).

Exchange of resources. Vampire bats starve to death when being without food longer than three days (Wilkinson, 1990). The ability to gather food, however, varies with the age of these animals. Thus, it is often the case that younger individuals exceed the mentioned time limit of three days. This species would have surely died out, if the individuals had not developed an ingenious system of reciprocal exchange (Wilkinson, 1988). Comparable exchange systems can also be found in primates (McGrew & Feistner, 1995).

Several more hypotheses about the function of group living are discussed. These hypotheses do not exclude each other. Partly, they can even be integrated in one of the already mentioned hypotheses. Further potential benefits of group living are: (a) to be freed from parasites by conspecifics, (b) to have easy sexual access, (c) to synchronize reproduction, (d) to be warmed (thermo-regulation), (e) to exchange information, and (f) to construe functional large-scale buildings (see Alcock, 2005; Krause & Ruxton, 2002).

Relevance to the species *Homo sapiens*. The mentioned evidence makes the assumption of an evolutionary origin of the affiliation motive plausible. Theories about human affiliation often (but seldom systematically) transfer such assumptions to the species *Homo sapiens* (e.g., Baumeister & Leary, 1995; Blackhart, Baumeister, & Twenge, 2006; Eisenberger & Lieberman, 2005; Gardner, Pickett, & Knowles, 2005; Leary, 2001; Overkerk et al., 2005; Sokolowski & Heckhausen, 2006). Following these theories, *Homo sapiens* primarily forms social systems due to his evolutionary background. In the course of human evolutionary history, solitary living individuals supposedly have had only a minimal chance to survive, to reproduce, and thus to increase the number of transferred gene copies in the following generations. Caporael and Baron (1997) point out: “Humans are an obligately interdependent species, unable to survive and reproduce outside a group context” (p. 328). This can be illustrated with a pregnant woman who supposedly had no chance to survive outside a social system. Therefore, it is plausible to conclude that genetic sequences allowing

organisms to form social systems spread in the genetic pool. Because of this evolutionary process, even modern humans possess these genetic sequences which regulate their affects, cognitions, and behaviors concerning social affiliation. Although it is difficult to test such assumptions directly, numerous observations in many different research areas support these hypotheses. Paleontological findings and observations in recent hunter-gatherer societies, for instance, make the assumption plausible that in the Pleistocene members of the species *Homo sapiens* also lived in groups (Caporael & Baron, 1997). Statements about the number of individuals that belonged to such a group differ in the literature, but mostly they range from 30 to 200 individuals (e.g., Caporael & Baron, 1997; Dunbar, 1993). Interesting models of biological optimized group sizes can be found by Sibly (1983).

If the human affiliation motive is a product of natural selection, it will be a convincing clue for the phylogeny of that motive, when even in the modern world representatives of the species *Homo sapiens* all over the world are living in groups (universality). This seems to be the case. Coon concluded in 1946 that humans in all known regions of the world naturally form groups. In this context, it is also interesting that in most cultures, social isolation is seen as a form of punishment (Williams, 1997).

The above mentioned adaptive benefits for nonhuman primates resulting from the formation of social systems supposedly applied (and partly still apply) to human social bonds, too. At least, some parallels can be drawn between humans and nonhuman primates: In certain periods of evolutionary history, humans were hunting large game (Tooby & DeVore, 1987). This requires hunting in groups consisting of about five individuals (Caporael & Baron, 1997). Thus, it seems plausible that the adaptive advantage of forming groups in order to increase the efficiency of hunting particularly applied to humans. Perhaps, even the results of the well known Robbers Cave study by Sherif (1966) can be interpreted in this way, mainly, because it also shows that even under adverse circumstances humans easily form

groups as soon as a higher goal must be achieved that cannot be achieved without common efforts. Experiments by Schachter (1959), Taylor, Buunk, Collins, and Reed (1982), and other authors demonstrate that the human need to affiliate with others is reliably activated when persons are confronted with physical threats. Maybe, this phenomenon is functionally comparable to the documented tendency of baboons to decrease the inter-individual distance between each other as soon as a physical threat appears (Sigg & Stolba, 1981). In addition, several times it was found that the cohesion between members of a group increases as soon as the resources of the group are threatened. These findings can be integrated into the formula “external threat increase group cohesion” (Stein, 1976). Thus, for humans, too, group formation seems to be an adaptive instrument they can use to defend valuable resources. It seems obvious that humans can also enormously profit from the sharing of work and the reciprocal exchange of resources. There is evidence that the ability to exchange resources reciprocally is anchored in the human phylogeny (Cosmides, 1989; Cosmides & Tooby, 1992). In addition, humans can even profit from their ability to exchange information, for instance, by means of imitation (Bandura, 1965). Partly, it is the mentioned profit closely related nonhuman primates can draw from the formation of social systems that makes the assumption of the phylogeny of the human affiliation motive plausible – especially, because the profits refer to adaptive problems with which human ancestors supposedly were confronted as well.

Some of the sketched studies, however, suggest that the structure of social systems can vary depending on certain ecological conditions. Social systems vary on numerous dimensions, for instance, how many individuals are allowed to participate in the system, how pervious the system is to new members, or how long it can exist. It depends on certain (recurrent or single) ecological conditions which combination of those factors increases the fitness of the members of a concrete species, or whether there is an advantage of group living

at all. Some of the studies mentioned above show that the structure of social systems can even vary between groups of one and the same species, solely due to different ecological conditions such as the density of predators in their respective habitats. Such conditions represent the stimulus input that can trigger (or deactivate) the evolved mechanisms that lead to the formation of social systems (Dunbar, 1988). Thus, under certain constraints it is possible that an evolved mechanism even remains latent. That is, the formation of social systems can be dysfunctional, even for a species that regularly profits from affiliate behaviors. We discuss this important aspect in the next sections.

### *The Costs of Group Living*

A thorough biological analysis of the structure and dynamics of social systems shows that a one-sided emphasis on the benefits of group living is insufficient. The social systems of higher primates are characterized by an enormous complexity. Very often the question why humans are living in groups is answered by mere listing the adaptive advantages of social systems. In this way, however, some important facts are ignored, underestimated, or, at least, not conceptualized thoroughly.

Group living goes along with plenty of costs for an individual. Those costs can be of genuinely biological kind. For instance, because of its size, a group can easily be detected by predators (Vine, 1973). When a predator appears and a flight reaction follows, members of a group are often confused and bar each others' way (Ruxton, 1993). Apart from that, an individual in a group is exposed to intense pressure resulting from competition among group members (Krause & Ruxton, 2002). The competition pressure refers to all kinds of resources (e.g., food, mates, and shelter). Furthermore, the risk of infection increases in a group context (Brown & Brown, 1986). Krause and Ruxton (2002) point out that even the mere possibility of emerging costs in a group brings metabolic costs for each individual. Considering such facts, the following observations become understandable: Chimpanzees (and other species)

avoid conspecifics and even exclude them from the group as soon as their behavior appears deviant or as soon as impedance is recognizable (Dugatkin, FitzGerald, & Lavoie, 1994; Goodall, 1986; Nishida, Hosaka, Nakamura, and Hamai, 1995). Kurzban and Leary (2001) apply this to humans: “Human beings ... avoid contact with those who are differentially likely to carry communicable pathogens” (p. 187). To initiate or maintain social contact with individuals that possess lasting diseases is not an adaptive strategy.

Relevance to the species *Homo sapiens*. It seems that most of the above mentioned costs of group living applied (and partly still apply) also to members of the species *Homo sapiens* (see the quote by Kurzban & Leary, 2001, above). Human individuals are often exposed to an enormous competition pressure. In more regulated cases, humans are permanently forced to make compromises and to observe social norms. This can result in costly forms of conforming behavior (Asch, 1951). Social contacts can absorb time, cognitive capacities, or even material resources (Cosmides & Tooby, 1992). Of course, individuals can also become victims of violence and exploitation (Cosmides & Tooby, 1992). Social psychology research has been revealing numerous costs of group living, group work, and social interaction. The bystander effect, pluralistic ignorance, social loafing, the shared view effect, the choice shift effect, groupthink, and the blocking effect are just a few examples (Kerr & Tinsdale, 2004; Witte, 2006). However, costs resulting from these effects do only represent a disadvantage for an individual when measured by the maximum potential group performance. Seen from an ultimate perspective, however, this criterion is sometimes not decisive. Instead, a combination of the individuals' task-input and that part of the group's task-output resulting for the individual seem to be relevant (Witte, 2006). However, taken all facts altogether, it is not surprising that the affiliation motive is satiated very quickly (Baumeister & Leary, 1995). Besides many benefits group living also goes along with plenty of costs for an individual. Also many philosophers described such interpersonal costs in very

fundamental ways (e.g., Nietzsche, 1878/1999; Sartre, 1944/2003; Schopenhauer, 1851/1996, 1819/1998; Zimmermann, 1784/1982).

It can be concluded that the formation of social systems represents an appetite avoidance conflict for members of the species *Homo sapiens*. Provided that social systems exist because natural selection produced them, an individual of a certain species in a certain environment must potentially have a net reproductive benefit when living in a group context. The net reproductive benefit, after all, is the criterion which is optimized by the formation of social systems generally and by the special group characteristics specifically. The advantages of group living must have predominated its disadvantages in the course of human evolution; otherwise, a disposition to form social systems (i.e., the affiliation motive), would not exist. Provided that the motivational state emerging in social situations is adequately described as an appetite avoidance conflict, then this conflict must have generally been solved in favor of the appetite component. Many of the modern affiliation theories are, at least, implicitly consistent with this conclusion (e.g., Baumeister & Leary, 1995; Gardner et al., 2005; Leary, 2001). Perhaps, that is the reason why much of contemporary research referring to affiliate behaviors is mainly dedicated to the appetite aspects of the affiliation motive.

However, such a biological orientated analysis of the ultimate origins of the affiliation motive shows that the biological costs of interpersonal contacts are often neglected or underestimated by psychological affiliation theories. Some psychological affiliation theories use the term cost and some affiliation theories deal, for instance, with constructs such as fear of rejection (as an avoidance component of the affiliation motive). However, our biological orientated understanding of the term cost and our concept of the appetite avoidance conflict, for instance, differs from these theories. These differences are examined in detail after having presented our theory of interpersonal balance in the next section.

*The Theory of Interpersonal Balance*

Assumptions. At least, at four levels of information processing necessary to establish interpersonal contacts successfully, possible causes to avoid affiliation with others are present as well. In the following section, the theory of interpersonal balance is, therefore, described in four steps which represent its central claims. Figure 1 illustrates the structure and the main contents of the theory. In particular, the figure shows the potential causes (on the right) and behavioral consequences (at the bottom) of psychological processes relevant to social affiliation.

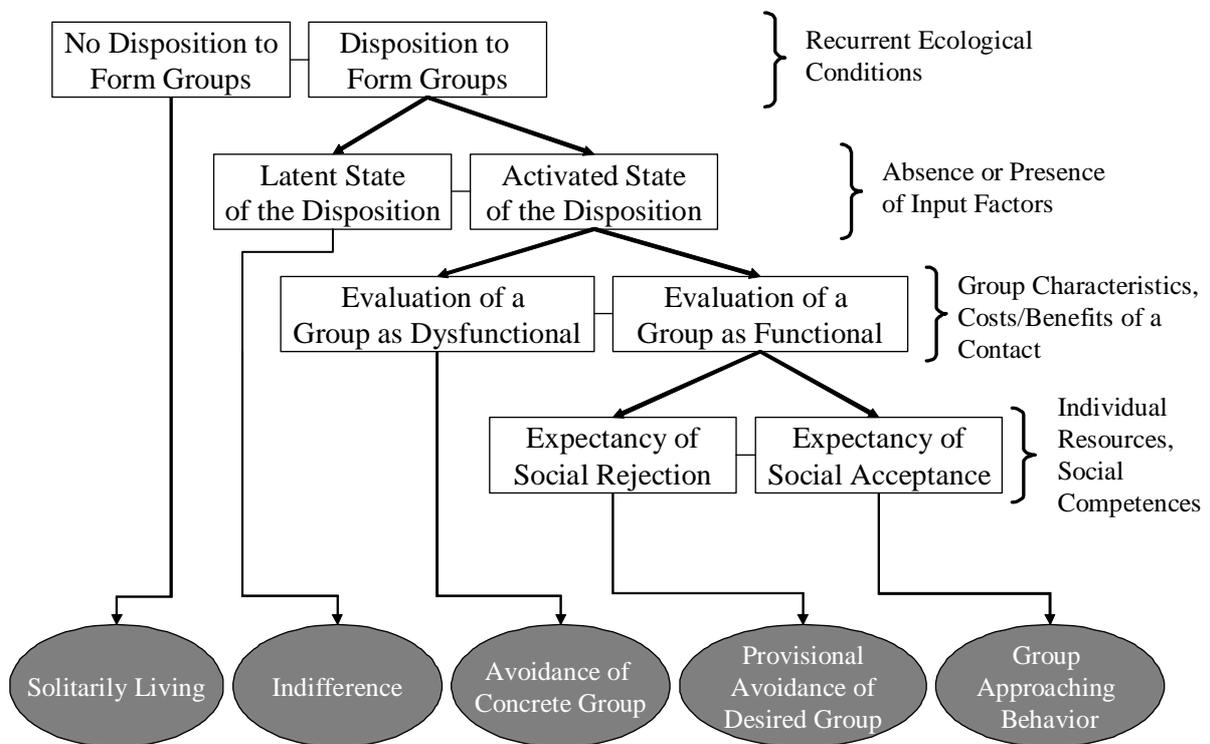


Figure 1. Illustration of the causes (on the right) and behavioral consequences (at the bottom) of psychological processes relevant to social affiliation postulated by the theory of interpersonal balance.

1. Many species are living solitarily. They do not possess the genetic or neural endowment to form social systems. Other species are living in groups. Whether a species possesses the ability to form groups is mainly due to its evolutionary history. It depends on the interplay between the physical features of the respective organisms and certain recurrent ecological conditions whether a species has developed a disposition to form social systems in its evolutionary history. Ecological conditions that have presumably been relevant to members of the species *Homo sapiens* in this respect are, for instance, the density of predators, the availability of food resources, the availability of mates, or climatic conditions. Species that have had a net benefit in units of reproduction over long periods of their evolutionary history by forming social systems possess the genetic potential to form groups with certain characteristics. We assume that members of the species *Homo sapiens* regularly possess this genetically fixed ability. Under the ecological conditions with which humans have temporally been confronted in their evolutionary history (e.g., high predator density, lack of food, extreme temperatures), individuals that formed social systems had a better chance to survive and reproduce than individuals that lived alone. Therefore, we assume that current representatives of the species *Homo sapiens* possess the genetic programs producing neural structures that enable and motivate them to form social systems with certain characteristics. But even at this global, more structural level of processing (see the first level in Figure 1), there are some exceptions to this rule. For instance, in the case of certain genetic or neural disorders (e.g., autism), it seems that the disposition to establish social contacts successfully is missing (at least as ability). Thus, the principles of natural selection in connection with the described ecological conditions are conceptualized as the first causal origin of differences in affiliate behavior: On the one hand, there are organisms (even humans) that lack the ability to develop the disposition to establish social contacts; on the

other hand, there are individuals who possess the potential to unfold the motive to affiliate with others (see the first level in Figure 1).

2. However, even if such a disposition to form social systems exists, it needs to be triggered by certain input factors in order to become activated. If such input factors are absent, even members of a regularly group forming species will not actively search for (or maintain) social contacts. However, if such input factors are present, individuals will start searching for (or maintain) contact with a group of conspecifics (or even alien organisms). In the case of *Homo sapiens*, conditions such as anticipated or acute dangers, anticipated or acute resource deprivation, or anticipated or acute extreme climatic conditions can be classified as such input factors. Apparently, modern dangers (e.g., ecocide, examination, or electric shocks in a psychological experiment; see, e.g., Schachter, 1959) and modern kinds of resource deprivation can act as such input factors as well. In addition, there are input factors for more growth-orientated goals of an organism.

Input factors do not represent incentives for the affiliation motive in the narrow sense of the term. Even if an individual has the global goal to avoid a present input factor, the disposition to form social systems will nevertheless be directed to search for conspecifics. In other words, even if the ultimate cause of the resulting behavior is indeed the avoidance or mastering of such an input factor, persons or groups nevertheless will represent the concrete incentives for an individual's affiliation motive as an evolved solution mechanism. These input factors just modulate the effect persons or groups have as incentives for the affiliation motive. Thus, it is possible that under certain circumstances (e.g., the permanent absence of dangers, guaranteed availability of resources, or the secured presence of long term mates) the effect that persons or groups have as incentives for an individual's affiliation motive is inhibited to a certain degree. In extreme cases, such conditions that are characterized by the

relative absence of input factors may even let the disposition to form social systems staying temporarily latent.

Thus, the second group of variables that have to be considered in a comprehensive model of affiliate behaviors seems to be the relative absence (or presence) of such input factors: On the one hand, there is a latent or deactivated disposition to form social systems; on the other hand, there is a fully activated motive to form social contacts (see the second level in Figure 1).

In the case of *Homo sapiens*, the activation threshold to form social systems is obviously very low. The reason seems to be that for representatives of the species *Homo sapiens*, there has constantly been a latent danger of food deprivation and other threats. That is why it is plausible that there has been an enormous selection pressure to develop a disposition that is characterized by a relatively low activation threshold. But as mentioned above, there are circumstances especially in the modern world that could indeed bring people to reduce the number of social contacts, to reduce the intensity of interpersonal involvement, or to reduce the time spend with others, for instance. Most other affiliation theories do not thoroughly take such aspects into account. Baumeister and Leary (1995), for instance, rather stress the aspect that humans are motivated to initiate, maintain, and expand social contacts, and additionally try to avoid losing existing bonds.

3. However, this process is actually more complex. Even a disposition to form social contacts that is fully activated by an input factor is yet not blind. Instead, there are certain mechanisms of selection (see Kurzban & Leary, 2001). As mentioned above, not under all circumstances are humans motivated to initiate and maintain social contacts. In addition, not any person or any group can become a desired incentive for an individual's affiliation motive. It depends on the costs and benefits that would result from the concrete contact, whether an individual approaches or avoids the group or person. The participation in a social group can

be a potential benefit for an individual, for instance, insofar as an adaptive problem triggered by an input factor can be solved more efficiently (e.g., a more effective defence against threats). The potential benefits of group living were mentioned in detail already. The participation in a social group, however, can at the same time go along with plenty of costs for an individual as well (e.g., the risk of infection, competition, or investment risks). The potential costs of group living were also mentioned in detail already. It seems that for humans, the participation in social systems represents an appetence avoidance conflict. This appetence avoidance conflict regularly must have been solved in favour of the appetence component; otherwise, a species-typical disposition to form social systems could not have developed. However, in a given situation, it is possible that the costs of a concrete group contact are higher than the benefits resulting from that contact. In such a case, it would be functional to avoid the concrete social contact. Thus, the phylogeny of the affiliation motive was only possible, because a functional choice of groups or single contacts must have taken place. We assume that mainly those contacts were chosen that led to an adaptive advantage of a certain kind. It is not denied, however, that ontogenetic influences are also involved in this selection process and that learning mechanisms, for instance, can also moderate such choices made by an individual.

The theory of interpersonal balance claims that there are psychological mechanisms enabling humans to notice such potential interpersonal costs. These costs are mentally – but not necessarily phenomenally – represented as aversive aspects of an (anticipated) group contact. In addition, the relative importance of these aversive aspects is evaluated, and – dependent on this relative importance of the aversive aspects – adequate behavior is prepared (i.e., approach or avoidance behavior is initiated). This does not necessarily have to be an all or nothing decision: The relative importance of such aversive aspects merely determines how much time an individual spends with others, for instance. Thus, interpersonal costs and

benefits are supposedly often evaluated in the form of weighted sums. However, it is also possible that certain costs at issue lead to the total avoidance of a group without any consideration of the benefits at issue, when these costs represent exclusion criteria.

In sum, variables decisive for the functionality of a group with reference to the demands of an individual determine whether grouping behavior or avoidance behavior occurs at this level of processing: If there is a group that possesses functional properties for an individual, the individual will try to initiate or maintain contact to the group; if the group, however, does not have something to offer for an individual, the individual will avoid the concrete group and will search for better, that is more adaptive alternatives (see the third level in Figure 1).

4. As soon as a concrete group or person indeed represents a desired incentive for the affiliation motive of an individual, the individual will probably change its perspective in the next step. Now, the anticipated demands of the group become relevant. If the individual expects that it will be accepted by the group, it will not hesitate to approach the group. However, if the individual expects that it cannot meet the demands of the group, it will not initiate contact with the group for the time being. In such a case, the subjective expectancy of social rejection will be too high. But there are some options left for the individual: It is possible for the individual, for instance, to initiate contact to a less desired group – perhaps in order to improve interpersonal competences first. Or, the individual restricts its contacts to the desired group to certain times, locations, group members, or events. In all these cases, however, a full group contact remains a desired incentive for the individual.

From an evolutionary perspective, the term “demands of the group” means that an individual must estimate whether its own capabilities and resources could be useful for the group. If the individual expects that eventually the group does not need the individual, then fear of rejection will emerge. If the individual expects that the group needs the individual as

much as it needs the group or even more, then hope for affiliation emerges. After all, the expectation-related emotions fear and hope signal the individual the degree of the danger not being supported or even being exploited by the group. The expectations of social acceptance and social rejection are primarily based on such resource-dependent considerations. As shown, these both expectations are closely connected to the fear of rejection and the hope for affiliation. These are terms often used in the more personality-orientated affiliation research. Our concept of the terms, however, differs substantially from the assumptions of these personality-orientated theories. In later sections, we describe where the differences and similarities in comparison to our theory of interpersonal balance are.

The expectation that one will be rejected or accepted by a group may underlie systematic biases. Such biases can be quite adaptive for an individual: The error to expect acceptance by a group, although the group would reject the individual, could be inequivalent to the error to expect rejection by a group, although the group would accept the individual.

In sum, a comprehensive model of affiliate behaviors must include the expectations of being socially accepted or rejected: In the first case, individuals do not hesitate to initiate (or maintain) contact with a desired group; in the second case, it comes to a moratorium; that is, it comes to a certain kind of preliminary avoidance of the desired group (see the fourth level in Figure 1).

Supplementary remarks. In order to explain the satiation effect of the affiliation motive mentioned, for instance, by Baumeister and Leary (1995), several feedback-loops can be added to our model: As soon as an individual has cumulated a certain number of interpersonal contacts, searching for additional ones would increase interpersonal costs more than interpersonal benefits that could be achieved in addition to the already existing relationships. Thus, an uninhibited desire to establish social contacts would be dysfunctional. In addition, it is likely that other goals are activated as soon as some important contacts are

initiated. In this case, it is plausible, that the affiliation motive is temporarily displaced out of working memory by other motives through lateral inhibition.

Apart from that, Figure 1 seems to suggest that an individual have to run through the four different levels of the model in a strict chronological order. This is not necessarily the case. We assume complex interactions between the levels of the model. For instance, it partly depends on the input factors at issue which features of groups can represent an adaptive advantage for an individual. That is, the input factor at issue defines the criteria to evaluate costs and benefits. Generally, the features of different groups are even known to an individual long before a new input factor appears that motivates the individual to initiate or intensify contact to a certain group.

In addition, it appears as if the model consists of severe dichotomous categories at each level. But as the descriptions of each level should have made clear, the boxes in Figure 1 are better understood as endpoints of continua.

In sum, our theory postulates the existence of specific psychological mechanisms that enable and motivate persons to approach or avoid social contacts in a situation-sensitive way. At four levels individuals must run through in order to establish interpersonal contacts adaptively; the theory of interpersonal balance identifies possible causes that could lead to the avoidance of social contacts as well.

#### Theoretical and Empirical Review

There are four categories that are relevant to considerations about social affiliation:

(a) Individual and group are approaching each other so that it comes to a contact between them, (b) individual and group are avoiding each other so that it does not come to a contact between them, (c) the group avoids the individual although the individual would like to initiate contact to the group, and (d) the individual avoids a group although the group would accept the individual. It is (at least approximately) possible to arrange the different

conceptual and empirical approaches to social affiliation according to the mentioned categories. Thereby, it will be shown that the main affiliation theories – even integrative models – do not explicitly take the fourth aspect (d) of the scheme into account. The theory of interpersonal balance, instead, not only acknowledges the fourth aspect of the above mentioned scheme, it also covers all other explananda. In the following section, we want to demonstrate this. Furthermore, the purpose of the following analysis is to show that the main empirical findings of each approach are consistent with our theory, and that critical aspects of other approaches do not apply to our theoretical framework. We discuss these aspects for those theories we would classify as the main approaches to social affiliation. We start our analysis with current research dealing with the antecedences and consequences of social exclusion.

### *Research on Social Exclusion*

Assumptions. A great deal of current research activities in the domain of social affiliation seems to be animated by the belongingness hypothesis Baumeister and Leary presented in their contribution *The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation* in 1995 and in 2000. Many recent studies are explicitly based on the mentioned theoretical background (e.g., Gardner et al., 2000, Williams, 2007). Baumeister and Leary (1995) assume that searching for social contacts is a fundamental human motivation. Humans strive to initiate, maintain, and expand social relationships. In addition, individuals try to avoid breaking off existing contacts. The authors point out: “Human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships“ (p. 498). A fundamental motivation is understood as follows:

A fundamental motivation should (a) produce effects readily under all but adverse conditions, (b) have affective consequences, (c) direct cognitive processing, (d) lead

to ill effects ... when thwarted, (e) elicit goal-orientated behavior designed to satisfy it ... , (f) be universal in the sense of applying to all people, (g) not to be derivative of other motives, (h) affect a broad variety of behaviors, and (i) have implications that go beyond immediate psychological functioning. (Baumeister & Leary, 1995, p. 498)

Several more assumptions are made. For instance: (a) Social contacts are interchangeable to some extent (i.e., they can be substituted or replaced by others); and (b) there is a satiation effect (i.e., people who have sufficient social bonds become less interested in forming new contacts). Furthermore, the theory sketched above is externally consistent with the idea of natural selection (Darwin, 1859) and the theory of inclusive fitness (Hamilton, 1964). The need to belong is seen as an evolved predisposition allowing organisms to behave in a fitness increasing manner. The authors write: „It seems clear that a desire to form and maintain social bonds would have both survival and reproductive benefits“ (Baumeister & Leary, 1995, p. 499). To specify this aspect, they point out: „The likely result of this evolutionary selection would be a set of internal mechanisms that guide individual human beings into social groups“ (Baumeister & Leary, 1995, p. 499). In sum, it is postulated that changes in the affiliation status of a person activate emotional, cognitive, and behavioral mechanisms which adaptively ensure that social contacts are initiated, maintained, or re-established.

These assumptions allow the integration of a great deal of research on social affiliation (see Baumeister & Leary, 1995). This is true for the – partly criticized – concepts of the main forerunners (e.g., Bowlby, 1969; Freud, 1930; Maslow, 1970) as well as for numerous different empirical findings (e.g., Kiecolt-Glaser et al., 1984; Kunz & Woolcott, 1976; Latane, Eckman, & Joy, 1966). In spite of its global frame, the theory is testable as it could turn out that no emotional, cognitive, or behavioral reactions occur when people are confronted with social rejection, and it could turn out that people can lead a healthy and satisfied life in social isolation.

Indeed, the theory has also stimulated new research questions (e.g., Eisenberger & Liberman, 2005; Ouwerkerk et al. 2005; Williams, 2001, 2007), a lot of new theories (e.g., Gaertner & Iuzzini, 2005; Leary, Tambor, Terdal, & Downs, 1999; MacDonald & Shaw, 2005; Pickett & Gardner, 2005), and numerous new experiments (e.g., Maner, DeWall, Baumeister, & Schaller, 2007). Most of these new research activities refer to the antecedences, moderators, mediators, and consequences of social rejection. As antecedences, moderators, and mediators, for instance, the origin of social rejection (Williams, 2001), participants' prior belongingness status (Leary, 2005), causal clarity of social rejection (Williams, 2001), cultural differences (Fiske & Yamamoto, 2005), and interpersonal differences (Downey & Feldman, 1996; Downey, Mougios, Ayduk, London, & Shoda, 2004) were analyzed. As consequences, for instance, mood, emotion, and self esteem (Baumeister & DeWall, 2005; Baumeister & Tice, 1990; Baumeister et al., 2002; Eisenberger, Jarcho, Lieberman, & Naliboff, 2006; Eisenberger et. al, 2003; Leary, 1990; Leary et al., 1999; Twenge et al., 2003; Williams, Shore, & Grahe, 1998), memory, intelligence, and self-regulation (Baumeister & DeWall, 2005; Baumeister et al., 2002; Gardner et al., 2000), and pro-social (Lakin & Chartrand, 2003; Maner et al., 2007; Ouwerkerk et al., 2005; Williams et al., 2000; Williams & Sommer, 1997) and anti-social reactions (Catanese & Tice, 2005; Leary, Twenge, & Quinlivan, 2006; Twenge et al., 2001; Warburton, Williams, & Cairns, 2006) were investigated.

The theory of the need to belong by Baumeister and Leary (1995) also stimulated several studies conducted in our own laboratory. We want to sketch one illustrative experiment which is representative for studies within this approach with reference to its theoretical statements, methods, procedures, and main results.

It is adaptive to live in small groups. If that is true, social exclusion by small groups should activate the affiliation motive, and social inclusion (social acceptance) by small

groups should activate different facets of the motive as well. Therefore, in our experiment, we systematically manipulated the affiliation motive by varying participant's inclusionary status (social inclusion, social exclusion, and no change of the status in the control groups, respectively). Apart from that, we were interested in the way people react to social exclusion or social inclusion, when they must attribute the cause of these events either to internal or to external factors. We arranged the experimental setting as follows: Five-headed teams were instructed to evaluate three sorts of mineral water. By means of this cover story it was intended to produce experimental realistic group experiences. The teams consisted of one actual participant and four confederates of the experimentator. Next, following the cover story, one member of the respective team had to leave the group. The selected participant was either the actual participant (social exclusion), or one of the four confederates of the respective five-headed team (social inclusion). In the control groups, the selection procedure apparently allowed no decision about social inclusion or social exclusion. The reduction of the group size was either induced by means of a manipulated sociometric procedure (participants had to select one team member with whom they do not want to work together in an upcoming task), or by means of a manipulated "random procedure." After that, under all experimental conditions (but on different pretexts) the actual participant was led to another laboratory where several tests were given, apparently as part of another experiment. Following the belongingness hypothesis, the described experimental variations should trigger several psychological mechanisms:

1. Social isolation has been a risk for survival and reproduction. Therefore, social exclusion should lead to uncomfortable affective experiences in order to motivate an organism to change its present state. Social inclusion, however, should lead to "positive" emotions. On the basis of evolutionary-orientated emotion theories (e.g., Plutchik, 2003), it seems plausible that anger, fear, sadness, and happiness are involved in such social events.

We measured these four emotions with a questionnaire as well as the valence and intensity of affect with psycho-physiological parameters such as the level of the stress hormone cortisol.

2. Cognitive psychological mechanisms play an important role in the above described conceptual framework as well (e.g., Baumeister & Leary, 1995; Gardner et al., 2000). It would be advantageous, if the cognitive processing of affiliation relevant information accelerates as soon as a person is confronted with the adaptive problem to establish social contact. In this way, the organism would be enabled to detect motive relevant situations quickly, to estimate the satisfying value of these situations, and to choose relevant instruments to solve the adaptive problem. In order to test this hypothesis, a computer-based test was used that measured participant's reaction latencies for affiliation relevant as well as for neutral stimuli. Participants were asked to evaluate as quickly as possible whether rows of letters presented on a screen represent either nonsense words or actually existing words. However, that was only a cover story. We just wanted to know whether participant's reaction times are lower for affiliation relevant words than for comparable neutral words, after being socially excluded versus included by a small group.

3. A positive biased self-presentation would be advantageous, too, as soon as a person is confronted with the adaptive problem to establish social affiliation. In this way, the cost-benefit calculations of other people could be influenced so that they are more willing to invest time and other resources in the self-presenting person. Therefore, impression-management could represent a psychological mechanism which controls people's communicative behavior in a way that the likelihood of group acceptance increases. That is why we also measured participant's impression-management via a questionnaire.

Results support the underlying hypotheses: Social exclusion (internally attributed) clearly had aversive emotional consequences. This was true for the subjective emotion measurements as well as for the psycho-physiological parameters. The hypothesis, that social

acceptance leads to pleasant emotional experiences, however, is not unequivocally supported by the data. In addition, socially excluded participants responded faster to affiliation relevant words than participants who were not confronted with social exclusion. This difference seems to be specific, because it did not appear for neutral words. Obviously, the perception of socially excluded participants is functionally directed to motive relevant stimuli. The data pattern referring to the variable impression-management partially contrasts the underlying hypothesis. Indeed, socially rejected participants slightly increase their impression-management in comparison to socially accepted participants, but the scores did not differ from the control group level. These inconsistent findings have to be further investigated by future research. In sum, changes in a person's affiliation status – especially social rejection – are really relevant with regard to emotional experiences, top down processes of perception, and self-presentational behaviors. The theory of the need to belong (Baumeister & Leary, 1995) and the mediating assumptions are supported by the results of this experiment.

Assessment. In our opinion, the belongingness hypothesis (Baumeister & Leary, 1995) is a fruitful approach to the affiliation motive – including all the above mentioned related theories (e.g., Pickett & Gardner, 2005). In particular, we appreciate the evolutionary basis of most of these theories. Interestingly, there are some objections challenging the evolutionary perspective in this field (Brewer, 2005). For instance, it seems maladaptive that social exclusion sometimes leads to antisocial behaviors (e.g., Buckley, Winkel, & Leary, 2004; Catanese & Tice, 2005; Twenge et al., 2001), disrupts self-regulatory processes (Baumeister & DeWall, 2005), reduces intelligent thought (Baumeister et al., 2002), has negative consequences for mental health (Eisenberger, 2006), and sometimes even leads to emotional numbness (Baumeister & DeWall, 2005; Baumeister et al., 2002; Catanese & Tice, 2005; Twenge, 2005). However, a thorough examination of those studies shows that there are either methodological weaknesses (e.g., one-item mood measures, a lack of

experimental realism) or unconsidered variables relevant to an evolutionary tackle (e.g., relevance of the cognitive tests to solve the concrete adaptive problem, opportunities to re-establish social contacts that are decisive for pro-social reactions; see Baumeister, 2005; Twenge, 2005, for the last point) that seem to be responsible for the divergent findings. In sum, it can be concluded that the objections to the evolutionary background assumptions either rely upon mere apparent inconsistencies or questionable findings.

Despite of its global frame, the theory of the need to belong (Baumeister & Leary, 1995) does not take the fourth aspect of the above mentioned scheme (d) into account. That is, the theory considers why people actively search for interpersonal contacts, why people try to maintain existing relationships, why there seem to be no severe conditions for the initiation of interpersonal contact, and many phenomena more. Thus, the theory strongly focuses on the first category of the scheme (a). Related theories of this approach primarily concerned with the origins, antecedences and consequences of social rejection (e.g., Kurzban & Leary, 2001; Williams, 2001, 2007), additionally, deal with the third category of the scheme (c). Perhaps, the satiation effect (see, e.g., Baumeister & Leary, 1995) can be assigned to the second category (b). However, the fourth aspect (d) is neglected. It is possible, that individuals actively avoid certain social contacts or avoid contacts under certain situational circumstances. The theory of interpersonal balance takes such phenomena into account. Therefore, we argue that to a certain degree an imbalanced picture is drawn by the theory of the need to belong (Baumeister & Leary, 1995) which neglects the numerous causes that could lead to the active avoidance of social contacts. The theory strongly suggests that there is an omnipresent affiliation motive which seldom depends on any conditions. The authors use the term “under all but adverse conditions” to point that out (Baumeister & Leary, 1995, p. 498). In addition, the authors show that even under certain adverse conditions people are often motivated to establish social contacts (Baumeister &

Leary, 1995; Latane et al., 1966). Following these assumptions, if there is an opportunity for an individual to initiate social contact, the individual regularly should act accordingly.

Instead, our theory of interpersonal balance assumes that real adverse situational conditions represent only one of the many factors that can reduce affiliate behaviors. In later sections we show that the experiments by Schachter (1959) support our view.

Even Schopenhauer's "porcupine problem" (1851/1996) is "harmlessly" interpreted by authors of this approach (Maner et al., 2007). That is, the metaphor is not interpreted in the way that individuals temporarily want to avoid costly others, rather it is interpreted as a tendency to avoid former rejecters. However, we believe that in his "porcupine metaphor" Schopenhauer (1851/1996) described a conflict between the costs and benefits of group living – as we conceptualized it in our theory of interpersonal balance; otherwise contradictions to other passages reflecting Schopenhauer's way of thinking would emerge.

Furthermore, Baumeister and Leary (1995) primarily apply their concept to interpersonal contacts which are characterized by a high frequency of interactions, temporal stability, and a strong commitment. These are the conditions necessary to satisfy the need to belong. The theory of the need to belong seems to be conceptually unclear in this respect. For instance, the authors differentiate between the need to belong and the affiliation motive. The latter applies to more superficial contacts and the mere gathering with others. Consequently, the authors do not use the term affiliation motive. However, we believe such a conceptual distinction is not useful, primarily, because of the evolutionary background of the theory. Interpersonal contacts can be functional – and therefore satisfying – even if the mentioned constraints (e.g., frequent interactions, duration, and commitment) are not given. Whether such contacts are satisfying solely depends on the adaptive problem(s) an individual has to solve. Of course, it is possible to define a motive with different characteristics which only refers to a special subgroup of interpersonal contacts. At first sight, this seems to be

legitimate, because different kinds of relationships may indeed have different adaptive functions for an individual (Caporael & Baron, 1997). However, we assume that these differences are only of gradual kind. We suppose that in all these cases one and the same principle is at work, namely: to affiliate with those others that are qualified to solve anticipated, current, or recurrent adaptive problems. Therefore, we believe that a conceptual differentiation between a need to belong and an affiliation motive is unnecessary.

Interestingly, the authors themselves cannot keep to their own distinction when reviewing the relevant research literature (Baumeister & Leary, 1995). Although this stands not opposite to the theory, it is noteworthy that most empirical research on the detrimental effects of social exclusion used experimental settings with groups of previously unknown individuals, or even imagined or virtual contacts. Thus, we argue that the mentioned constraints (frequent interactions, duration, and commitment) are often relevant but not necessary conditions for satisfying interpersonal contacts. Apart from that, we assume that certain persons or groups would actively be avoided by individuals, even if frequent interactions, duration, and commitment were guaranteed. Following our theory of interpersonal balance we, therefore, would rather replace such conditions for need satisfaction with situational constraints under which the initiation of certain social contacts is adaptive. Therefore, it seems legitimated to us to speak generally of an affiliation motive.

#### *Classic Social Psychological Approaches*

Assumptions and pivotal empirical findings. There is a classic work by Schachter (1959) that deals with the affiliation motive, its origins, and benefits. By means of several experiments, the author tried to find out under which circumstances people prefer being with others or rather being alone. Schachter (1959) integrates everyday psychological observations into a scientific hypothesis that says that people particularly search for social contacts when being anxious. Schachter (1959) tested this hypothesis experimentally in the following way:

He announced painful electric shocks to participants of the experimental group. Participants of the control group, however, were told that the shocks are hardly noticeable. By means of this experimental manipulation, anxiety was successfully induced to the participants of the experimental group. After that, all participants were told that they have to wait for a moment, because some preparations for the experiment still have to be done. Participants had to decide whether they want to wait alone or together with a group of other participants. As expected, two thirds of the participants in the experimental group wanted to wait together with other participants, whereas just one third of the participants of the control group decided to affiliate with others. Schachter (1959) concluded that anxiety and tension states lead to a higher affiliation motivation. Additionally, by means of a similar experiment, Schachter (1959) investigated whether this affiliate behavior is specific; that is, whether it refers to any group or only to groups with specific characteristics. Apparently, affiliate behavior is specific, because it turned out that participants predominantly wanted to wait with those other participants who shared their fate. They did not want to wait with those other participants presumably participating in a different experiment. It seems that people in difficult situations are mainly interested in affiliating with others when these others are likewise confronted with the same problem. In a further experiment Schachter (1959) tried to find out what the concrete benefits of social affiliation may be. He formulated five hypotheses: (a) flight – the possibility to produce flight plans together with others in order to avoid the upcoming unpleasant situation, (b) cognitive transparency – the wish to receive potentially important information about the upcoming situation from others, (c) direct anxiety reduction – the hope for empathic concern of other people, (d) indirect anxiety reduction – the hope of being distracted by others, and (e) social comparison processes – the wish to know how much anxiety other people feel in the same situation, that is the wish to be sure which reaction is adequate in that situation (see Festinger's theory of social comparison, 1954). By means of a

dismantling design, Schachter (1959) was able to exclude four of the suggested hypotheses. The fifth hypothesis – social comparison processes – was the only one that was not falsified. This hypothesis was also supported by other authors (e.g., Gerard & Rabbi, 1961; Rabbi, 1963; for reviews, see Buunk, 1994; Gump & Kulik, 1997). Nevertheless, empirical findings in this research area are not consistent (see, e.g., Cottrell & Epley, 1977; Helgeson & Mickelson, 1995; Helmreich & Collins, 1967; Kulik & Mahler, 1997; Kulik & Mahler, 2000; Kulik, Mahler, & Earnest, 1994; Kulik, Mahler, & Moore, 1996; Rofé, 1984; Sarnoff & Zimbardo, 1961). However, research activities repeatedly showed that fear of physical threats increases affiliate behaviors whereas fear of psychological threats (e.g., self-devaluation) leads to the avoidance of others (Miller & Suls, 1977; Molleman, Pruyn, & van Knippenberg, 1986; Sarnoff & Zimbardo, 1961; Taylor et al., 1992). Not always do people prefer a group that shares their fate. Often, persons are chosen who just seem to be helpful in a certain way. Most often people are chosen who provide a benefit of a certain kind for the waiting participants (see, e.g., Miller & Suls, 1977).

Assessment. Schachter (1959) was orientated on models of drive reduction (e.g., Hull, 1952). This allows us to make some critical statements about this part of his affiliation theory. Human behavior is not only pushed, it is also pulled. Human behavior can be characterized as being substantially proactive. This is relevant to an adequate understanding of the affiliation motive: People or groups can become the proximate goal of affiliate behaviors per se (after the disposition to form social systems is activated). In addition, humans are not solely motivated to reduce tension; sometimes, they actively approach thrilling situations (Berlyne, 1960; Bexton, Heron, & Scott, 1954). Thus, it is also possible that people search for interpersonal contacts to make use of them in order to achieve growth-orientated goals. In such cases, there is no necessity of preceding fear or uncertainty to initiate social contacts.

Besides some methodological problems (e.g., empirical circularity), Schachter (1959) himself pointed to the incompleteness of his proposed catalogue of causes possibly responsible for participants' affiliate behavior. Numerous more causes and conditions for social affiliation are conceivable. The used dismantling design made it impossible to test these hypotheses in a positive manner. That is, only four of the many conceivable hypotheses about the causes of affiliation were falsified in the original experiments. When a physical threat is experimentally induced, the majority of the participants favored waiting in a group. This phenomenon is open to numerous explanations apart from social comparison processes. As mentioned above, the respective empirical findings, indeed, do not unequivocally support the hypothesis of social comparison possesses as the underlying cause of affiliate behaviors (e.g., Kulik & Mahler, 1997).

Apart from that, with reference to our theory of interpersonal balance, we argue that certain persons or groups will be avoided, even if there is an opportunity to reduce tension by social comparisons. We assume that this will always be the case when the costs of that group contact outweigh its benefits (even though social comparisons may represent one of these benefits). That is why in our view the term shared fate is just an epi-phenomenon. Provided that there are better alternatives, it is unlikely that an individual will search for affiliation with a group which threatens to "go down," even if the group shares the (bad) fate of the individual. Perhaps, shared fate is closely correlated with the usefulness of a group for an individual. But, the usefulness of the group seems to be the "true" criterion to decide whether to approach the group. In a really threatening situation, social comparisons with others may sometimes be a necessary but seldom a sufficient condition to cope with dangers. As mentioned above, we also assume, vice versa, that certain social contacts are desired by an individual, even though no opportunity for drive reduction or suitable social comparisons is given and no kind of uncertainty exists.

However, all these findings that humans particularly search for social affiliation with others when confronted with physical threats and that these others are, at best, be confronted with the same problem, or, at least, that these others are beneficial to the individual in one sense or another are consistent with our evolutionary perspective on social affiliation (see Taylor, 2007). Even the only hypothesis that was not falsified in the studies by Schachter (1959) and other authors – the social comparison hypothesis – is not totally inconsistent with our evolutionary framework. It seems quite beneficial to receive information from others through social comparison processes, for instance, about appropriate reactions to uncertain or potentially dangerous situations. Such a comparison process could be one of the prerequisites, for instance, to initiate a concerted defence against a threat. In addition, social comparisons can provide an individual with important information about unique abilities or the lack of important characteristics. The availability of such information is useful for an individual insofar as social contacts can be chosen in a functional manner. For instance, individuals can search for contacts with which a compensation of own deficits is possible. Our theory of interpersonal balance claims that interpersonal contacts are chosen in a functional way. Social comparison processes could act as a means to such an end. The evolution of human group living could have also generated such other motives underlying, for instance, social comparison processes. Those motives might trigger the disposition to form social systems on their own. At last, peoples' tendency to distance themselves from others in the case of an expected self-devaluation (Sarnoff & Zimbardo, 1961) is also consistent with the evolutionary background assumptions of the theory of interpersonal balance. Such a distancing behavior could be due to an individual's expectation to not being able to meet the demands of a group. This, in turn, would result in the realistic expectation of being socially rejected anyway. Distancing oneself from others under such circumstances seems to be really

adaptive, because an energy wasting behavior or even the risk of being exploited by others can be avoided.

No empirical tests of these assumptions exist. Our goal was merely to hypothetically analyse whether the mentioned findings can be post hoc integrated into the evolutionary framework of the theory of the interpersonal balance. The very fact that two third of Schachter's participants of the control group in his first experiment wanted to wait alone fits in our model so well, simply because no reason to affiliate was given (see the second level of our theory).

There is another classic approach in social psychology which deals with the psychological mechanisms influencing behavior in interpersonal relationships – the exchange theories. We just want to sketch some conceptual aspects of these theories that are relevant to our theoretical framework.

Assumptions of exchange theories. To separate our theory of interpersonal balance from interdependence theoretical concepts (e.g., Kelley & Thibaut, 1978; Rusbult, 1980; Thibaut & Kelley, 1959) we want to point out that the explananda of interdependence theories primarily are the duration and satisfaction of well established interpersonal contacts in which interactions had already taken place. The phenomena these theories consider refer less to the nature of the need to establish social affiliation, to its origins, its triggers or inhibiting causes. Rather, interdependence theories consider factors that influence the frequency of specific human behaviors *in* interpersonal relationships (even in romantic relationships). Therefore, they slightly differ from the focus of our theory. However, the interesting point is that the duration and contentment of interpersonal contacts are seen as dependent on constructs such as costs, benefits, investments, and comparison levels. This approach, therefore, implies the assumption of price- and game theory (e.g., Albers, Müller, & Schulz, 1994). The picture drawn is that of the Homo economics.

Assessment. First, it is questionable whether human behavior is rational in interpersonal relationships. Second, because of the fact that within the framework of interdependence theories an objective definition of constructs such as costs and benefits is difficult (Foa & Foa, 1976), these theories are potentially prone to tautological predictions. Regardless of how persons behave in a relationship or how satisfied they are, it is always possible to find a respective imbalance of costs, benefits etc. in their mental experiences. Thus, it seems that only the skilful categorisation of a person's mental qualities into the postulated cost-benefit constructs is decisive for the success of these theories in predicting empirical data. This is due to the fact that the relevant psychological constructs such as costs and benefits must theoretically be "put into the psyche" of the individuals. That is why this approach is confronted with some methodological problems. But it is possible to solve such problems, for instance, with the help of prospective empirical tests (e.g., Rusbult, 1983; Rusbult & Farrell, 1982). Our theory of interpersonal balance suggests another solution: Psychological constructs such as costs and benefits just have to be transferred to the objective features of a concrete social contact. By doing this, the mentioned constructs can be unequivocally and objectively defined and can be tested with inter-subjective validity. The framework of the theory of interpersonal balance makes this possible, because it refers to objective biological criteria such as the adaptiveness, fitness, or reproductive relevance of social contacts. Thus, by means of these evolutionary criteria, it is better possible to decide whether a concrete social interaction represents an advantage to an individual. Third, the rational-economic framework of the exchange theories leaves little room for possible impacts of unconscious information processing. Such unconscious events, however, play an important role in our theory of interpersonal balance. The mentioned biological criteria take both conscious and unconscious mechanisms into account.

To conclude, there are studies supporting interdependence theoretical assumptions (e.g., Rusbult, 1980; Rusbult & Farrell, 1982). That does not contradict our objections, because factors that were defined as costs and benefits in these studies can be congruent with a biological definition of these constructs (e.g., partner's physical attractiveness).

#### *Personality-Orientated Approaches*

Assumptions. Within personality-orientated approaches to the affiliation motive (e.g., Byrne, McDonald, & Mikawa, 1963; Craig, Koestner, & Zuroff, 1994; Elliot et al., 2006; Gable, 2006; Hill, 1987; Langens & Schüler, 2005; Mehrabian & Ksionzky, 1974; Schüler, 2002; Shipley & Veroff, 1952; Sokolowski, 1986, 1993; Sokolowski & Heckhausen, 2006; Sokolowski, Schmalt, Langens, & Puca, 2000), in a first step individuals with a strong affiliation motive are often differentiated from individuals with a weak one. Strongly motivated individuals are further separated into individuals who are characterized by the fear of rejection and others who are characterized by the hope for affiliation (Gable, 2006; Langens & Schüler, 2005; Mehrabian & Ksionzky, 1974; Schüler, 2002; Sokolowski, 1993; Sokolowski & Heckhausen, 2006). Both groups of the strongly motivated individuals are assumed to strive for social affiliation. Therefore, the difference between them is neither due to different evaluations of affiliation relevant incentives nor to the effectiveness such incentives can have on them. The difference solely results from the different expectations of being able to achieve the desired incentives or goals (Mehrabian & Ksionzky, 1974; Schüler, 2002; Sokolowski, 1986, 1993; Sokolowski & Heckhausen, 2006). In addition, the fear of rejection and the hope for affiliation are conceptualized as independent factors that can arise at the same time (e.g., Elliot et al., 2006; Gable, 2006; Mehrabian & Ksionzky, 1974; Schüler, 2002; Sokolowski, 1986, 1993). Thus, individuals are characterized either by high or low fear of rejection as well as either by high or low hope for affiliation. Both components influence a person's concrete behavior. It depends on the predominant component whether an

individual is labelled as one with fear of rejection or one with hope for affiliation. But there is always a kind of approach avoidance conflict between these both components. Apart from that, the fear of rejection is mostly conceptualized as a counter regulation mechanism that prevents persons from an unrestrained accumulation of interpersonal contacts (Schüler, 2002; Sokolowski, 1993; Sokolowski & Heckhausen, 2006). Therefore, only the interplay between both components guarantees adaptive affiliate behaviors.

The above sketched conception underlying several personality-orientated affiliation theories differs in important aspects from the theoretical background of the theory of interpersonal balance. This is true, although the term appetence avoidance conflict appears in both approaches. In the next section, we discuss the conceptual differences.

Assessment. The most important difference refers to the assumption that the fear of rejection is independent of the hope for affiliation. We believe the events of social rejection on the one hand and social acceptance on the other hand do not represent independent components. The instantiation of the first event excludes the possibility that the second event is instantiated – and vice versa. The expectation of an individual that social rejection will occur is also not independent of the expectation that social acceptance will occur. These expectations represent subjective probability estimations, and such estimations can only be either optimistically or pessimistically. Such an expectation cannot be both at the same time and it cannot be a combination of both. It is impossible for a person to unify internally both kinds of expectations. Next, the valences of both events (social rejection and social acceptance) are also not independent of each other. A certain anticipated behavior (e.g., approaching a group) leads – with a certain subjective probability estimation – to a certain event, namely, to social rejection or social acceptance. These events, in turn, are anticipated either as aversive (in the case of social rejection) or pleasurable (in the case of social acceptance). That is, the anticipation of these events triggers either fear or hope. The

relationship between the subjective probability estimation (expectation) and the valences of the anticipated events (social rejection or social acceptance) determines which kind of behavior results – avoiding or approaching behavior. But the valences of the mentioned events – social acceptance and social rejection – are not independent of each other, because an individual at this stage desires the concrete group contact (see the fourth level in our theory). Social acceptance, therefore, is extremely valued by the individual searching for contact – due to its neediness. The individual strongly hopes to achieve the desired social contact. If the individual is confronted with social rejection instead, at least, the (anticipated) benefits (value) of the desired group contact would be lost. This, however, does not represent a neutral but a strongly aversive event which is feared by the individual. The conclusion can be drawn that social acceptance as an event is not independent of social rejection, that the subjective probability estimations of the occurrence of these events are not independent of each other, and that the fear of rejection cannot vary independently of the hope for affiliation. With growing subjective probability of being rejected, for instance, the fear of rejection increases, and at the same time, the hope for affiliation decreases to the same extent. In our concept, fear and hope as expectation-related emotions are not independent of each other; instead, they represent endpoints of one and the same continuum.

Some objections can be made to these conclusions. First, *prima facie*, there is empirical evidence supporting the independence assumption (Byrne et al., 1963; Gable, 2006; Mehrabian & Ksionzky, 1974; Schöler, 2002; Shipley & Veroff, 1952; Sokolowski, 1986, 1992, 1993; Sokolowski & Heckhausen, 2006). However, the respective items measuring hope for affiliation on the one hand and fear of rejection on the other hand often refer to different social situations or do not directly focus on rejection and affiliation events. We do not doubt that people can have different kinds of expectations in different situations or in different phases of a real or anticipated social situation. Second, a desired group can possess

characteristics that give rise to the assumption that one will presumably be rejected by the group as well as characteristics that give rise to the assumption that one will presumably be accepted by the group. These both assumptions could act as incentives for a fear processing system on the one hand and a hope processing system on the other hand. Thus, the analysis of such characteristics could be carried out by separated information processing systems, by independent processors, or something like that (e.g., Elliot et al., 2006; Gable, 2006). In addition, the sensibility of both systems could vary inter-individually. But even within such a conception, the extent to which fear of rejection and hope for affiliation emerge is determined by the expected effects of the collected clues with reference to the occurrence of social acceptance or social rejection. It is possible that a person expects social acceptance, for instance, and at the same time fears – the unexpected but still possible – social rejection. But the two resulting emotions fear and hope are always negatively correlated, even seen over the time span where attention shifts between the different clues may occur. Similarly, in a more behavioristic approach to the affiliation motive, the fear of rejection and the hope for affiliation can be conceptualized as independent components (see Mehrabian & Ksionzky, 1974). The term affiliation can be seen as hoped-for generalized expectations of positive reinforcements in social situations. The term rejection can be seen as feared generalized expectations of punishments in a social situation. In a social context both components could, indeed, appear independently of each other. However, such a conceptualization would strongly rely upon an abstract meaning of the terms rejection and affiliation. In addition, the modern understanding of the motive construct would be tackled.

To conclude, within the conceptual framework of the theory of interpersonal balance, the constructs hope for affiliation and fear of rejection are not conceptualized as independent or possibly conflicting components. Our theory claims that the conflict often emerging in social situations have to be placed at a different level of processing, namely, at the third level

in Figure 1 and not at the fourth level where the fear of rejection and the hope for affiliation are anchored.

Apart from that, in comparison to some personality-oriented theories our concept makes some differing assumptions about the fear of rejection as a psychological mechanism that counter regulates the affiliation motive and thus avoids an unrestrained accumulation of social contacts. If that were true, individuals with low fear of rejection would not be able to protect themselves adequately against the effects of an insatiable affiliation motive. It is plausible to assume that even for individuals endowed with such a motive constellation, a counter regulation mechanism exists which is independent of the level of the fear of rejection. Furthermore, the assumption of such an alternative counter mechanism could explain why there are indeed individuals with a weak affiliation motive, even though this group is allegedly not affected by the fear of rejection. In addition, most studies show that the fear of rejection is due to deficits or a lack of competences (Mehrabian & Ksionzky, 1974; Schüler, 2002; Sokolowski, 1993; Sokolowski & Heckhausen, 2006). Therefore, it is questionable that such a mechanism is a natural antagonism (e.g., a product of natural selection) which prevents individuals from an unrestrained accumulation of interpersonal contacts. It is hard to imagine that it could guarantee adaptive behavior. Some authors even speculate that individuals with high fear of rejection do not differ from other individuals with respect to the frequency with which they search for social contacts. The only difference, following this hypothesis, is that they lack the sensibility to identify appropriate situations to initiate social contact. The described inability is due to the high degrees of fear such individuals feel in social situations. The high degrees of fear, in turn, inhibit information processing in a way that the detection of appropriate situations to initiate social contacts is not possible anymore. There is evidence supporting this hypothesis (Schüler, 2002). However, we believe under

such circumstances, it is unlikely that fear of rejection conceptualized in this way can still be a counter regulation mechanism to dysfunctional affiliate behaviors.

We are convinced that there is, at least, another counter regulation mechanism which is independent of the fear of rejection. Our theory of interpersonal balance postulates such an independent counter regulation mechanism (see below). It is necessary to differentiate between two different understandings of the term counter regulation. First, it can be understood as a mechanism that prevents individuals from an unrestrained accumulating of interpersonal contacts. The second reading is that it is a mechanism that prevents individuals from connecting themselves to dysfunctional groups. As demonstrated above, conceptualizing the fear of rejection as a mechanism of the first kind is problematic. All the above mentioned arguments make this a very implausible version. Fear of rejection, however, can be understood as a mechanism that signals an individual that it presumably cannot meet the demands of a group. This, in turn, results in the expectation of being socially rejected by the group. If the individual ignores its fear and tries to initiate social contact in spite of it, it is likely that it will not be supported or even be exploited by the group. At least, the individual has to cope with an energy waste resulting from the failure to establish useful social contacts. Therefore, in such a case, it would be extremely functional for an individual to act according to its fear of rejection and thus to avoid the group. That is, the fear of rejection in this reading is indeed an adaptive counter regulation mechanism preventing people from initiating dysfunctional social contacts. Our theory of the need to belong conceptualizes the fear of rejection in exactly this way (see the fourth level of our theory). But even in this reading, the fear of rejection cannot be the only counter regulation mechanism, because an individual would still unrestrainedly search for social contacts that are – seen in isolation – not dysfunctional. This can easily be exemplified by already existing, well established social contacts that do not lead to fear rejection (anymore). Nevertheless, even under such

conditions, humans can, at least, temporarily try to avoid such contacts. We assume that there are cases in which humans avoid initiating, maintaining, or accumulating new social contacts, even though they would expect social acceptance by the respective group and do not fear social rejection at all. The theory of interpersonal balance argues, therefore, that there is another counter regulation mechanisms in addition to the fear of rejection (understood in the second reading) that leads to balanced affiliate behaviors. at the second and the third level of our theory of interpersonal balance (see Figure 1), such a psychological mechanism is described: At these levels, it is claimed that one important reason why humans avoid certain social contacts is that other people or groups do not meet the demands of the individual. This represents a neglected aspect of personality-orientated affiliation theories.

One more concept (or, at least, one more term) of our theory differs from personality-orientated approaches to the affiliation motive: In a first step, personality-orientated affiliation theories often differentiate between people who possess only a weak affiliation motive and individuals who possess a strong affiliation motive. Both categories are conceptualized as personality traits. We doubt that individuals endowed with a generally weak affiliation motive had a chance to survive in human evolutionary history. Such a stable trait could not have out-reproduced the alternative design of a situation sensitive affiliation motive. Thus, we think that individuals endowed with a generally weak affiliation motive are statistically rare. However, the problem can be reduced to question: How weak is weak in these theories?

One could object that an individual may have made negative interpersonal experiences and that it generalized these experiences into a stably weak affiliation motive. We assume, however, that even negative interpersonal experiences cannot eliminate the effects persons or groups have as incentives for the affiliation motive. Such experiences rather lead to a careful selection of interpersonal contacts or to decreased expectations to

achieve certain interpersonal goals. Within the framework of the theory of interpersonal balance, it is assumed, instead, that there is a species-typical, panhuman motive for social affiliation. Comparable to the hunger motive, for instance, inter-individual differences conceptualized as personality traits fade into the background. In our view, a weak affiliation motive primarily results from situational influences. It is true that personality-orientated affiliation theories assume interactions between person and situation. But these interactions are conceptualized in the way that an incentive has to exist to trigger the high or low reactivity towards that incentive. The reactivity, however, is claimed to be a stable personality trait. We do not want to eliminate inter-individual differences which are the primary explanandum of the theories in this field. That is why our minimal purpose merely is to additionally take the regularly strong situational influences on (affiliate) behaviors into account (Shoda, Mischel, & Wright, 1994).

## Discussion

### *Summary*

We started our contribution with the statement that many of the goals humans try to achieve are genuinely social, for instance, insofar as the motive behind peoples' actions often is the wish to affiliate with others. These assumptions are the common ground of all theories we considered in this article. Of course, such a global motive is multifaceted. Therefore, we analyzed the main theoretical approaches dealing with the different facets of social affiliation. Personality-orientated concepts, more historical theories of social psychology, and current research on social exclusion are taken into account. Our primary purpose was to integrate the most consistent and empirically reliable aspects of each theory into a comprehensive model of social affiliation processes. We used psycho-evolutionary background assumptions in order to provide plausible criteria to evaluate each approach. The theory of interpersonal balance represents the result of this integrative process. The theory reveals that some facets of

social affiliation are neglected by other affiliation theories. Mainly, our theory points to a number of psychological mechanisms that could lead to the avoidance of social contacts. However, even a great deal of the more “positive” research on social affiliation is covered by our theory. That is why our main statement is as follows: At least, at four levels of information processing necessary to establish interpersonal contacts adaptively, causes that could lead to the avoidance of social contacts are present as well.

#### *Apparent Counter Examples*

One objection one might have is that the mentioned causes leading to the avoidance of social contacts do not matter so much, because no one really lives alone (e.g., Coon, 1946). However, there are indeed individuals who do not possess the ability to form social contacts; we all try to avoid interpersonal contacts in certain periods or in certain situations; especially, we do not accept any offered social contact. We believe that most social situations are influenced by the psychological mechanisms our theory identifies. It seems that many personal and interpersonal problems result from these mechanisms.

In addition, one might object that there is evidence suggesting that social exclusion still hurts even when it goes along with benefits (van Beest & Williams, 2006). However, this is only an apparent counterexample to the predictions our theory of interpersonal balance makes, because it is not clear whether the financial benefits participants gain in the case of social exclusion in these experiments can outweigh all the subtle considerations concerning the adaptive costs of a current social rejection, or all the inferences about an increased likelihood of being rejected by one’s real friends etc.

#### *Current and Future Research*

Because our theory consists of several neglected aspects of social affiliation, the empirical evidence for these claims is thin. We reviewed findings that are, at least, consistent with our assumptions (e.g., Schachter, 1959). However, we want to demonstrate briefly that

our theory is also open to direct empirical tests. In the description of our theory of interpersonal balance (see above), we postulated, for instance, the existence of specific psychological mechanisms that enable and motivate persons to approach or avoid social contacts in a situation sensitive way. These psychological mechanisms do not necessarily have to be phenomenally penetrable. Nevertheless, such mechanisms must direct a person's attention to goal relevant stimuli; that is, to stimuli which are relevant to approach or avoid a concrete social contact given in a concrete situation. The theory predicts that it depends on the relative importance of aversive aspects emerging from the anticipation of a group contact whether an individual's attention is directed to approach- or to avoidance-relevant stimuli. We tested this prediction in an experiment in which a priming procedure was used in order to manipulate the relative importance of the aversive aspects of social contacts. First, three different questionnaires were given to three groups of participants. Besides many distracting items, some items were integrated into the questionnaires that dealt either with typical costs, neutral aspects, or typical benefits of interpersonal relationships. This priming procedure was validated in a pre-test, and it turned out to be very effective. The underlying hypothesis was that the mentioned experimental variation (priming) has different effects on the postulated psychological mechanisms of the affiliation motive in each of the three experimental conditions. These psychological mechanisms should direct participants' attention to goal relevant stimuli, that is, to stimuli that are either relevant to approaching, neutral or avoiding social behavior. This in turn, should manifest itself in different eye movement patterns that can be measured on several pictures containing social and non-social elements. Therefore, after having filled out the respective questionnaire participants' eye-movements (e.g., fixation times) were measured by means of an eye-tracker in a presumably independent study. Participants' cumulated fixation times were measured in social and non-social parts of several presented pictures. These parts are called areas of interest (AOI). Social AOI depicted scenes

of social interactions in daily situations, whereas non-social AOI depicted different opportunities to avoid social contact, for instance, remote seats, exits, or ad banners. The hypothesis was supported by the data. That is, participants who were primed with the benefits of group living explored social AOI on the presented pictures significantly longer than participants who were primed with the costs of group living. In addition, participants who were confronted with the costs of interpersonal contacts explored non-social, avoidance-relevant AOI on the presented pictures significantly longer than participants who were primed with the benefits of group living. The mean differences were significant only between the two experimental groups, but not between the experimental groups and the control group. However, participants who were primed with the costs of group living needed a significantly shorter period of time to discover non-social, avoidance-relevant AOI on the presented material than participants who were primed with the benefits of group living or with neutral aspects. Thus, under specific circumstances, it can happen that humans show clear avoidance reactions to possible social contacts, even without their awareness. Therefore, the results of the described experiment support central assumptions of the theory of interpersonal balance. Furthermore, it was demonstrated that the theory is open to direct a priori testing and that it makes testable predictions.

Future research can be directed to more affective or behavioral aspects of the theory. It would also be interesting to find out what the concrete biological costs and benefits are that influence human decisions about social contacts. Mathematical models are needed to predict how the different costs and benefits are calculated in certain situations by individuals with certain characteristics. The theory could even be investigated under a more clinical or more sociological perspective.

*Concluding Remarks*

Human beings are regularly motivated to form and maintain social systems. However, that is only one part of the whole story. Seen from an evolutionary point of view, affiliate behavior is not as romantic or pro-social as it perhaps seems at first sight. People use other people as instruments to achieve personal goals. Humans do not necessarily possess insight neither in such ultimate goals nor in the evolved mechanisms that secure achieving them. Valued persons or groups are mostly only emotionally valued, because they possess functional characteristics for the valuing individual; that is, values are affective projections on those properties of another person that could potentially increase the chance of survival and reproduction in a certain way. With pure adaptive necessity and without realizing the underlying coercion, people are, thus, either led into functional groups and are caused to avoid dysfunctional ones. In addition, even established social contacts usually represent an appetite avoidance conflict for an individual. Thus, humans are forced to permanently struggle for interpersonal balance.

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## Figure Captions

Figure 1. Illustration of the causes (on the right) and behavioral consequences (at the bottom) of psychological processes relevant to social affiliation postulated by the theory of interpersonal balance.

# Managing Social Affiliation

