PERCEIVER DIFFERENCES AND JUDGMENTS OF GROUP ENTITATIVITY

by

Jamie G. McMinn

B. S., Emory & Henry College, 1996

M. S., University of Pittsburgh, 1999

Submitted to the Graduate Faculty of

Arts and Sciences in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

University of Pittsburgh

2003

UNIVERSITY OF PITTSBURGH

FACULTY OF ARTS AND SCIENCES

This dissertation was presented

by

Jamie G. McMinn

It was defended on

June 10, 2003

and approved by

John Levine, Ph.D., Psychology

Martin Greenberg, Ph.D., Psycholgoy

Jonathan Hurwitz, Ph.D., Political Science

Richard Moreland, Ph.D., Psychology

Dissertation Director

PERCEIVER DIFFERENCES AND JUDGMENTS OF GROUP ENTITATIVITY

Jamie G. McMinn, PhD

University of Pittsburgh, 2003

Most entitativity research has focused on properties of groups that affect how real they seem, rather than on perceiver characteristics. Three studies, involving college student participants, examined personality traits that may relate to entitativity: need to belong, personal need for structure, need for closure, self-monitoring, individualism/collectivism, and cognitive complexity. In Study 1 (N = 429), scales measuring these traits were evaluated and correlations among scale scores were examined. In Study 2 (N = 123), personality scale scores were correlated with responses on two group judgment tasks—participants evaluated pictures of groups and a list of groups for several properties related to entitativity. Participants also indicated any groups on the list to which they belonged. Entitativity for groups in the slides was related only to the need to belong and to the interaction between self-monitoring and personal need for structure. Entitativity for groups on the list was related only to the interaction between cognitive complexity and collectivism.   Groups to which participants actually belonged (ingroups) seemed less entitative than outgroups, especially when levels of self-monitoring were low. In Study 3 (N = 100), which was an experiment, participants were either included or excluded in a virtual ball-toss game, which altered their need to belong. They then completed the same group judgment tasks. Inclusion/Exclusion was not related to entitativity at all. Entitativity for groups in the slides was again related to the need to belong, and entitativity for groups on the list was related to individualism/collectivism. Ingroups again seemed less entitative than outgroups. The use of individual difference measures to predict entitativity was discussed, and suggestions for future research were offered.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

Introduction

Each day we encounter many groups, from families and friendship cliques to work and sports teams. Just as these groups vary in their size, composition, and tasks, so do our perceptions of them. One fundamental impression that we form about every group is how "groupy" it is. Not only do some sets of people seem groupier than others (Lickel, Hamilton, Wieczorkowska, Lewis, Sherman, & Uhles, 2000), but the same set of people can vary in their groupiness over time and across situations. In a classic paper, Campbell (1958) suggested that our perceptions of groupiness, or <u>entitativity</u>, can be understood in the context of Gestalt psychology. Specifically, entitativity is influenced by such properties as similarity, proximity, and common fate. People who are similar to each other, close together in time or space, or who share the same outcomes, have a high level of entitativity and thus are perceived as a group. According to Campbell, common fate is the most important indicator of entitativity, followed by similarity and proximity. Of lesser importance are a group's "pregnance" and permeability. Pregnance refers to how group members configure themselves in their environment. For example, they may congregate in a circle or stand shoulder-to-shoulder in a straight line. Certain configurations, like a circle, suggest more entitativity than others. Permeability is the ease with which people can join and leave a group. If groups are easy to join or leave (high permeability), then they have lower entitativity. It should be noted that none of these factors are sufficient or necessary for people to seem like a group.

Campbell's paper did not have much impact on social psychology when it was written, perhaps because Campbell never tested his ideas directly. There is more interest in entitativity now, but it focuses almost exclusively on group properties that affect entitativity, with little attention to perceiver characteristics. And there remains some confusion over the concept of entitativity and what it does—and does not—mean. For example, entitativity could be viewed as the extent to which a group has the properties of an entity, the extent to which it is real.

Campbell himself sometimes spoke of entitativity in this way. But in recent years, entitativity has come to mean only the perception of groups, not their reality (Moreland & McMinn, in press). Hamilton, Sherman, and Castelli (2002), for example, define entitativity as a perception that individuals are bonded together in such a way that they are a group. This is consistent with arguments that entitativity is not an objective property of groups (cf. McGarty, Haslam, Hutchinson, & Grace, 1995), and that groups can be perceived in ways that do not match reality (Wilder & Simon, 1998). Groups that operate in hiding (e.g., terrorist cells), for example, may be overlooked, even though they are real. Similarly, some groups (e.g., married couples) may seem strong to outsiders, even though they are weak, due to internal problems. Because perceptions of groups do not always match their actual groupiness, groups may even be able to manage how entitative they seem to others (Moreland & McMinn, in press).

<u>Entitativity versus Social Integration</u>

Moreland (1987) introduced the concept of <u>social integration</u> to refer to the *actual* groupiness of a set of people. Social integration has affective, behavioral, cognitive, and environmental aspects. For example, members of highly integrated groups often (but not always) have positive feelings toward each other (affective integration), depend on each other to meet needs and achieve goals (behavioral integration), believe that they belong together (cognitive integration), and spend much time together (environmental integration).

To illustrate the difference between entitativity and social integration, consider research on social networks. For any given social network, we can map the actual relationships among members of that network by measuring objective levels of social integration. We can also measure entitativity, or people's perception of the network. Typically, researchers find that perceptions and reality do not always match. People tend to "see" connections among network members, even though those connections may not actually exist (Freeman, 1992). For example, if Bill has a relationship with Mary and Tom, then it is often assumed that Mary and Tom also share a relationship. In a sense, human beings "fill the holes" in social networks.

2

This is especially true if social connections are temporary or new, because memory for such relationships is usually poor (Freeman, Freeman, & Michaelson, 1988). Thus, researchers must be sensitive to both entitativity and integration when studying groups, even though the two constructs are often positively correlated.

Several areas of research offer support for Moreland's ideas about social integration. Similarity of affect, behavior, cognition, or environment is a primary factor in the social integration of social networks and groups. Newcomb (1961), for example, found that strangers who have similar attitudes and values are likely to develop friendships with each other. Observers also expect that members of a group will have more similar attitudes and values than people in the aggregate or members of different groups (Wilder, 1978). Indeed, research has shown that group members tend to be very similar to each other, and that dissimilar members are likely to leave a group (see Jackson, Brett, Sessa, Cooper, Julin, & Peyronnin, 1991).

There is also a large body of research on the relationship between proximity and group membership. Romantic relationships are more likely to form among members of the same organization than among people who work for different organizations (Dillard & Miller, 1988), and people who live close together in an apartment complex are more likely to become friends than are those who live far apart (Festinger, Schachter, & Back, 1950). Repeated exposure to people is associated with increased attraction for them (Moreland & Beach, 1992; Zajonc, 1968), so it is not surprising that people who live close together and thus see each other often are likely to develop strong bonds. Similarity and proximity are thus important components of social integration, which, in turn, can have consequences for entitativity.

The distinction between entitativity and social integration suggests that groups may be able to manage how people view them. Some groups with low integration may want to seem more entitative, and some groups with high integration may want to seem less entitative (Moreland & McMinn, in press). People with certain personality traits may be more (or less) susceptible to efforts by groups to manage entitativity. For example, a person who has a strong need to

3

belong to groups may be convinced by a weak group's attempt to seem more entitative, but not by a strong group's attempt to seem less entitative. Thus, personality traits may be important in determining whether people notice any differences between social integration and entitativity.

Current Research on the Antecedents of Entitativity

More recently, Campbell's paper has sparked a surge of interest in other indicators of how real groups seem. Some of these factors include group structure (McGarty, 1999), interdependence among group members (Hamilton, Sherman, & Lickel, 1998), and shared mental models (Brase, 2001). In addition, a group sometimes displays symbolic objects that strengthen its members' sense of entitativity (Abelson, Dasgupta, Park, & Banaji, 1998; Brase, 2001). Hamilton, Sherman, and Castelli (2002) suggest that our perceptions of a group are also influenced by knowledge of similar groups, but not of dissimilar groups. Thus, we evaluate a family's level of entitativity by comparing it with other families we know, but not by comparing it to an orchestra or athletic team. Entitativity, then, can involve intergroup as well as intragroup relations. Finally, Brewer and Harasty (1996) argue that groups with a well-defined prototype should seem more entitative than groups that lack such a prototype. A prototype embodies the ideal, the representative, or the stereotypical characteristics of a group (Cantor & Mischel, 1979; Hogg, 1996; Rosch, 1988), and it enables group members to distinguish their group from other groups in the environment. To the extent that group boundaries are clearly defined by prototypes and members closely resemble the prototype, groups should be perceived as different from each other and therefore entitative.

In an ambitious cross-cultural study, Lickel and his colleagues (2000) examined the degree to which different types of groups vary in their levels of entitativity, along with some of entitativity's antecedents. They asked American and Polish college students to evaluate a list of forty groups on such characteristics as similarity, common fate, and amount of interaction among group members. Participants were then asked to sort these groups into clusters, based on how well the groups "fit" with each other. Cluster analyses on the sorting data revealed five

4

types of groups. These were intimacy groups (small groups, such as families, with high interaction and stability, and low permeability), task-oriented groups (small groups, such as committees, that have high interaction and are relatively temporary and permeable), social categories (large groups, such as race or gender, that have moderate or low interaction, are relatively permanent, and have low permeability), weak social relationships (large, permeable groups, such as celebrity fan clubs, that have low stability and interaction), and transitory groups (moderately sized, temporary, and permeable groups with low interaction, such as people waiting at a bus stop).

Lickel and his colleagues found that these groups varied in their entitativity. Intimacy groups have the highest entitativity and transitory groups have the lowest. Overall, the level of interaction among group members had the greatest impact on perceptions of entitativity. Common goals, shared outcomes, similarity, and the importance of a group to its members were also positively correlated with entitativity. The size of the group, its duration, and its permeability were not as strongly correlated with entitativity. This study provided additional support for Campbell's ideas about entitativity, and showed that individuals can see more or less entitativity in different types of groups. Further, entitativity in each of these group types may have its own unique set of antecedents (Sherman, Hamilton, & Lewis, 1999).

Entitativity and Subjective Essentialism

The idea that groups can seem more or less real to perceivers suggests that groups can be imbued with an essence. Perceivers may assume that an entitative group has some core essence or "soul" that captures its spirit. This essence helps explain why group members are perceived differently than others (Leyens, Rodriguez-Perez, Rodriguez-Torres, Gaunt, Paladino, Vaes, & Demoulin, 2001; Medin, 1989). For example, people may believe that there is an essence underlying the category of Jews, and this essence somehow distinguishes Jews from other religious or ethnic categories. Whether or not groups truly have an essence, people act as though they do (Medin & Ortony, 1989; Rothbart & Taylor, 1992). If a group does not really

5

have an essence, then why do people act as though it does? Believing that groups have an essence can be helpful for many reasons.   A group's essence becomes a theme or theory around which information about group members is organized, contributing to a perception of homogeneity or coherence among them (Yzerbyt, Rocher, & Schadron, 1997). Such a theory might help explain, for instance, why group members share various characteristics. To the extent that people's theories are valid, they can more easily understand groups and make predictions about them (Medin & Ortony, 1989).

Several themes associated with essentialistic thinking are worth noting. First, beliefs about group essences can occur outside our awareness, so that we may not be able to explain why we think a given group has coherence (Yzerbyt, Rocher, & Schadron, 1997).   Nonetheless, beliefs about group essences can still influence our thoughts and behaviors. Psychological essentialism also tends to be correlated with inductive potential and alterability (Rothbart & Taylor, 1992). Inductive potential refers to the amount of information one can infer by knowing an object's category membership. To the extent that we can infer information about a person by knowing what group she belongs to, we can say the group has an essence. And if we believe that it would be difficult for members to join or leave a group (e.g., groups based on sex or race), then again, we would perceive that group as having an essence. Thus, members of a group with an essence cannot be altered. Essentialism also implies that a person can belong to only one category or group (Rothbart & Taylor, 1992). Finally, groups that are believed to have an essence are often viewed as having discrete, clear boundaries, homogeneous composition, and distinctive qualities that set them apart from other groups (Haslam, Rothschild, & Ernst, 2002).

There is evidence that entitativity and essentialism are related constructs, such that entitative groups are perceived as having an essence, and the perception of an essence leads to increased entitativity (Yzerbyt, Cornielle, & Estrada, 2001). In a correlational study, Haslam, Rothschild, and Ernst (2000) asked participants to evaluate twenty social categories on nine

dimensions of essentialism. A factor analysis revealed that a two-factor solution best explained essentialism. The first cluster, encompassing such categories as sex, race, and ethnicity, corresponded with a belief in social categories as natural kinds. These categories have such properties as naturalness, immutability, and historical stability. The second cluster corresponded with entitativity and included such properties as uniformity among category members, exclusivity, and inductive potential. Sexual orientation and political affiliation were categories that fell into this cluster. This research suggests that although entitativity and essentialism are correlated, they are not identical (Haslam, 1998).

What is not clear from the work on psychological essentialism is the exact nature of a group's essence and where it comes from. How do perceivers determine whether or not a group has an essence? More importantly, how are decisions about essentialism made, and do the antecedents of entitativity also affect essentialism? One possibility is that individuals compare a given group with other, similar groups to determine whether the target has an essence. Thus, families may have an essence only to the extent that they are comparable to other families that are essentialized. As mentioned earlier, entitativity judgments may operate similarly—we may judge a group's level of entitativity based on our perceptions of other groups. There is some support for this hypothesis. Moreland and McMinn (2000) asked judges to distinguish between real and fake groups in a series of still photographs, and to provide reasons for their judgments. In making their decisions, participants sometimes compared groups in the photographs with other types of groups, stating, for example, that people looked like members of a sorority, or that they did not seem comfortable together, as friends would. It seems, then, that judgments of entitativity can be based on social comparisons among groups. Whether or not that is also true of essentialism judgments remains to be tested.

The Consequences of Entitativity

Researchers have examined not only the factors that influence our perceptions of groups, but also why those perceptions matter. There are several consequences of perceiving

a group as real—regardless of how real it actually is. Perceptions of entitativity affect information processing related to groups, recall of information about groups, attributions about group behavior, and behavior toward groups. Each of these consequences will be discussed briefly.

Considerable research suggests that we process information about groups differently from the way we process information about individuals. For example, we expect individuals to be coherent and to behave consistently, whereas we do not always have the same expectations of groups (Brewer & Harasty, 1996). This is because group members can vary from one another in many ways, and that variability can affect the ways they behave (O'Laughlin & Malle, 2002). However, as a group's level of entitativity rises, we view it as more coherent and its members as more consistent (Wilder, 1978), and thus we begin to process information about a group in ways that are similar to information processing about individuals (McConnell, Sherman, & Hamilton, 1994; Wyer, Bodenhausen, & Srull, 1984). What are some of those similarities?

To begin with, we tend to make spontaneous, on-line, and organized impressions about individuals or more entitative groups (Hamilton & Sherman, 1996; Hamilton, Sherman, & Maddox, 1999; Sherman, Castelli, & Hamilton, 2002). We process information about them as it becomes available to us, and we organize that information around a coherent theme or trait. Consequently, information about individuals and highly entitative groups tends to be more easily remembered (McConnell, Sherman, & Hamilton, 1994, 1997). In contrast, we are more likely to individuate and remember information about specific members of less entitative groups (Crawford, Sherman, & Hamilton, 2002; Dasgupta, Banaji, & Abelson, 1999). Thinking about or treating members of more entitative groups as "all the same" or "just another one of them" can obviously have important consequences for intergroup behavior. .

Secondly, such organized, stable impressions enable us to predict something about the behavior of individuals and more entitative groups. With some exceptions (e.g., polarized or extremist groups), we tend to see individuals as having more extreme traits than groups, and we

8

thus tend to make judgments more quickly about individuals than about groups (Susskind, Mauer, Thakkar, Hamilton, & Sherman, 1999). When we encounter information that is inconsistent with our impression of an individual or more entitative group, we try to explain and resolve the inconsistency (Coovert & Reeder, 1990; Welbourne, 1999). As a result, such information is easier to recall later on. This pattern of information processing is especially descriptive of "entity theorists"—people who see personality as unchanging (Levy, Plaks, Hong, Chiu, & Dweck, 2001; McConnell, 2001). Research shows that these people rely more on their stereotypes of groups, see greater distinctions among groups and greater homogeneity within groups, and think about groups in terms of inherent, stable traits (Levy et al., 2001). Organized and stable impressions of more entitative groups also affect the way we process information about new members of those groups (cf. Sedikides, Olsen, & Reis, 1993). It should require less effort to encode information about a newcomer to a more entitative group, because she will likely be similar to other members, who are already represented in our memory.

Another consequence of perceiving groups as entitative involves how well we recall information about them. In a series of intriguing studies, Sherman, Castelli, and Hamilton (2002) showed participants pictures of men, each associated with a specific type of group (as described by Lickel et al., 2000). For example, participants might see a picture of a man with a label indicating that he was a member of a family, or a juror, or a Presbyterian. Participants were later asked to recall the target person's group membership, when presented with his picture alone. Sherman and his colleagues were interested in the types of recall errors that participants would make. They found that people were more likely to make within-group than between-group errors (cf. Taylor, Fiske, Etcoff, & Ruderman, 1978). In other words, when participants made an error, they were likely to say that the target person belonged to a group of the same type (a friend instead of a family member), rather than to a group of a different type (a juror instead of a family member). It seems, then, that individuals process information about group types rather than individuating information, which has consequences for how that

9

information is encoded and stored in memory. Evidence from other researchers lends additional support to this conclusion (e.g., Brewer, Weber, & Carini, 1995; Fiske, Haslam, & Fiske, 1991).

A third way in which entitativity can affect social perception is by influencing our attributions for group behavior. Building on the classic quiz-game paradigm (Ross, Amabile, & Steinmetz, 1977), Yzerbyt, Rogier, and Fiske (1998) randomly assigned participants to play the roles of questioners, answerers, or observers. Three participants were assigned to each category in each session, and participants playing the same role sat together. Questioners were asked to develop challenging but not impossible questions that the answerers would later try to answer; observers simply watched while the others played the game. An experimenter explained to everyone that they either attended the same university (high entitativity) or different universities (low entitativity). The researchers were interested in how this information would affect the likelihood that observers would commit the overattribution error by ignoring situational factors bearing on performance and focusing instead on inherent qualities of the groups.

The results revealed that observers made the overattribution error only for entitative groups. That is, when questioners came from the same university (high entitativity), observers rated them has having greater ability than when the questioners came from different universities (low entitativity). Similarly, observers rated answerers with high entitativity as having less ability than answerers with low entitativity. Each effect was particularly strong when observers watched entitative questioners and answerers. Yzerbyt et al. (1998) explained these findings in terms of group essences. That is, some inherent characteristic of entitative groups was believed to be responsible for their behavior, not elements of the environment.

Another type of attribution focuses on the responsibility of groups for the behavior of their members (see Lickel, Hamilton, & Sherman, 2001; Lickel, Schmader, Hamilton, 2003). As a group's level of entitativity rises, people may generally hold all its members responsible for the actions of any member(s). Thus, people are likely to hold members of intimacy groups

responsible for the actions of any individual member, but are less likely to do this for members

of a transitory group. For example, parents may be held responsible for their children's

misbehavior. The belief is that other group members contributed indirectly to the individual's

misbehavior, or that they did not try hard enough to prevent that misbehavior from occurring

(Lickel, 2000). Individual members of such groups may also hold themselves responsible for

the actions of other members (Radzik, 2001), such as white Americans who feel guilty about

slavery, or Germans who feel guilty about the Holocaust. Research has shown that groups

sometimes take credit for the successes of their members (Cialdini, 1989), so maybe entitative

groups are also given credit for the positive behavior of their members. For example, caregivers

may receive credit when their children act appropriately, or a firefighting unit may be celebrated

for the heroic acts of a single member. As yet, this hypothesis has not been tested.

Not only do we think differently about groups that vary in their entitativity, we also

behave toward them differently. For example, groups such as friendship cliques, which often

have high levels of entitativity, seem to maintain stronger boundaries around them (Edney &

Grundmann, 1979), and outsiders often consider the space around such groups to be

impermeable (Knowles, 1973). Cheyne and Efran (1972), for example, found that people are

less likely to walk between two interacting rather than non-interacting persons, especially when

they are standing close to each other. This may be due, in part, to a belief that entitative groups

are threatening (Abelson, Dasgupta, Park, & Banaji, 1998; Schopler & Insko, 1992).

Threatening contexts, especially those involving outgroups, can also make groups seem more

entitative by increasing perceived ingroup homogeneity and identification (Yzerbyt, Castano,

Leyens, & Paladino, 2000). A group may also display symbols or "coalitional markers," not only

to remind members of their affiliation, but also to mark the group's boundaries and make it seem

threatening to outsiders (Brase, 2001). Other factors that influence whether a person violates a

group's space include the group's status (Knowles, 1973), size, and the configuration or

positioning of group members (Knowles, Kreuser, Haas, Hyde, & Schuchart, 1976). When a

group has high status, is small, and its members are standing in a line (versus a circle), then the permeability of its boundary decreases. All these factors are known to affect entitativity.

In summary, research has explored many of the antecedents and consequences of entitativity. But most of this research has focused on the properties of groups that make them seem more or less groupy. In the typical study, researchers have manipulated some characteristic of a group and then measured the effects of that manipulation on entitativity. Abelson and his colleagues (Abelson, Dasgupta, Park, & Banaji, 1998; Dasgupta, Banaji, & Abelson, 1999), for example, manipulated the similarity and proximity of a five "humanoid creatures." The creatures had the same or different colors and were positioned near or far from each other. Both of these variables affected people's entitativity judgments: Creatures that were the same color, or were near to one another, were perceived as more entitative and threatening. In the group space studies described earlier, proximity of group members was often varied, influencing how close to a group other people walked. The implication of such research is that judgments about entitativity are influenced primarily by group properties. But is this true?   Is it possible, for example, that some people have personal characteristics that lead them to see higher or lower levels of entitativity in most or all groups?

Personality Traits Related to Entitativity

Entitativity researchers have paid little attention to perceiver characteristics, but these characteristics, along with environmental characteristics, could be important (Rabbie & Horwitz, 1988). A few studies have been done, and some characteristics have been identified. Experience in groups may be one such characteristic. Gaertner and Schopler (1998), for example, found that participants who interacted extensively with fellow group members perceived their ingroup as more entitative than those who had experienced less interaction. Mood also may have a relationship with entitativity, in that mood predicts how inclusive social categories can become. When people are in positive moods, they tend to integrate social information into fewer, more inclusive categories and to see category members as more similar

to each other (Dovidio, Gaertner, Isen, & Lowrance, 1995). One implication of this research is that people in positive moods may evaluate a group as more entitative than they would if they were in neutral or negative moods. But what about more stable personal characteristics than mood, which tends to be temporary?

The goal of my research is to examine other perceiver characteristics that may affect judgments of entitativity. I believe that such perceiver characteristics as the need to belong, the personal need for structure, need for closure, self-monitoring, collectivism, and cognitive complexity might influence how entitative a group seems. In the following section, I will provide a brief justification for why I chose these characteristics and what effects I predict each one will have on entitativity. I will then describe three studies that examined the effects of these characteristics on how people judge the entitativity of different groups.

Need to Belong

Brewer and Harasty (1996) suggested that the need for inclusion, or to belong, might influence how entitative an ingroup seems (no hypotheses were offered about outgroups). Indeed, the need to belong is a powerful human motivation. Human beings form social bonds easily and readily, and these bonds affect the way they think, feel, and behave (see Baumeister & Leary, 1995, for a review). When people are deprived of social relationships and their need for belongingness is strong, they search for meaningful relationships. When such relationships are chronically unavailable or dissolved, these people may experience poor physical and/or mental health (Baumeister & Leary, 1995), especially if they depend on groups for survival (cf. Brewer, 1997) or they have low self-esteem (Baumeister, Dori, & Hastings, 1998). Even temporary social deprivation among members of minimal groups can cause discomfort (Williams, Cheung, & Choi, 2000). Researchers have suggested, for example, that a lack of belonging is a primary cause of anxiety, and that such anxiety can cause myriad physical and mental problems (Baumeister & Tice, 1990). Such problems include low self-esteem, a loss of

interpersonal trust (Lee & Robbins, 1998), and increased interpersonal aggression (Twenge, Baumeister, Tice, & Stucke, 2001).

If the need to belong is such a powerful motive, then why do people sometimes have trouble creating and maintaining relationships? There are several possibilities. In some cases, people are stigmatized because of undesirable qualities (Kurzban & Leary, 2001). People with certain diseases, who belong to minority groups, or who violate social rules are often stigmatized. Consequently, others may be less inclined to have relationships with them. Another possibility is that group life is not always carefree. Sometimes, members violate important group norms or behave and believe differently from others. Such misbehavior may be punished with partial or complete ostracism (Williams, 2001), where someone is ignored, excluded from activities, or ejected from the group altogether. People may also be excluded from relationships if they seem unlikely to benefit their partners (see van Beest, Wilke, & van Dijke, 2003). If a group does not believe it can benefit from prospective members, for example, then its level of commitment toward them may not rise to the level where entry is allowed (Moreland & Levine, 1982). Finally, Western society is becoming increasingly mobile, which makes it more difficult to form lasting relationships.

Yzerbyt, Castano, Leyens, and Paladino (2000) suggest that the need to belong is better met in more entitative groups. This is because more entitative groups contribute more to their members' self-esteem and self-definition. Similarly, Sherman, Hamilton, and Lewis (1999) suggest that the value a person gains from group memberships increases as ingroup entitativity increases. Indeed, research indicates a positive correlation between ingroup identification and entitativity (Castano, Yzerbyt, Paladino, & Sacchi, 2002; Lickel et al., 2000). In their work on mortality salience, for example, Castano et al. (2002) found that when participants thought about their own mortality, they identified more strongly with their ingroups, and they perceived those groups as more entitative. Apparently, participants dealt with anxiety about their mortality—the ultimate breaking of social ties—by focusing on their membership in a lasting

14

group. It is not surprising, then, that people tend to perceive ingroups as more entitative than outgroups—they want to believe that their ingroups are real and will last (Sherman, Hamilton, & Lewis, 1999).

The need to belong can also influence our behavior in groups and our attention to information about groups. Williams et al. (2000), for example, had participants play an electronic ball-toss game on the Internet, presumably with two other players. These players were actually electronic confederates. Participants were randomly assigned to varying levels of inclusion/exclusion, such that included participants were thrown the ball many more times than were excluded participants. Williams and his colleagues found that ostracized people showed negative moods and low attraction toward the other players. In a subsequent experiment, participants completed a perceptual judgment task following the ball-toss game. That task required them to select from a variety of geometric shapes the one that matched a stimulus they had just seen. As they were making their judgments, participants saw "thought bubbles" on their computer monitors. These thought bubbles contained the judgments of the other players. After several trials, those players began to give the same wrong judgment. The actual participants always made their judgments last, so the researchers could see whether conformity to the wrong answer would occur. They found that participants who were ostracized during the ball-toss game were more likely to conform on this task than were participants who were not ostracized. Such conformity suggested that ostracism strengthened the need to belong, and that people conformed to increase their feelings of belongingness.

In another study on the consequences of a high need to belong (Gardner, Pickett, & Brewer, 2000), participants were led to believe that they were talking to four other people in an electronic chat room. These other "people" were actually electronic confederates controlled by a computer program. Participants were encouraged to get to know everyone in the chat room by talking about favorite movies, music, and fashion. In the acceptance condition, participants' ideas were accepted by others, and they were treated warmly and positively. There were also

rejection conditions, in which participants were excluded from a discussion between either some or all of the confederates.

If the need to belong was successfully manipulated in this study, then the rejected participants should have sought belongingness more than the accepted participants. One way to seek belongingness is to pay attention to information about social relationships. After the participants completed the chat room task, they were asked to read an ostensibly real diary that described personal, interpersonal, and collective events in a student's life. In a surprise recall task about the events described in the diary, participants in the rejection conditions recalled more social information than did those in the acceptance condition. These results suggest that the need to belong can be manipulated in the laboratory, that changes in the level of belonging can influence the type of information participants seek, and that different types of rejection can all produce these effects.

When people have a higher need to belong, they likely become more sensitive to the presence of groups in their environment. In other words, people who are deprived of group memberships may "see" more groups. Consider some classic research on other needs, using the Thematic Apperception Test (TAT). Participants in one study were deprived of food and later asked to complete the TAT (Atkinson & McClelland, 1948). Food-related imagery in the stories that participants told was strongly associated with the amount of time that they were deprived of food. When they were hungry, people apparently became preoccupied with thoughts of food, and thus "saw" it everywhere. Similarly, people with a high need to belong may become preoccupied with thoughts about relationships, and thus start to "see" groups everywhere. This may be especially true for groups that have strong identity value (Sherman et al., 1999), such as intimate groups. Thus, I predict that the need to belong will be positively correlated with entitativity judgments.

<u>Personal Need for Structure</u>

A personal need for structure may also affect entitativity judgments. Personal need for structure refers to a stable desire for clarity and certainty, along with a desire to avoid ambiguity (Thompson, Naccarato, Parker, & Moskowitz, 2001). Roney and Sorrentino (1987) found that people who desire certainty have fewer categories or concepts for understanding the world, and show less overlap among those categories. People whose need for structure is strong thus tend to assess social objects in simple ways. They also tend to integrate information about groups in simplistic ways, which contributes to a reliance on stereotypes. For example, Schaller, Boyd, Yohannes, and O'Brien (1995) found that people with a stronger personal need for structure are more likely to form and apply inaccurate stereotypes to groups, because using stereotypes is simpler than processing information about each group member. People with a stronger need for structure categorize social information more readily (Moskowitz, 1993), and this probably applies to how they process information about groups. Such categorization apparently occurs unintentionally, perhaps even without an awareness that categorization has occurred (Moskowitz, 1993).

All of this suggests that people with a stronger personal need for structure would evaluate groups as more entitative, primarily because they analyze information about group members in simplistic ways (e.g., using heuristics and shallow processing). I predict, then, that personal need for structure will be positively correlated with entitativity judgments.

<u>Need for Closure</u>

The need for closure reflects a chronic desire for quick answers to questions and for general information. Individuals vary in how much they desire information about the world (Kruglanski & Webster, 1996). For example, people with a strong need for closure may watch news reports constantly, hoping to learn more information about politics or the economy. They also tend to form premature conclusions about such matters, without sufficient information (an urgency tendency; Kruglanski & Webster, 1996). Closure often leads to positive affect, whereas

a lack of closure leads to negative affect. People with a strong need for closure may thus be trying to avoid ambiguity and negative affect (Kruglanksi & Webster, 1996).

Individuals with a stronger need for closure are likely to evaluate groups as more entitative. Why? Kruglanski and Webster (1996) suggest that a high need for closure is associated with a greater use of stereotypes, because existing stereotypes are readily available, whereas individuating information may require too much time and effort to process. In other words, when personal need for closure is high, people often rely on whatever information is most readily available. They may also be more sensitive to cues that reflect similarity among group members. It may be, then, that a personal need for closure is associated with a bias for seeing groups in the environment. I predict, then, that the need for closure will be positively correlated with entitativity judgments.

Self-Monitoring

Self-monitoring is a trait associated with extraversion, other-directedness, and acting ability. People who are high self-monitors are conscious of how they present themselves in social situations, so they often change their behavior as situations change (Snyder, 1974). They are skilled at detecting emotions and situational cues, so that they can determine what behavior is appropriate (Gangestad & Snyder, 2000). High self-monitors are thus good at making favorable impressions on others (Turnley & Bolino, 2001). Low self-monitors, in contrast, are more consistent in their behavior across situations.

There are at least two reasons why self-monitoring may affect entitativity judgments. First, research suggests that high self-monitors have more experience in groups. High self-monitors have more social contacts in organizational settings than do low self-monitors, and they hold more central positions in their social networks (Mehra, Kilduff, & Brass, 2001). In a college sample, Guarino, Michael, and Hocevar (1998) found that high self-monitors were more likely than low self-monitors to become involved in student social groups, and there is some

18

evidence that high self-monitors belong to more groups overall than do low self-monitors (Snyder, 1987).

Second, high self-monitors are probably better than others at recognizing groups and relationships among people. This advantage stems from their motivation to behave appropriately and thus evoke favorable reactions from others. Appropriate behavior often requires an awareness of the relationships among other people. Research suggests that high self-monitors indeed pay more attention to information about others, whereas low self-monitors pay more attention to information about themselves (Lindsey & Greene, 1987). High self-monitors also appear to think more carefully about their behavior in social situation, especially behaviors that might promote friendly interpersonal relationships (Douglas, 1983). I predict, then, that self-monitoring will be positively correlated with entitativity judgments.

Individualism/Collectivism

Individualism/collectivism, a characteristic studied in cross-cultural research, refers to a general tendency to define the self in terms of individual traits versus group memberships. In collectivistic cultures, there is no sense of self in the absence of a group, and the interests of the group are more important than those of any individual member. Hui and Triandis (1986) identified several features of collectivism: (a) considering how one's own behaviors and decisions affect other group members; (b) sharing resources and outcomes; (c) being susceptible to social influence; and (d) feeling involved in the lives of other group members. Individualism, in contrast, promotes autonomy, personal responsibility, and uniqueness (Realo, Koido, Ceulemans, & Allik, 2002). Individualists tend to see individuals as agentic actors who carry out plans with intent and autonomy, whereas collectivists tend to view groups as such actors (Morris, Menon, & Ames, 2001).

On average, Eastern cultures (e.g., Japan) are more collectivistic than Western cultures (e.g., United States), women are more collectivistic than men (see Hui & Yee, 1994), and Blacks and Hispanics are more collectivistic than Whites (Gaines, Marelich, Bledsoe, & Steers, 1997).

These differences, although statistically significant, tend to be small and may have little practical significance. Even in individualistic cultures, for example, people base some of their identity and esteem on group memberships (Tajfel & Turner, 1979).

People with a collectivistic orientation are likely to focus on and process social information in their environment, because that information is relevant to their self-concept. Thus, I predict that collectivism will be positively correlated with entitativity judgments.

Cognitive/Integrative Complexity

Cognitive complexity describes an individual's system of personal constructs (Kelly, 1955). People who have high cognitive complexity think about their environments in multidimensional ways, and try to integrate multiple perspectives with each other (Pancer, Hunsberger, Pratt, & Alisat, 2000). Cognitive complexity can be understood in terms of differentiation, or the number of constructs used (Scott, 1962), integration, or the ways in which those constructs are connected to each other (Gruenfeld, Thomas-Hunt, & Kim, 1998), and flexibility, or the degree to which the system can change with new information or experience (Scott, 1962). Someone with high cognitive complexity thus has a system of many different but connected constructs for understanding the world. That system can be revised when those constructs no longer work well.

Majority and minority status can have different effects on the cognitive complexity of people's attitudes. Gruenfeld, Thomas-Hunt, and Kim (1998), for example, found (in both laboratory and real-world groups) that majority members tend to demonstrate more cognitive complexity than minority members. Majority members carefully consider the arguments of minority members, who often present their arguments with force and consistency. That consideration leads to more complex information processing. The opposite pattern is found for minority members, who tend to simply accept the majority position without considering its strengths and weaknesses.

There is also evidence that cognitive complexity relates to stereotyping and prejudice. Koenig and King (1962, 1964), for example, found that college students who were cognitively simpler were more likely to stereotype African Americans. They did not make many distinctions among members, preferring generalizations instead.

Research has produced conflicting findings on the relationship between cognitive complexity and gender. Some research has shown that men are more cognitively complex than women, and that men are analyzed with greater complexity than are women (Koenig & Seaman, 1974; Soucar, 1970). Yet other research, using similar measures of cognitive complexity, has found no such gender differences (Deaux & Farris, 1975).

So, I predict that cognitive complexity will be negatively correlated with entitativity judgments. People with less cognitive complexity will perceive groups as entitative, in part because they rely too heavily on information about similarity among people without considering differentiating information.

Correlations among Personality Variables

Among all the possible relationships among these personality traits, some significant correlations are expected. Consistent with past research (see Neuberg & Newsom, 1993), the personal need for structure should be negatively correlated with cognitive complexity, and the need for closure should be positively correlated with the personal need for structure (see Leone & Wallace, 1999). Cognitive complexity is likely related to the need for cognitive closure. Specifically, complexity tends to diminish under conditions of increased information load, stress, threat, and time constraints (Wallace, Suedfeld, & Thachuk, 1993). These variables also increase a person's need for closure. Thus, I predict that complexity and closure will be negatively correlated.

Three studies were conducted to test the relationship between these personality characteristics and entitativity judgments. In the first study, six personality scales were examined for their factor structure and reliability in a sample of college students. Four of those

21

scales, plus a new scale measuring one of the traits, were used in the second study, and their

relation to entitativity was examined.   Finally, one of the personality traits, namely the need to

belong, was identified as a significant predictor of entitativity ratings. An experiment was

designed to manipulate the need to belong, and the effects of that manipulation on entitativity

ratings were measured.

Study 1

Overview

Six personality traits were selected because of their proposed relationships with

entitativity. My first goal in this study was to examine the factor structures of scales measuring

those traits to see whether participants in my sample responded to those scales in the same

way as the samples used to develop the scales. My second goal was to test for possible

higher-order factors among the six personality traits. Personal need for structure, need for

closure, self-monitoring, and cognitive complexity might belong to a general cognitive factor,

and need to belong and collectivism might belong to a general affective factor. If that is the

case, then entitativity judgments might be influenced by cognition and affect more generally, as

well as by the various personality traits more specifically. I used structural equation modeling to

test for these second-order factors.

Methods

Participants

Four hundred and twenty-nine students from several sections of the Introductory

Psychology course at the University of Pittsburgh participated in the study. Students received

partial course credit in exchange for their participation. The data were collected across two

consecutive semesters. No demographic data were collected from participants.

Materials

Six personality scales were used, namely the Need to Belong Scale (Leary, Kelly,

Cottrell, & Schreindorfer, 2001), the Personal Need for Structure Scale (Neuberg & Newsome,

1993), the Need for Closure Scale (Kruglanski, Webster, & Klem, 1993), the Revised Self-Monitoring Scale (Snyder & Gangestad, 1986), the Shortened Individualism-Collectivism Scale (Hui & Yee, 1994), and a measure of cognitive complexity (Bieri, Atkins, Briar, Leaman, Miller, & Tripodi, 1966). Items on these scales can be found in the Appendix.

There are 10 items on the Need to Belong Scale, each involving a five-point Likert rating scale (1-5). After reverse scoring several items, responses are averaged across the scale to form a belongingness index.   Higher scores on that index indicate a greater need to belong. The scale has shown high internal consistency (Cronbach alphas around .80) in samples of college students who completed the scale as a part of research on its convergent validity (Leary et al., 2001).

There are 12 items on the Personal Need for Structure Scale, each involving a seven-point Likert rating scale (1-7). After reverse scoring several items, responses are averaged across the scale to form a structure index. Higher scores on that index indicate a greater personal need for structure. The scale has shown good internal consistency across various samples. Hess (2001), for example, compared personal need for structure scores across several age groups and found Cronbach alphas high for young, middle-aged, and old participants (.80, .85, and .83, respectively).

There are 42 items on the Need for Closure scale, each involving a six-point Likert rating scale (1-6). After reverse scoring several items, responses are averaged across the scale to form a closure index. Higher scores indicate a stronger need for closure. The scale has shown strong internal consistency. For example, Webster and Kruglanski (1994) found a Cronbach's alpha of .84 in both a sample of college students and a sample of library patrons.

There are 18 items on the Self-Monitoring Scale, each involving a six-point Likert rating scale (0-5). After reverse scoring several items, responses are averaged across the scale to form a self-monitoring index. Higher scores on that index indicate greater self-monitoring. The internal consistency of this scale is also high (Snyder & Gangestad, 1986; Turnley & Bolino,

2001). Snyder and Gangestad (1986), for example, found Cronbach alphas of .70 and higher in several samples of college students.

There are 35 items on the Shortened Individualism/Collectivism Scale, each involving a six-point Likert rating scale (0-5). After reverse scoring several items, responses are averaged across the scale to form a collectivism index. Higher scores on that index indicate a stronger collectivistic orientation. There is no information about this scale's reliability, but research using a longer version of the scale in workgroup samples found Cronbach alphas of .71 and greater (Hui & Yee, 1999).

The cognitive complexity measure is different from the others. Participants are asked to rate 10 people (self, person you dislike, mother, person you'd like to help, father, friend of same sex, friend of opposite sex or spouse, person with who you feel most uncomfortable, boss, and a person difficult to understand) along 10 dichotomous dimensions. Those dimensions are: outgoing-shy, adjusted-maladjusted, decisive-indecisive, calm-excitable, interested in others-self absorbed, cheerful-ill humored, responsible-irresponsible, considerate-inconsiderate, independent-dependent, and interesting-dull. Ratings are made using six-point Likert scales (-3 - +3, excluding 0). The scale is presented as a matrix of 10 rows and 10 columns. Each column represents a person to be rated, and each row represents one of the ten dimensions. A score is computed for each target person by comparing the rating on each dimension with the ratings on all the other dimensions. This results in 45 comparisons for each target person. A score of 1 is assigned every time the target person receives the same rating on two dimensions (a "match"). The average number of matches across all 10 target persons is then computed and used as an index of cognitive complexity (range = 4 - 45). If someone makes the same rating across different dimensions, then he or she is not evaluating the target persons in a very complex, differentiated way (low complexity). In contrast, someone who rates the target persons using the full range of numbers is considered to be complex. Index scores are inversely related to cognitive complexity, such that lower scores indicate greater complexity.

24

There is evidence that this measure has strong test-retest reliability (Bieri, 1955; Vacc & Greenleaf, 1975). Bieri (1955), for example, found a test-retest reliability coefficient of .78 in a sample of college students.

<u>Procedure</u>

Participants were told that the study focused on personality traits and how such traits are measured. They were given one hour to complete one of six sets of personality scales. The order of the scales within each set was established using a balanced Latin-square design. After participants completed the scales, they were debriefed orally and in writing about the purpose of the study, thanked for participating, and dismissed from the laboratory.

<div align="center">Results</div>

Six analyses of variance (ANOVAs) tested whether scores on each personality scale were affected by the order in which it was completed. No significant effects were found for any of the scales (all ps>.05). A t-test was also computed for each personality scale to test whether the semester in which participants completed it affected their responses. No significant effects emerged (all ps>.05). Thus, neither order nor semester will be considered in further analyses.

I also checked responses on each scale for normal distributions. There were no apparent problems with skewness or kurtosis. I then performed two analyses for each scale to evaluate levels of the traits among participants. First, I measured participants' relative standing on each scale by comparing their overall mean with the mean values reported in other studies. I wanted to show that the scales were working as they were meant to, and that my participants were not fundamentally different from others who have completed these scales. Second, I measured participants' absolute standing on each scale by comparing their overall mean with the scale midpoint. Regardless of how my sample compared with other samples, it was useful to know where the participants' responses fell along the scales. Note that only these latter comparisons, involving the scale midpoints, could be tested statistically.

On the Need to Belong Scale, the average score for my participants was 3.12 (*SD* = .65), which is comparable to mean values reported in other studies. Kelly (1999), for example, found a mean score of 3.33 in a sample of college students. The mean for my participants was significantly higher than the midpoint (3.00) of the scale, *t* (428) = 3.85, *p* < .05.

On the Personal Need for Structure Scale, the mean score for my participants was 3.85 (*SD* = .98), which is comparable to the means found in other studies. In their work on the relationship between personal need for structure and attitudes toward homosexuality, for example, Smith and Gordon (1998) found that men and women both scored about 3.50 on the structure scale. The mean for my participants was significantly lower than the midpoint (4.00) of the scale, *t* (428) = -2.86, *p* < .05.

On the Need for Closure Scale, the mean score for my participants was 3.42 (*SD* = .45), which is somewhat lower than the means found in other samples. Webster and Kruglanski (1994), for example, found that college students and library patrons both scored about 3.68 on the closure scale.   The mean for my participants was significantly lower than the midpoint (3.50) of the scale, *t* (428) = -3.46, *p* < .05.

On the Self-Monitoring Scale, the mean score for my participants was 2.62 (*SD* = .54), which lower than the means from other samples. In a study of undergraduate business students, for example, Turnley and Bolino (2001) reported a mean of 3.07 on the scale. The mean for my participants was significantly higher than the midpoint (2.50) of the scale, *t* (428) = 2.12, *p* < .05.

On the Shortened Individualism/Collectivism Scale, the average score for my participants was 3.08 (*SD* = .45), which is higher than those found in other studies, where the longer version of the scale was often used. For example, Hui (1988) found a mean collectivism score of 2.68 in a sample of American students, and a mean score of 2.41 in a sample of Hong Kong students. No published studies, including the paper in which the scale was introduced (Hui & Yee, 1994), have reported mean values for the shortened version of the scale. The

mean for my participants was significantly higher than the midpoint (2.50) of the scale, t (379) = 25.41, $p < .05$.

On the cognitive complexity measure, the average score for my participants was 13.79 (SD = 3.88), which is much lower than those found in other studies. Koenig and Seaman (1974), for example, found a mean cognitive complexity score of 37.2 in a sample of college students, and Brown (2002) found a mean cognitive complexity score of 32.7 in her sample of school psychologists. Recall that scores on this measure are negatively related to cognitive complexity, so participants in my sample showed <u>greater</u> complexity than those in other samples. The mean for my participants was also significantly lower than the midpoint (20.5) of the index, t (228) = -26.16, $p < .05$.

In sum, my participants tended to be high in collectivism and cognitive complexity, but low in need for closure and self-monitoring, when their scores were compared with those reported in other studies. These differences tended to be small, however. Scores for my participants on personal need for structure were comparable to those reported in other studies. So, it seems fair to say that the mean scores for my participants on the personality scales were generally comparable to those found in other studies. As for their absolute standing on the personality scales, my participants tended to be high in the need to belong, self-monitoring, collectivism, and cognitive complexity, but low in the personal need for structure and need for closure, when their scores were compared with the midpoint of each scale.

Next, I computed correlations among the scores on the personality scales. These correlations, along with the reliability estimates for each scale, can be found in Table 1. A few findings are worth noting. First, I predicted that cognitive complexity would be negatively correlated with personal need for structure and the need for closure. However, scores on the cognitive complexity scale were not correlated with scores on any of the other scales. One reason may be that the cognitive complexity scale was too confusing for the average participant. In fact, several participants asked for clarification about how to complete the measure, and

some participants completed the scale incorrectly or only partially. Due to the confusion generated by this scale, it was dropped after the fall semester (N = 229). I replaced it in Study 2 with a new cognitive complexity measure developed by Suedfeld, Tetlock, and Streufert (1992). Another finding, consistent with prior research (e.g., Leone & Wallace, 1999), is that scores on the personal need for structure and the need for closure scales were very highly correlated (r = .76, p < .01), suggesting that these scales really measure the same construct. I decided to abandon the need for closure scale, and to rely in later studies on the shorter personal need for structure scale instead. Finally, scores on the need to belong scale were correlated with scores on several of the other personality traits. This suggested that the need to belong is an important trait, one that might be a useful predictor of entitativity judgments in later studies.

First-Order Confirmatory Factor Analyses

One goal of this study was to compare the factor structure of each scale with the factor structures found in other studies. Thus, the data were analyzed using confirmatory factor analyses (CFA), with their published structures as guides. Confirmatory factor analysis (CFA) is a theory-driven, data reduction technique that uses either the correlation or covariance matrix to identify patterns or clusters within data. Researchers can specify *a priori* the number of factors that a scale should contain, as well as the items that should load on each factor.

A confirmatory factor analysis generates various fit indices that show how well the hypothesized structure can reproduce the data. The traditional fit index is the chi-square statistic. This tests the null hypothesis that the hypothesized correlation or covariance matrix does not differ from the observed matrix. A good fit thus requires a non-significant chi-square value. The chi-square statistic has several problems, though, that limit its usefulness. For example, it is sensitive to sample size. Large sample sizes increase the power of the test, making even small differences seem meaningful. Thus, a model that fits the data from a small sample could be rejected if large samples were used. Another problem is that the chi-square statistic provides an all-or-nothing test of the null hypothesis. In other words, a model is either

accepted or rejected. A better measure would evaluate fit along a continuum of strong to weak fit.

Given these problems with the chi-square statistic, I used other fit indices as well. There are a variety of these, but three were selected for their superior qualities (see Hu & Bentler, 1998; Russell, 2002). These indices were the Comparative Fit Index (CFI; Bentler, 1990), the Root-Mean-Square Error of Approximation (RMSEA; Steiger & Lind, 1980), and the Standardized Root-Mean-Square Residual (SRMR; Jöreskog & Sörbom, 1981). The CFI, which measures the covariation between a hypothesized and an independence model, is not affected much by sample size (Byrne, 2001). CFI values that range between .90 and 1.0 indicate stronger models, and values below .90 indicate weaker models. The RMSEA indicates how well a model would approximate the population covariance, if that covariance were known (Byrne, 2001). A model is considered stronger as values for the RMSEA approach zero; values greater than .10 indicate weaker models. The SRMR is the standardized difference between the observed and predicted covariance matrix, or the mean of the standardized residuals. As values for the SRMR approach zero, a model is considered to be stronger. The values of all these fit indices in this study can be found in Table 2.

Need to Belong. There are no published factor structures for the Need to Belong Scale, so the data were analyzed using a single-factor solution. The chi-square statistic failed to reject the null hypothesis (χ^2 = 148.6, p < .05), suggesting poor fit. However, the other fit indices suggested acceptable fit (SRMR = .01, CFI = .90, RMSEA = .09).

Personal Need for Structure. Neuberg and Newsom (1993) suggested that the Personal Need for Structure Scale measures two factors. The first factor (Items 1-5) involves a desire for structure, and the second factor (Items 6-12) involves reactions to a lack of structure. The chi-square statistic failed to reject the null hypothesis (χ^2 = 794.9, p < .05), suggesting that this two-factor model did not fit the data. The other fit indices provided conflicting evidence. The CFI value (.94) was acceptable, but the SRMR (.44) and RMSEA (.18) values were not.

Need for Closure. Kruglanski and Webster (1996) suggested that the Need for Closure Scale measures five factors. These factors involve a desire for order in one's life (Items 1-10), a need for predictability (Items 11-18), discomfort with ambiguity (Items 19-27), closed-mindedness (Items 28-35), and decisiveness (Items 36-42). The chi-square statistic failed to reject the null hypothesis (χ^2 = 2428.6, p < .05), suggesting that this five-factor model did not fit the data. However, the other indices suggested reasonable fit (SRMR = .10, CFI = .96, RMSEA = .07).

Self-Monitoring. Snyder and Gangestad (1986) suggested that the Self-Monitoring Scale measures three factors. One factor (Items 1-7) involves sociability. A second factor (Items 8-12) involves other-directedness, or the desire to match one's behaviors with social demands. The final factor (Items 13-18) involves acting ability. The chi-square statistic failed to reject the null hypothesis (χ^2 = 604.6, p < .05), suggesting that this three-factor model did not fit the data. However, other fit indices indicated satisfactory fit (SRMR = .05, CFI = .97, RMSEA = .06).

Individualism/Collectivism. Hui and Yee (1994) suggested that the Shortened Individualism-Collectivism Scale measures five factors. These factors involve supportive exchanges between friends and colleagues (Items 1-8), consulting and sharing with caregivers (Items 9-13), susceptibility to influence by family and neighbors (Items 14-22), the distinctiveness of one's personal identity from his/her caregivers or spouse (Items 23-27), and a lack of relationships with one's neighbors (Items 28-35). The chi-square statistic failed to reject the null hypothesis (χ^2 = 1272.5, p < .05), suggesting that this five-factor model did not fit the data. Values for the CFI (.97) and RMSEA (.09) were acceptable, but the value for the SRMR (.12) was not.

Cognitive Complexity. There are no published factor structures for this scale, so the data were analyzed using a single-factor solution. The chi-squared statistic failed to reject the

null hypothesis ($\chi^2 = 54.49$, $p < .05$), suggesting that a one-factor model did not fit the data. The value for RMSEA (.05) was acceptable, but the values for CFI (.63) and SRMR (2.09) were not.

Summary of Confirmatory Factor Analyses

Using published factor structures is desirable because it allows research results to be compared across studies. In general, the results of the confirmatory factor analyses suggested that the published factor structures fit the responses of my participants on the various personality scales. The published factor structures for the Need for Closure Scale and the Self-Monitoring Scale fit my data well; and the published factor structure for the Shortened Individualism/Collectivism Scale fit my data moderately well. Only the published factor structure for the Personal Need for Structure Scale did not fit my data well. There are no published factor structures for the Need to Belong Scale or the measure of cognitive complexity, so responses on these scales were simply analyzed with a one-factor solution. The results suggested that the Need to Belong scale indeed contained a single factor, but the cognitive complexity measure did not. In the end, I decided to rely on the published factor structures for all the scales.

Second-Order Confirmatory Factor Analysis

A second goal of this study was to test the possibility that the six personality traits reflected two general dimensions: cognition and affect. A second-order factor analysis would reveal whether there were broader factors underlying the relationships among the narrower factors identified in my confirmatory factor analyses. Several second-order confirmatory factor analyses were thus conducted on the data, using Amos 4.0.

It seems to me that there may be two broader factors related to making entitativity judgments. First, there may be an ability associated with seeing groups in the environment. For example, people must be able to notice various "symptoms" of groups, and then to process those symptoms. These activities suggest that entitativity judgments may be influenced by a general cognitive factor. Second, people vary on their motivation to see groups. They want to belong to groups, because groups contribute to their self-esteem, help them to achieve goals,

31

and aid in their survival (Levine & Moreland, 1992). Thus, entitativity judgments may be influenced by a general affective factor as well. I predicted that a personal need for structure, self-monitoring, and cognitive complexity would constitute a cognitive factor, and that the need to belong and collectivism would constitute an affective factor. The need for closure was dropped from these analyses, given its high correlation with the personal need for structure.

To begin, I tested each second-order factor separately. The higher-order cognitive factor was tested only with data from participants who completed all six personality scales, which limited the sample size to 229. The chi-square goodness-of-fit index again failed to reject the null hypothesis (χ^2 = 1655, p < .001), suggesting poor fit. However, the other fit indices were again reasonable (SRMR = .06, CFI = .95, RMSEA = .07). The chi-square goodness-of-fit index for the model measuring the affective factor failed to reject the null hypothesis (χ^2 = 2271, p < .001), suggesting poor fit. However, the SRMR (.04), CFI (.96), and RMSEA (.06) indices suggested reasonable fit for this model.

The affective and cognitive models were then tested simultaneously in a single, higher-order model (again using only the 229 participants who completed all the personality scales). The chi-square goodness-of-fit index failed to reject the null hypothesis (χ^2 = 5662, p < .001), suggesting poor fit. However, the other fit indices were reasonable (SRMR = .06, CFI = .94, RMSEA = .05). This analysis indicated that the five personality traits were indeed associated with two higher-order factors.

Summary of Study 1

In an absolute sense (compared to the scale midpoints), my participants scored high in the need to belong, self-monitoring, collectivism, and cognitive complexity, and low in the personal need for structure and need for closure. In a relative sense (compared with other samples), my participants had similar mean scores on most of the personality scales. These results suggested that my participants were generally comparable to those in other studies using the same scales.

A review of the correlations among the personality scales showed that scores on the cognitive complexity scale were not correlated with scores on any of the other scales. Scores on the personal need for structure and the need for closure were highly correlated, suggesting that these are really the same construct. Scores on the self-monitoring scale were significantly correlated with scores on the self-monitoring and collectivism scales. Finally, the need to belong seemed relatively important, because scores on that scale were correlated with scores on several of the other scales.

A series of confirmatory factor analyses examined how well the published factor structures of the personality scales fit my data. Although the majority of these analyses failed to produce non-significant chi-square statistics, other fit indices were often reasonable. Higher-order confirmatory factor analyses were also conducted to see whether the scales could be organized into larger cognitive and affective factors. Results from two smaller analyses suggested that these higher-order factors were plausible. A larger analysis testing these factors simultaneously was also supportive.

<div align="center">Study 2</div>

<u>Overview</u>

Five personality traits were retained from the first study, and their relation to entitativity was examined. Participants completed personality scales and evaluated several groups. In one set of judgments, they viewed pictures of people and evaluated their entitativity. In another set of judgments, they rated a list of 40 groups on nine dimensions related to entitativity (see Lickel et al., 2000). The goal of this study was to identify which personality trait(s) would predict entitativity judgments, and how strongly.

Methods

<u>Participants</u>

One hundred and twenty-three students (98 women) from several sections of the Introductory Psychology course at the University of Pittsburgh participated in this study in exchange for partial course credit. All the data were collected during one semester.

<u>Materials</u>

The same personality measures used in Study 1 were used again, except that the Need for Closure scale was dropped and a new measure of cognitive complexity replaced the old measure. Cognitive complexity was now measured using a paragraph completion task, as described by Suedfeld, Tetlock, and Streufert (1992). On that measure, participants are asked to write brief endings to four sentence stems or ideas ("When I am criticized…," "When I don't know what to do…," "Rules…," and "When a friend acts differently toward me…"). These responses are then coded by an expert for their degree of complexity, reflecting the person's ability to see multiple perspectives and to integrate those perspectives in a complex way. Smith and Franz (1992) developed a training manual for this measure. This manual contains stories that were told about 10 pictures. Those stories were coded by experts, whose ratings are listed in the manual. My expert judge rated sixty of these stories, and his ratings were then compared with the expert codes. Acceptable reliability was achieved (r = .80). Once reliability is achieved for the stories, a judge is presumably skilled at rating responses on the sentence completion task. The expert's ratings can range from 1 to 7, with higher ratings indicating greater cognitive complexity. Ratings by my judge of the four sentence completions from each participant were averaged to form a cognitive complexity index (α = .45). (It was not possible to improve this index by dropping any of the items.)

<u>Procedure</u>

Participants were told that the study focused on how people make judgments about groups, and that they would be asked to answer questions about several groups. They were

also told that they would complete a series of personality measures. Participants received one of six sets of personality scales; the order of the scales in each set followed a balanced Latin-square design. The personality scales were completed either before or after participants made their judgments about groups. A counterbalanced order allowed me to test later whether making judgments about groups and completing personality scales affected each other.

Participants worked on two group judgment tasks. The first task required them to look at 10 pictures, each containing 3 to 7 undergraduate students. These pictures were presented with a slide projector. The students in the pictures were members of groups that worked together throughout a semester in an undergraduate course on small groups. They were given no special instructions about how to pose for the pictures, other than to face the camera. Participants viewed each slide for five seconds and then had up to two minutes to evaluate how much the people in the picture appeared to be a group, how similar they seemed, how close together they were standing, how comfortable they were with each other, how friendly their body language was, and the extent to which there seemed to be any cliques (cf. Moreland & McMinn, 2000). These judgments were all made on seven-point Likert rating scales (1-7). Finally, participants were asked whether or not they knew anyone in the slides. The 10 slides were randomly divided into three blocks (containing 3, 3, and 4 slides), whose presentation order was counterbalanced across the sample.

The second group judgment task required participants to use nine dimensions related to entitativity to rate 40 groups (see Appendix). These were the same dimensions and groups used by Lickel and his colleagues (2000) in their research on entitativity. The dimensions were: entitativity, interaction among members, importance of the group to its members, shared outcomes, common goals, similarity of members, and the duration, size, and permeability of the group. Each dimension was rated on a nine-point Likert rating scale (1-9), with all 40 groups listed below each dimension. The groups were randomly ordered for each dimension, and the

dimensions were ordered using a balanced Latin-square design. Finally, all participants were

asked whether or not they had ever belonged to each of the 40 groups.

Once participants completed these tasks, they received an oral and written debriefing about the

study. They were then thanked for participating and dismissed from the laboratory.

<div align="center">Results</div>

Psychometric Evaluation of the Personality Scales and Group Judgment Measures

 The personality scales were scored according to their published factor structures. A

series of *t*-tests was conducted to see if scores on the personality scales, or the participants'

entitativity ratings, were affected by the order in which the tasks were completed. There were

no significant effects (ps > .05), so order will not be considered in further analyses. The

personality scales were then examined for internal consistency. The overall Cronbach alphas

for the scales were acceptable, ranging from .72 to .86. Cronbach alphas for the factors within

scales (as proposed when they were published) were also generally acceptable, ranging from

.65 to .83. The exception to this was the Individualism/Collectivism scale. The reliability of the

five factors on that scale ranged from .34 to .74, and three factors had reliabilities below .60.

 The internal consistency of the six items used to evaluate the slides was also examined

to see whether an entitativity index could be created. I excluded responses to slides in which

participants knew someone (this only happened seven times). The average rating a participant

made on each item was then computed across the remaining slides, and this average was used

in the analysis. Cronbach's alpha for the six items was somewhat low (α = .57), in part because

the cliques item was weakly correlated with the others. When that item was dropped, the

reliability improved to .71. Thus, an entitativity index was computed for each participant as the

average of the five remaining items (across all slides). That index was then used in all

subsequent analyses.

 A similar procedure was used to investigate the internal consistency of the nine items

used in the other group rating task. First, the average rating for each item was calculated for

each participant across the 40 groups. This average was then used to compute Cronbach's

alpha, which was again rather low (α = .61). An exploratory factor analysis was thus computed

to determine whether the ratings reflected more than one factor, using the same process

described in Study 1. Two factors emerged, accounting for 53% of the total variance. The first

factor, which involved entitativity, interaction, importance, common goals, shared outcomes, and

similarity, explained 37% of the variance (α = .92). Size and permeability made up the second

factor, which explained 16% of the variance (α = .28). Duration loaded on both factors. Lickel

et al. (2000) also reported problems with the size, permeability, and duration items, which only

weakly predicted the entitativity item. Because there was no clear reason why size and

permeability should belong to the same factor, these two dimensions, along with duration, were

dropped from subsequent analyses. A final group ratings index was thus computed for each

participant by averaging ratings on the six remaining dimensions across all 40 groups. Lickel

and his colleagues (2000) did not present information about the internal consistency or factor

structure of the group ratings in their studies, so estimates cannot be compared across studies.

The means for some of the personality scores were positively skewed, so they were

transformed using square root transformations, as described by Kirk (1995). The analyses

reported below produced similar results whether the untransformed or transformed scores were

used. Thus, analyses using the untransformed scores are reported.

Analysis of Mean Values on the Personality Scales

In general, the means and standard deviations for responses to the personality scales

were comparable to those found in Study 1. On average, participants scored 3.14 on the Need

to Belong scale (SD = .66), which is not significantly different from the mean found in Study 1, t

(550) = -.37, p > .05, and is again significantly greater than the midpoint (3.0) of the scale, t

(122) = 2.45, p < .05. The average score on the Personal Need for Structure scale was 3.98

(SD = 1.03), which is not significantly different from the average found in Study 1, t (549) = -

1.17, p > .05, or from the midpoint (4.0) of the scale, t (121) = -.19, p > .05. The average score

on the Self-Monitoring scale was 2.52 (*SD* = .55), which is not significantly different from the

average found in Study 1, *t* (550) = .58, *p* > .05, from the midpoint (2.5) of the scale, *t* (122) =

.49, *p* > .05. The average score on the Individualism/Collectivism scale was 3.12 (*SD* = .42),

which is greater than the average found in Study 1, *t* (501) = -2.13, *p* < .05, and is again

significantly greater than the midpoint (2.5) of the scale, *t* (122) = 16.37, *p* < .01. Finally, the

average cognitive complexity score on the paragraph completion task was 2.13 (*SD* = .53),

which is significantly below the midpoint (3.5) of that measure, *t* (121) = -28.67, *p* < .01. Low

cognitive complexity scores are a common finding in research using the paragraph completion

task (Suedfeld & Coren, 1992). Because different measures of cognitive complexity were used

across studies, their means cannot be compared.

<u>Correlations Among the Personality Scales and the Group Judgment Tasks</u>

The correlations among scores on the personality scales and the entitativity indices for

the slide ratings and the group ratings are shown in Table 3. Two findings from the table are

especially noteworthy. First, scores on the two entitativity indices were highly correlated with

each other (*r* = .69, *p* < .01). This suggests that there are indeed individual differences, across

groups, presentation media, and judgments, in the tendency for people to see groups as real.

Second, the need to belong was the only personality trait that correlated significantly with either

of the entitativity indices, although it was significantly correlated with only one of them (ratings of

the 40 groups). Participants with a stronger need to belong tended to see the groups as more

entitative (*r* = .23, *p* < .05).

Correlations among the personality scales, the slide entitativity index, the group ratings

entitativity index, and participant demographic variables were also examined for possible

relationships that might indicate a need for covariates in later analyses. Three demographic

variables were measured: sex, race, and age. Only sex was correlated with any of the

personality traits. Women scored significantly higher (*p* < .05) than men on the need to belong

and individualism/collectivism scales (*r*s = .19 and .22, respectively), but significantly lower than

men on the self-monitoring scale (r = -.19). The gender difference in collectivism scores is consistent with other research showing that women are more collectivistic than men (Hui & Yee, 1994). None of the demographic variables were significantly correlated with either of the entitativity indices. Thus, sex, race, and age were dropped from further analyses.

Analysis of the Slide Judgment Task

I first conducted a multiple regression analysis to examine the relationships between the personality traits and the slide entitativity index. Recall that this index included ratings of groupiness, similarity, proximity, comfort, and friendly body language for the people in the slides. The index scores were regressed first on the five personality traits. Several of the two-way interactions among those traits were then entered into the analysis in a second step. Higher interactions were not included in the analysis, because there was no reason to expect such complex effects. The overall analysis, which explained 15% of the variance, was not significant, F (15, 105) = 1.23, p >.05 (see Table 4). However, some of the predictors in the analysis were significant. One such predictor was the need to belong, t (1) = 2.07, p < .05. Controlling for the effects of collectivism, personal need for structure, self-monitoring, and cognitive complexity, participants with a stronger need to belong had higher scores on the slide entitativity index. There was a also a significant interaction between self-monitoring and personal need for structure, t (1) = 2.66, p < .05. To understand this interaction, participants were divided into those above and those below the mean on each scale. Post hoc comparisons were then made among the four groups.   The results showed that when self-monitoring was low, participants with less need for structure saw significantly (p < .05) more entitativity in the slides, but when self-monitoring was high, participants with more need for structure saw more entitativity in them.

I also regressed the slide entitativity ratings on the two higher-order factors (cognition and affect) identified in Study 1. Scores on these broader factors were computed by averaging the mean scores on the personality scale factors that loaded on the cognitive factor, and then

for those scale factors that loaded on the affective factor. The overall analysis was not significant, F (2, 120) = .99, p > .05, and neither were the individual predictors.

Analysis of the Group Rating Task

A second multiple regression analysis was planned to examine the relationships between the personality traits and the scores on the group rating task. This task was the same one used by Lickel and his colleagues (2000), so I began by repeating their analyses with my data. Replicating some of the major findings from their paper was a way to establish greater confidence in my own results.

For each participant, I correlated the 40 ratings on the first dimension with the 40 ratings on the second dimension, then with the 40 ratings on the third dimension, and so on until the ratings between each possible pair of the nine dimensions had been correlated. This produced 36 correlations for each participant. Then I calculated the median correlation for each pair of dimensions across all 123 participants. The resulting set of correlations can be found in Table 5. To compare the correlations from their study with mine, I transformed all the correlations (using Fisher's r to z transformation), because correlations are not normally distributed (Cohen & Cohen, 1975). I then correlated my z-scores with those from Lickel et al. (2000). The resulting correlation was .92. Thus, the median correlations in my study were very similar to those of Lickel and his colleagues.

Second, ratings on the entitativity dimension by each participant were regressed on the other eight dimensions to determine their relative importance. Table 6 (see the second column) shows the median beta weight for each predictor across all participants. Interaction among group members had the strongest impact on entitativity ratings, followed by the importance of the group to its members. Group size had the weakest impact. The median multiple R was .80, suggesting that the eight dimensions accounted for about 64% of the variance in responses. Determining whether or not the beta weights in my study differed from those in Lickel et al.'s study would require the sums of square error for each beta weight in the two samples; that

information was not available in their paper. In general, my beta weights were similar to those found by Lickel and his colleagues. However, there were a few differences. For example, the permeability of group boundaries was a much stronger predictor of entitativity in my study, whereas similarity among group members was weaker.

A hierarchical cluster analysis was also performed on the group ratings data to see how many types of groups could be identified. Such an analysis begins by identifying N-1 clusters (39 in this study), and then searches for patterns of similarity among the data until all cases have been combined and only a single cluster remains (Blashfield & Aldenderfer, 1988). The researcher then relies on a variety of indices to how many clusters should be retained; these indices are discussed below.

Cluster analysis is popular in the life sciences, where researchers often try to reduce a large number of organisms into groups. Usually, these groups are based on similarity among members, and similarity can be defined in many ways (see Hair, Anderson, Tatum, & Black, 1995 for a discussion). I chose to evaluate similarity by analyzing the variance within clusters. Such an analysis relies on Ward's method, which calculates how much variance there is from a cluster's mean. When clusters are merged, there should be a small increase in this error variance. The analysis produces agglomeration coefficients. When these coefficients are small, relatively similar clusters have been combined.

A two-cluster solution emerged, instead of the five-factor solution reported by Lickel et al. (2000). This discrepancy will be discussed later. Mojena's rule (Mojena, 1977) was used to verify the solution. Using that rule, the mean and standard deviation of the agglomeration coefficients were computed, and the number of clusters was estimated by selecting a coefficient 3 to 3.5 standard deviations greater than the mean. Mojena's rule is a more objective measure than merely looking for large gaps in the amalgamation coefficients (Blashfield & Aldenderfer, 1988). The results further supported the two-cluster solution. The first cluster contained thirty-seven groups. I labeled it the "meaningful groups" cluster. The second cluster contained the

remaining three groups (people waiting for a bus, watching a movie, or standing in line at a bank). I labeled it the "meaningless groups" cluster.

There were many significant differences between the entitativity index scores for the two clusters (see Table 7). A series of paired-subjects t-tests revealed that meaningful groups were rated as more entitative, $t(123) = 28.89$, $p < .001$; more important to their members, $t(123) = 34.41$, $p < .001$; longer in duration, $t(123) = 43.62$, $p < .001$; larger in size, $t(123) = 21.24$, $p < .001$; and less permeable, $t(123) = -24.14$, $p < .001$. Members of meaningful groups were also rated as more frequent interactants, $t(123) = 43.88$, $p < .001$; more likely to share outcomes, $t(123) = 9.23$, $p < .001$; more likely to have common goals, $t(123) = 12.57$, $p < .001$; and more similar to one another, $t(123) = 28.03$, $p < .001$.

Of course, the main issue was whether scores on the personality trait measures were related to scores on the entitativity index for the group ratings. To examine those relationships, I regressed the entitativity index on the personality traits for the two clusters separately. As Tables 8 and 9 show, the overall analysis was not significant for either the meaningful groups, $F(15, 105) = 1.19$, $p > .05$, or for the meaningless groups, $F(15, 105) = .89$, $p > .05$. Only 15% of the variance in the entitativity index for meaningful groups was explained, and only 11% of the variance in the entitativity index for meaningless groups was explained. However, the collectivism by cognitive complexity interaction was a significant predictor in both analyses. To understand that interaction, participants were again divided into those above and those below the mean on each scale. Post hoc comparisons were then made (for each cluster) among the four groups. The results for meaningful groups showed that among individualists, entitativity scores increased significantly ($p < .05$) when cognitive complexity levels were higher. Among collectivists, however, entitativity scores were not related to levels of cognitive complexity. The results for meaningless groups showed that among individualists, entitativity scores increased significantly ($p < .05$) when cognitive complexity scores were higher, but collectivists gave higher entitativity ratings when cognitive complexity scores were lower.

I also regressed the entitativity index scores on the two higher-order factors for the two clusters separately. Scores on these broader factors were again computed by averaging the mean scores for the personality scale factors that loaded on the cognitive factor, and then for those scale factors that loaded on the affective factor. The overall analysis was not significant for either meaningful groups, $F(2, 120) = 1.57$, $p > .05$, or for meaningless groups, $F(2, 120) = .61$, $p > .05$. Neither the cognitive nor the affective factor was a significant predictor in either analysis.

Perhaps personality traits had more influence on group ratings when participants were members of those groups. Brewer and Harasty (1996) predicted that people would rate their ingroups as more entitative than their outgroups, especially if their need to belong was strong. On average, my participants said they belonged to 19 of the 40 groups that were rated, with a range of 12 to 25 groups. The number of groups to which a participant belonged did not correlate significantly with his or her scores on either the slide entitativity index or the groups rating index ($p > .05$).

To account for the fact that participants belonged to different numbers of groups, entitativity index scores were averaged across ingroups and then again across outgroups for each person. Each participant thus had two new scores, and the difference between them was examined with a paired-samples *t*-test. Contrary to Brewer and Harasty's hypothesis, participants actually rated their ingroups as <u>less</u> entitative ($M = 5.06$) than their outgroups (M = 5.70), $t(122) = -15.01$, $p < .01$. Maybe intragroup contact <u>decreases</u> entitativity because people have more knowledge about their ingroups, including more individuating information about fellow group members. Such an explanation is compatible with research showing that outgroups are perceived as more homogeneous than ingroups (see Ostrom & Sedikides, 1992).

The personality traits were also used to predict ingroup and outgroup entitativity ratings in separate multiple regression analyses. Several of the two-way interactions among those traits were entered into each analysis in a second step. The overall analysis for ingroups, which

explained 19% of the variance, was not significant, F (15, 105) = 1.64, p < .08 (see Table 10), but self-monitoring emerged as a significant predictor of entitativity ratings, t (1) = 3.05, p < .01. Controlling for the other personality traits, high self-monitors rated their ingroups as more entitative. None of the other predictors were significant. The overall analysis for outgroups, which explained 20% of the variance, was not significant either, F (15, 105) = 1.69, p < .07 (see Table 11), but self-monitoring emerged again as a significant predictor of entitativity ratings, t (1) = -3.45, p < .01. Controlling for the other personality traits, low self-monitors rated outgroups as more entitative. None of the other predictors were significant.

I also computed a difference score for each participant by subtracting his or her mean outgroup entitativity score from the mean ingroup entitativity score. Larger values on the difference score indicated greater entitativity for ingroups than outgroups. This difference score was then regressed on the five personality traits. The overall analysis was significant, F (15, 105) = 1.95, p < .05 (see Table 12), explaining 22% of the variance. Self-monitoring emerged as a significant predictor—higher levels of self-monitoring were associated with seeing ingroups as more entitative than outgroups. The interaction between personal need for structure and collectivism was also significant. As before, participants were divided into those above and those below the mean on each scale. Post hoc comparisons were then made among the four groups.   The results showed that when the need for structure was low, individualists viewed outgroups as significantly (p < .05) more entitative than ingroups, but when the need for structure was high, collectivists rated outgroups as more entitative.

Summary of Study 2

The means and standard deviations for scores on the personality scales were similar to those found in Study 1, and all of the scales again had acceptable reliability. Entitativity scores for the two group judgment tasks were highly correlated with each other, suggesting that there may be individual differences that contribute to stability in entitativity judgments. The effects of five personality traits on entitativity judgments were examined. The need to belong was a

significant predictor of how participants rated slides of groups. Participants with a higher need to belong rated the people in the pictures as more entitative. Scores on the slide entitativity index were also predicted by an interaction between self-monitoring and personal need for structure. Participants with a low need for structure rated groups in the slides as more entitative, but only when they had low levels of self-monitoring. Neither slide ratings nor evaluations of the 40 groups were significantly predicted by the two higher-order factors.

It is surprising that the need to belong did not also predict ratings of the 40 groups. The two were correlated, but regression analyses did not reveal a significant relationship between them. It may be that the other personality traits were somehow influencing the relationship between the need to belong and the group rating index, and once those other traits were held constant in a regression analysis, the effect of belonging on group ratings disappeared.

An analysis of how participants rated the 40 groups suggested that interaction among group members and the importance of a group for its members had the strongest impact on entitativity ratings, and group size had the weakest impact. A cluster analysis suggested that the 40 groups fell into two clusters, meaningful and meaningless groups, and these clusters differed in important ways. Meaningful groups were rated as more entitative, more important to their members, longer in duration, larger in size, and less permeable. Members of meaningful groups were also rated as more frequent interactants, more likely to share outcomes, more likely to have common goals, and more similar to one another. The effects of the personality traits on entitativity index scores for these two clusters were also examined. Mostly, traits were not good predictors. However, the entitativity index scores for both clusters <u>were</u> predicted by an interaction between collectivism and cognitive complexity. Cognitively simpler participants rated meaningful groups as more entitative when they were more individualistic, but they rated meaningless groups as more entitative when they were more collectivistic. Finally the cognitive and affective higher-order factors were not significant predictors of how meaningful or meaningless groups were rated.

One difference between my results and those of Lickel et al. (2000) involved the clusters of the groups that were rated. One reason for that difference may be the nature of the samples that were used. Although Lickel and his colleagues did not measure personality characteristics, it is possible that their participants differed from mine in important ways. The participants in Lickel et al.'s studies were from California and Poland, whereas my participants were primarily from Pennsylvania. Because there is greater cultural diversity in California than in Pennsylvania, participants in their research may have had greater variability in their personality traits (e.g., collectivism). Perhaps a more diverse sample in my research would have shown stronger relationships between personality traits and entitativity judgments, because correlations are sensitive to restriction of range. This remains a conjecture to be tested in future studies.

Finally, self-monitoring emerged as a significant predictor of ingroup entitativity ratings, such that high self-monitors rated their ingroups as more entitative. Self-monitoring was also a significant predictor of outgroup entitativity ratings. Low self-monitors rated their outgroups as more entitative. Also, outgroups were rated as more entitative than ingroups, contrary to what some researchers (e.g., Brewer & Harasty, 1996) have predicted. This was especially true among participants with higher levels of self-monitoring.

<div align="center">Study 3</div>

<u>Overview</u>

In the second study, personality traits were measured and correlated with entitativity judgments. The results suggested that the need to belong was important for some of these judgments. The goal of the third study was to activate the need to belong, and then measure the effects of that change on entitativity judgments. In essence, this study examined whether such judgments are similar whether the need to belong is treated as a trait or a state.

The trait versus state distinction has a long history in personality psychology. Do personality characteristics reflect underlying, enduring biological predispositions (traits), or temporary states that are triggered by situational factors? For example, a person who has trait

<div align="center">46</div>

anxiety is generally anxious over time and across situations. Yet a person who is not generally anxious may experience considerable anxiety while taking a final exam. The examination anxiety is only temporary and diminishes once the exam is over. Similarly, some people may have a strong dispositional need to belong to groups, but that need could also be triggered by such situational factors as exclusion from groups.

To test whether the need to belong can be viewed as a temporary state that affects entitativity judgments, participants were asked to play a three-person game on the computer. Half of them were always included by the other players, whereas the others were first included and then excluded by the other players. The latter experience, which is a form of ostracism, has been shown to affect participants' need to belong, in the sense that excluded participants are more interested in groups and social relationships (Williams et al., 2000).

<div align="center">Methods</div>

Participants

One hundred and fourteen students (61 women) from several sections of the Introductory Psychology course at the University of Pittsburgh participated in the study. They received partial course credit in exchange for their participation. Twelve participants were omitted from the analysis due to technical problems with the data collection software. Another two participants were omitted because they were suspicious of the experimental manipulation. This left 100 participants for the final sample.

Participants were randomly assigned to three-person groups. Participants' gender and the gender composition of their groups (percentage of women) were considered as possible factors in the analyses.

Procedure

Students were randomly assigned to an inclusion or an exclusion condition. There were 50 participants in each condition. Everyone was asked to play "CyberBall," an electronic version of a ball-toss game that has been used to study ostracism (Williams, Cheung, & Choi,

2000). In this game, a participant tosses a virtual ball back and forth with up to three other persons, who are actually electronic confederates. The researcher can control the number of confederates, the length of the game, and the degree to which confederates exclude the participant (the number of times the ball is not thrown to the person).

When the ball is tossed to a participant, he/she uses the computer's mouse to select the player to whom the ball will be tossed next, and then the game continues. I ran participants individually during pilot testing, but they were suspicious of the computer game, unlike participants in other ostracism research (e.g., Williams et al., 2000). That is, they suspected that the other players were not real, especially when they were ostracized. I decided to run participants in the actual study in groups of three, to decrease their suspiciousness. Seeing two other players should be more convincing than imagining them, I thought. Participants might also be more concerned with how they are perceived by others, when those others are present, and that should enhance the effects of the inclusion/exclusion manipulation. The fact that only two participants were suspicious under these conditions suggests that running three participants simultaneously was a good idea.

Once all three participants arrived at the laboratory, they were told that the research focused on how people perceive each other. Then they were taken to separate rooms, each equipped with a desktop computer. Participants were told that before the actual study could begin, they would complete a series of personality scales, to help another researcher studying a different topic. They were given 30 minutes to complete four paper-and-pencil scales (need to belong, personal need for structure, self-monitoring, and collectivism). I used a paper-and-pencil format to decrease suspicion, because I did not want participants to suspect that the personality traits were linked with the experimental manipulation. As will be described below, the paper-and-pencil format was quite different from how the other tasks were presented to participants. The order of these scales was counterbalanced using a balanced Latin-square

design. Responses to the need to belong scale provided a baseline measure of this need for each participant. The other scales served primarily to disguise the true purpose of the study.

Afterwards, participants were told that I was testing a new computer program that would be used in future research on how people visualize others with whom they interact on the Internet. Participants then began to play the CyberBall game, ostensibly with one another. Actually, each participant played the game with two virtual confederates whose first names matched the names (displayed on the computer monitor) of the real participants. Each game lasted for 50 ball tosses. In the exclusion condition, the participant was thrown the ball only 10 times, at the beginning of the game. Afterwards, the other two players always threw the ball to each other. In the inclusion condition, participants were thrown the ball about 16 times, spread throughout the game. Their partners threw the ball to them just as often as they threw the ball to one another.

Following this task, participants completed the Differential Emotion Scale plus Affect (Izard, 1972; see Appendix). The scale contains 50 words that express a variety of positive and negative emotions. Factor analyses have shown that these 50 emotions reflect 10 categories, with each emotion tied to a different category. The scale (and its factors) has good convergent validity, showing correlations ranging from .79 to .83 with related scales (Izard, 1972). Participants were asked to indicate the extent to which each word described how they were feeling at the moment, using a seven-point Likert rating scale (1-7). The purpose of this scale was to measure how their moods were affected by being included or excluded in the game. Mood can affect categorization processes: People in negative moods are less likely to use inclusive categories or to see similarities among group members (Dovidio et al., 1995). This could cause them to perceive groups as less entitative, regardless of the need to belong. Thus, it seemed important to assess and perhaps control for the effects of mood on entitativity judgments.

In addition to the need to belong, Williams and his colleagues (2000) showed that other needs and motives may be affected by exclusion from groups. These include the need for a meaningful existence, the desire for control in one's life, and feelings of attraction toward other group members. Each of these was measured in my study with questions rated on nine-point (1 to 9) Likert scales. Participants then answered several questions to test the effectiveness of the need to belong manipulation.

Finally, participants rated the same 10 slides used in Study 2, and completed the same group rating task (40 groups evaluated on nine dimensions), in a counterbalanced order. The slides and their ratings and the groups and their ratings were handled just as in Study 2. But in contrast to that study, I presented the slides, groups, and rating scales on individual desktop computers, using Superlab software. Instead of seeing all six items of the slide rating index on a single sheet of paper, for example, participants now evaluated each item separately as it appeared on their monitor. Participants also evaluated each of the 40 groups one dimension at a time, on separate screens. After participants typed in their response to an item, using the computer keyboard, the next item appeared on the screen.

Once participants completed all these tasks, they received an oral and written debriefing about the study and its hypotheses. Given the possible negative effects of experiencing exclusion, it was important to assure excluded participants that it was actually the computer, and not the other participants, that excluded them from the ball-toss game. Everyone seemed to understand this, and no one left the laboratory upset. All participants were thanked for participating and then dismissed. The entire study lasted about one and one-half hours.

<div align="center">Results</div>

Participants in the inclusion and exclusion conditions did not differ in their initial levels of the need to belong (Ms = 3.09 vs 3.08), t (98) = .03, p > .05. Thus, I could be confident that any later differences in belongingness were due to the experimental manipulation. Cronbach alphas for the personality scales remained high, ranging from .70 to .86. Intraclass correlation

analyses revealed no significant effects (on any measures) related to the particular group in which participants played the game, so group-level effects are not considered further.

Comparisons between included and excluded participants on the manipulation check items can be found in Table 13. Excluded participants felt less like they belonged to their groups, $t(98) = 6.38$, $p < .01$, more ignored by their partners, $t(98) = -8.04$, $p < .01$, and less noticed by their partners, $t(98) = -6.24$, $p < .01$. Excluded participants also liked their partners less, $t(98) = -2.83$, $p < .01$, and felt less liked by their partners, $t(74) = -2.63$, $p < .05$. (Due to a problem with the Superlab software, 24 participants did not answer this last item.) There were no significant differences between conditions in how meaningful life seemed to the participants, how much control they felt over their lives, how valued participants felt by their partners, or how much they enjoyed playing the ball-toss game, although the means all were in the expected direction. The first two results are consistent with research by Williams and his colleagues (2000), who also found no effects of ostracism on items measuring the meaningfulness of life or perceived control.

To see whether moods varied across the inclusion and exclusion conditions, and how they affected entitativity judgments, I evaluated scores on the Differential Emotion Scale + Affect. Izard (1972) has found that items on this scale factor into ten categories, but some of these categories seemed less relevant to experiences of inclusion and exclusion than others. For example, two categories are fatigue and guilt, but there was no reason to believe that included participants would feel less fatigued or guilty than excluded participants. Thus, I omitted these two categories from the analyses. Table 14 contains the remaining categories, the items included in each category, and the category means and standard deviations. Coefficient alphas for the eight categories ranged from .48 to .86; six of the eight alphas were larger than .70. Next, I conducted t-tests to compare the included versus excluded participants across the categories. None of the comparisons were significant (all ps > .05), although there was a marginally significant effect for happiness: Included participants were happier than those

who were excluded, t (98) = 1.82, p < .10. In general, participants did not seem to vary much in their emotional states, depending on their inclusion or exclusion in the game. This may be related to the low variability in participants' scale responses. Most of the category means were significantly below the midpoint (4.00) of the rating scales, and the standard deviations were often less than 1.0. This suggests that few of the participants experienced any strong emotions during the study.

Analysis of the Slide Judgment Task

A slide entitativity index was again created for each participant, excluding responses (only 12 of them) to slides in which participants knew someone. The index was created by averaging scores on the entitativity, similarity, proximity, comfort, and body language items. The item measuring cliques was weakly correlated with other items in Study 2, and also in Study 3. Once this item was omitted, Cronbach's alpha improved from .38 to .79. A t-test was conducted to see whether participants in the inclusion and exclusion conditions evaluated the slides differently. The results showed no significant difference in index scores, t (98) = 1.09, p > .05. The mean score for included participants was 3.80 (SD = .32), and the mean score for excluded participants was 3.73 (SD = .36).

I next computed a multiple regression analysis using the slide entitativity index as the dependent variable, and inclusion versus exclusion as the primary predictor (0 = excluded, 1 = included). Other predictors included in the analysis were scores on the various personality measures, participant gender (0 = male, 1 = female), group gender composition, and the two-way interactions among some of these variables (see Table 15). I was most interested in two-way interactions between the experimental manipulation and the personality traits, because it seemed possible that those traits might have stronger effects on entitativity judgments among excluded participants. I did not test higher interactions, because there was no reason to believe that such complex effects would occur. The overall analysis was not significant, F (13, 85) = .73, p > .05, and explained only 10% of the variance. None of the individual predictors reached

significance, although the need to belong had a marginal effect. Participants with a stronger need to belong produced higher entitativity index scores, as in Study 2.

I then regressed slide entitativity ratings on the two higher-order factors (cognition and affect) identified in Study 1. The overall model was not significant, $F(2, 97) = .63$, $p > .05$, and neither were the individual predictors.

<u>Analysis of the Group Rating Task</u>

An exploratory factor analysis was again computed (using the procedures described earlier) to determine whether the nine group rating dimensions reflected more than one factor. This analysis produced results similar to those found in Study 2. Two factors emerged, accounting for 51% of the variance. The first factor, which involved entitativity, interaction, importance, common goals, shared outcomes, and similarity, explained 37% of the variance ($α$ = .79). Size, permeability, and duration made up the second factor, which explained 14% of the variance ($α$ = .35). A group ratings index was again computed for each participant by averaging responses only to the items that loaded on the first factor.

Because the group rating task was the same task used by Lickel et al. (2000), I again repeated their analyses with my data. For each participant, I again correlated the 40 ratings on the first dimension with the 40 ratings on the second dimension, then with the 40 ratings on the third dimension, and so on until the ratings between each possible pair of the nine dimensions were correlated. This produced 36 correlations for each participant. Then I calculated the median correlation for each pair of dimensions across all 100 participants. The results are shown in Table 16. To compare the correlations from their study with mine, I transformed all the correlations (using Fisher's r to z transformation) and then correlated my z-scores with those from Lickel et al. (2000) and those from Study 2. The resulting correlations were .67 and .69, respectively. These correlations were lower than the correlation I found in Study 2 (.92), but they still suggest comparability between the studies.

Next, the entitativity ratings from each participant were regressed on that person's

ratings on the other eight dimensions to determine their relative importance. Table 6 (see the

third column) shows the median beta weights for each predictor across all participants.

Interaction among group members again had the strongest impact on entitativity ratings,

followed by a group's duration. The group's size and importance to its members had the

weakest impact. Based on the multiple R, the eight dimensions accounted for about 69% of the

variance in entitativity ratings. In general, the beta weights in this study were similar to the ones

found by Lickel and his colleagues, and the ones I found in Study 2. However, there were a few

differences in the median correlations across studies. For example, group duration was a much

stronger predictor in my study than in Lickel et al.'s study (2000), whereas the importance of a

group to its members was much weaker. Interaction among group members was also a

stronger predictor in Study 3 than in Study 2, whereas the importance of the group to its

members was weaker.

A cluster analysis (using the procedures described earlier) of the 40 groups was

conducted separately for the excluded and included participants. These analyses yielded

results identical to those found in Study 2. A two-cluster solution (supported by Mojena's rule)

best explained the data for both sets of participants. A meaningful group cluster contained 37

groups, and a meaningless group cluster contained people watching a movie, waiting for a bus,

or standing in line at a bank.

Given these clusters, I next performed nine mixed-effects ANOVAs, each with inclusion

versus exclusion as a between-participants factor and meaningful versus meaningless groups

as a within-participants factor. These analyses focused on ratings of entitativity, interaction

among group members, importance of groups to their members, shared outcomes, common

goals, similarity among members, permeability of group boundaries, duration of the groups, and

group size. There were several significant effects (see Table 17). The first was a series of

significant main effects for meaningful versus meaningless groups. Meaningful groups were

viewed as (a) more entitative (Ms = 6.64 vs 2.57), F (1, 98) = 680.63, p < .01; (b) more

important to their members (Ms = 6.04 vs 1.82), F (1, 98) = 1147.13, p < .01; (c) longer in

duration (Ms = 5.4 vs 1.4), F (1, 98) = 1984.00, p < .01; (d) larger in size (Ms = 4.87 vs 3.32), F

(1, 98) = 207.68, p < .01; and (e) less permeable in their boundaries (Ms = 5.08 vs 8.09), F (1,

98) = 267.80, p < .01. And the members of meaningful groups were viewed as (f) interacting

more frequently (Ms = 6.37 vs 1.85), F (1, 98) = 1645.72, p < .01; (g) sharing more outcomes

(Ms = 4.82 vs 2.85), F (1, 98) = 107.53, p < .01; (h) sharing more goals (Ms = 6.23 vs 3.38), F

(1, 98) = 244.41, p < .01; and (i) more similar to one another (Ms = 4.51 vs 1.76), F (1, 98) =

673.36, p < .01.

There was only one significant main effect for inclusion versus exclusion, an effect on

common goals. Included participants rated group members as having more goals in common

than did excluded participants, F (1, 98) = 4.52, p < .05. There was also only one significant

interaction between inclusion and the meaningfulness of groups, an effect involving group size,

F (1, 98) = 10.20, p < .01. Overall, meaningful groups were rated as larger than meaningless

groups, but this perceived difference in size was smaller among excluded participants.

To examine the relationships between the personality traits and ratings of the groups, I

first computed two multiple regression analyses, using the ratings of meaningful or meaningless

groups as the dependent variable and inclusion versus exclusion as the primary predictor (0 =

excluded, 1 = included). Other predictors included in these analyses were scores on the

various personality measures, participant gender (0 = male, 1 = female), group gender

composition, and the two-way interactions among some of these variables (see Tables 18 and

19). The overall analysis was not significant for meaningful groups, F (13, 85) = .89, p > .05,

explaining just 12% of the total variance. None of the individual predictors were significant

either, although collectivism had a marginal effect. Participants with higher levels of collectivism

tended to rate meaningful groups as more entitative. The analysis for meaningless groups was

marginally significant, F (13, 85) = 1.68, p < .10, explaining 21% of the total variance.

Inclusion/Exclusion was a significant predictor, $t(1) = 2.29$, $p < .05$. Included participants rated meaningless groups as more entitative than did excluded participants. The inclusion/exclusion by self-monitoring interaction was marginally significant, $t(1) = -1.71$, $p < .10$. The tendency for included participants to rate meaningless groups as more entitative was stronger for participants lower in self-monitoring.

I then regressed the participants' entitativity index on the two higher-order factors for the two clusters separately. The overall analysis was not significant for meaningful groups, $F(2, 97) = 2.27$, $p > .05$, or for the meaningless groups, $F(2, 97) = .92$, $p > .05$. The only individual predictor that was significant was the affective factor, which predicted ratings of meaningful groups, $t(1) = 2.13$, $p < .05$. People with higher scores on the affective factor rated meaningful groups as more entitative. This may reflect the need to belong to groups that foster interaction among members, are important to those members, help their members to achieve their goals, and so on. These are the qualities of meaningful groups.

Participants in Study 3, like those in Study 2, belonged to 19 of the 40 groups on average, with a range of 13-25 groups. There were no differences in the number of groups to which excluded and included participants belonged, $t(98) = -1.05$, $p > .05$. The number of ingroups was not correlated with the slide entitativity index, but it was significantly correlated ($p < .05$) with meaningful group ratings, and marginally correlated ($p < .07$) with meaningless group ratings. Participants who belonged to more groups rated both meaningful and meaningless groups as more entitative.

To test whether included and excluded participants rated their ingroups and outgroups differently, another mixed-effects ANOVA was performed. Inclusion versus exclusion was the between-participants factor and ingroups versus outgroups was the within-participants factor. Outgroups ($M = 5.84$, $SD = .70$) were again rated as more entitative than ingroups ($M = 5.05$, $SD = .85$), $F(1, 98) = 99.36$, $p < .05$. But there was no significant difference between ratings from participants in the exclusion condition ($M = 5.00$, $SD = .59$) and those in the inclusion

condition (*M* = 5.76, *SD* = .62), $F(1, 98) = .84$, $p > .05$. The interaction between inclusion/exclusion and ingroups/outgroups was not significant either, $F(1, 98) = .09$, $p > .05$.

The personality traits were then used to predict ingroup and outgroup entitativity ratings in separate multiple regression analyses. Several of the two-way interactions among those traits were entered into each analysis in a second step. The overall analysis for ingroups, which explained 16% of the variance, was not significant, $F(13, 85) = 1.20$, $p > .05$ (see Table 20). The only significant predictor was group gender composition. When the number of women in an experimental group was higher, participants rated their ingroups as more entitative. The overall analysis for outgroups, which explained 13% of the variance, was not significant, $F(1, 85) = .99$, $p > .05$ (see Table 21), and none of the individual predictors in that analysis were significant.

Finally, I computed a difference score for each participant by subtracting his or her mean outgroup entitativity score from the mean ingroup entitativity score. Larger values on the difference score indicated greater entitativity for ingroups than outgroups. This difference score was then regressed on whether participants were included or excluded, the five personality traits, participant sex, and the sex composition of each experimental group. Several of the two-way interactions among these variables were entered into the analysis in a second step. The overall analysis was not significant, $F(13, 85) = .69$, $p > .05$ (see Table 22), and explained just 10% of the variance. None of the individual predictors were significant.

General Discussion

Entitativity has become a popular topic among social psychologists, but most research on entitativity has focused on the properties of groups that affect how real they seem to observers. Although this work is important, it neglects characteristics of perceivers that might influence how they evaluate group entitativity. The studies described here examined how entitativity is affected by the personalities or experiences of perceivers.

To explore the relationship between personality and judgments of group entitativity, three studies were conducted. Six personality traits were selected that seemed likely to affect

entitativity judgments. These were the need to belong, personal need for structure, need for closure, self-monitoring, individualism/collectivism, and cognitive complexity. In the first study, the psychometric properties of scales measuring these six traits were examined. For the most part, the reliability of these scales was acceptable. My participants tended to score high in collectivism and cognitive complexity, but low in need for closure and self-monitoring, when their scores were compared with those from other studies. Their scores on the personal need for structure were similar to those found in other studies. My participants were somewhat high in the need to belong, self-monitoring, collectivism, and cognitive complexity, but somewhat low in the personal need for structure and need for closure, when their scores were compared with the midpoints of the relevant scales.

There were several significant correlations among the personality scales. Scores on the cognitive complexity measure were weakly correlated with scores on the other scales, and given that participants found this measure confusing, I decided to replace it with a new measure of cognitive complexity after the first study. Scores on the personal need for structure scale and the need for closure scale were highly correlated with each other, suggesting that they really measured the same construct. Scores on the need to belong scale were correlated with scores on scales that measured the personal need for structure, need for closure, and collectivism.

I conducted a confirmatory factor analysis on each scale to test whether published factor structures were tenable in my sample. In all of these analyses, the chi-square goodness of fit index suggested poor fit. Because of problems with the chi-square index, though, I relied on other fit indices with more desirable properties (e.g., CFI, RMSEA, and SRMR). These indices suggested acceptable fit for the scales measuring need for closure, self-monitoring, and collectivism. Fit for the scale measuring personal need for structure was poor. There were no published factor structures for the scales measuring the need to belong or cognitive complexity, so these scales were analyzed with a one-factor solution. This solution was tenable for the need to belong scale, but not for the measure of cognitive complexity. Despite poor fit for one of

the scales, I decided to rely (whenever possible) on the published factor structures in my analyses. This allowed me to compare my results with those from other studies, now and probably in the future.

Finally, I conducted a higher-order factor analysis to test whether broader factors might underlie the six personality scales. The results supported two such factors, namely cognition and affect. The higher-order cognitive factor contained lower-order factors related to personal need for structure, self-monitoring, and cognitive complexity, and the higher-order affective factor contained lower-order factors related to the need to belong and collectivism.

In my second study, participants completed several of the same personality scales, as well as two group judgment tasks in which they evaluated slides of groups and a list of groups on several characteristics related to entitativity.

The means and standard deviations for responses to the personality scales were similar to those found in Study 1, and all of the scales again had good reliability. Correlations among the personality traits and the group judgments were assessed. Entitativity ratings for the two group judgment tasks were highly correlated with each other, suggesting that there might well be individual differences in entitativity judgments.

I then conducted several multiple regression analyses, focusing first on the slide rating task. The need to belong was significantly correlated with how participants evaluated entitativity in the slides. Participants with a stronger need to belong rated those groups as more entitative. This was not the case, however, for evaluations on the list of groups. Perhaps participants could more easily see the "symptoms" of entitativity, such as how similar people are to each other and how close together they stand, while looking at pictures of groups. However, this does not explain why the other personality traits were not good predictors. Scores on the slide entitativity index were also predicted by an interaction between self-monitoring and personal need for structure. When levels of self-monitoring were low, participants with less need for structure rated groups in the slides as more entitative, but when levels of self-monitoring were

59

high, participants with more need for structure rated the groups as more entitative. Finally, the two higher-order factors were also used as predictors of the slide entitativity index. Neither the cognitive nor the affective factors were significant predictors.

A second set of multiple regression analyses focused on ratings of the 40 groups. I first used each of the other group dimensions to predict the entitativity dimension. Interaction among group members and the importance of the group for its members had the strongest impact on entitativity ratings, and group size had the weakest impact. I then looked for natural clusters among the 40 groups. Unlike Lickel et al. (2000), who found that those groups belonged to five broad clusters, I found only two such clusters. These two clusters, labeled meaningful and meaningless groups, differed in important ways on factors related to entitativity. For example, meaningful groups were rated as more entitative, more important to their members, and less permeable.

The effects of the personality traits on entitativity index scores for each of these two clusters were also examined. Few significant results emerged. However, the overall entitativity index scores for both clusters were predicted by an interaction between collectivism and cognitive complexity. Cognitively simpler participants rated meaningful groups as more entitative when they were more individualistic, but they rated meaningless groups as more entitative when they were more collectivistic. It may be that people with higher levels of collectivism are more accustomed to thinking about groups, and so even meaningless groups have some degree of entitativity. Individualists, in contrast, may be more selective about how they define groups, because they do not think about them as much. These differences may be magnified when people's level of cognitive complexity declines. The higher-order cognitive and affective factors were not significant predictors of the entitativity index scores for either meaningful or meaningless groups.

Finally, I analyzed differences between ingroups and outgroups on the entitativity index. In general, outgroups were rated as more entitative than ingroups, contrary to what some

researchers (e.g., Brewer & Harasty, 1996) have hypothesized. Next, personality traits were used to predict entitativity ratings for each type of group. Self-monitoring emerged as a significant predictor of both ingroup and outgroup entitativity. High self-monitors rated their ingroups as more entitative, whereas low self-monitors rated their outgroups as more entitative. Higher self-monitors pay greater attention to social cues, and this may be especially true for cues associated with other ingroup members. It would be advantageous, for example, for higher self-monitors to note the ways in which ingroup members are both similar to and different from each other. Paying attention to such distinctions among outgroup members is probably less beneficial, however, and so they are viewed as all the same by high self-monitors, which leads to stronger entitativity ratings for outgroups.

Finally, the difference between ingroup and outgroup entitativity scores was predicted by an interaction between collectivism and personal need for structure. When the need for structure was low, individualists rated their outgroups as more entitative, but when the need for structure was high, collectivists rated their outgroups as more entitative.

In my third study, the need to belong was experimentally manipulated by including or excluding participants in an electronic ball-toss game. This manipulation was generally successful. For example, excluded participants felt less like they belonged to their experimental groups, more ignored by their partners, and less noticed by their partners. There were no differences in mood, however, between the inclusion and exclusion conditions.

Again, entitativity was measured by having participants evaluate slides of groups and a list of groups on several characteristics related to entitativity. One set of multiple regression analyses focused on the slide ratings. Included and excluded participants evaluated the groups in the slides in similar ways, but once again, participants higher in the need to belong evaluated those groups as more entitative. No other personality traits were significant predictors, and neither the cognitive nor the affective higher-order factors significantly predicted the slide ratings.

I again used each of the other group dimensions to predict the entitativity dimension. Interaction among group members again emerged as the strongest predictor, followed by a group's duration. A group's size and its importance to members had the weakest impact. Two clusters of groups (meaningful and meaningless) were again identified, and the same groups fell into these clusters as before. These clusters differed in several ways, just like before. For example, meaningful groups were again rated as more entitative, more important to their members, and less permeable. Inclusion and exclusion also had some effects on how these clusters were rated. Included participants rated the members of groups in both clusters as sharing more goals than did excluded participants, and included participants rated meaningful groups as larger than meaningless groups.

I also examined the relationships between the personality traits and ratings of the two clusters, again using multiple regression analyses. A few significant findings emerged. Collectivists tended to rate meaningful groups as more entitative, consistent with my hypothesis. And included participants rated meaningless groups as more entitative as their levels of self-monitoring increased. The higher-order affective factor also emerged as a significant predictor of meaningful groups. Participants who scored higher on the affective factor rated meaningful groups as more entitative.

Finally, outgroups were again evaluated as more entitative than ingroups, regardless of whether participants were included or excluded in the ball-toss game. None of the personality traits significantly predicted either ingroup or outgroup entitativity ratings. However, the gender composition of the experimental groups predicted ingroup entitativity. When the number of women in an experimental group increased, ingroups were rated as more entitative. None of the personality traits predicted the difference between scores on the ingroup and outgroup entitativity indices either, nor were there any other significant predictors.

The results of these studies confirmed some of my hypotheses and highlighted some noteworthy relationships. First, researchers have only speculated about the relationship

between entitativity and the need to belong (cf. Brewer & Harasty, 1996). No one has tested that relationship before. My studies showed that the two variables are positively correlated, at least when participants rate pictures of groups. And self-monitoring was an important predictor of how participants rated the 40 groups. Both of these results suggest that some personality traits may indeed influence how real groups seem. Second, outgroups were consistently rated as more entitative than ingroups, a finding contrary to what has been predicted. Some researchers have argued that ingroups should be more entitative than outgroups because they are more valuable to people and have a greater impact on their social identities. The fact that outgroups were rated as more entitative is an interesting finding that should be explored further, especially for its implications regarding intergroup relations. If outgroups are rated as more entitative than ingroups, for example, then they may also be perceived as more threatening (see Abelson, Dasgupta, Park, & Banaji, 1998).

My main concern about these studies is that their results were not stronger. The personality traits were chosen for their potential relevance to entitativity, but they were not strongly related to how participants evaluated the groups. The need to belong did emerge as a predictor of entitativity, but only for the slide evaluation task. And self-monitoring emerged as a predictor of entitativity, but only for the group rating task. It is not clear why the other personality variables performed poorly, although it is worth noting that personality traits have correlated weakly with behavior in many other studies (see Mischel, 1968). There are at least three explanations why my results were not stronger.

One explanation is that there is too little trait variance among college students. Low variability would make it difficult to discover significant relationships between traits and entitativity ratings. If that were the case, then more diverse samples would be needed. However, additional analyses showed no significant differences between the top and bottom quartiles of participants for each trait in the way they rated group entitativity. And there did not seem to be any relationship between the standard errors for the traits and their impact on

entitativity judgments. Thus, low trait variance does not seem to be a satisfactory explanation for why the personality traits were not better predictors of judgments about groups.

A second explanation is that personality traits may matter only when judgmental accuracy is important. In these studies, there was no incentive for participants to worry about the accuracy of their judgments about the groups, and so they may not have cared too much about those judgments. There are times when accuracy matters (e.g., detecting groups that misbehave or couples that are involved in illicit affairs), and personality may have a stronger impact at those times. Yet this explanation fails to account for why other researchers have found significant results in their studies of entitativity. In many of those studies, accuracy was presumably of little concern, just as in my studies…

A final explanation is that personality traits may have their greatest impact when judgments are ambiguous. Judging the similarity of people who are standing together in a picture may not be an ambiguous or difficult task. Thus, individual differences may have only a small effect on how such people are perceived. But in other situations, when the physical similarity or proximity of group members is more difficult to assess, personality traits may have a stronger effect on judgments about groups. Indeed, making judgments about group entitativity can be a complex task, because people must process many "symptoms" of groupiness, and those symptoms can change from moment to moment or from group to group. If the entitativity judgments in my studies had been more complex, then personality traits might have proven to be more important.

In general, the personality scales worked as they were meant to in these studies. One concern, though, was the difficulty that I had finding a good measure of cognitive complexity. That trait was measured with two different scales, but neither one was related to entitativity judgments. Why? One explanation involves the types of stimuli that comprised the cognitive complexity measures. On the first measure, participants judged individuals on several dimensions. Thus, this scale measured cognitive complexity about <u>individuals</u>, not groups.

Only one study has examined cognitive complexity about <u>groups</u> using a measure of this type (see Koenig, 1975), but that study focused on the relationship between complexity and liked versus disliked groups. Koenig found that people think about groups that they dislike in more cognitively complex ways than they do about groups that they like. If cognitive complexity is domain-specific, as Vannoy (1965) argued, then it is unlikely that a complexity measure that focuses on individuals would adequately predict judgments about groups. The stimuli in the second, paragraph completion measure of cognitive complexity were even further removed from groups. Those stimuli tapped abstract concepts, such as rules and personal criticism, which have no obvious connection to how group entitativity is evaluated. Thus, when studying entitativity, more appropriate measures of cognitive complexity about groups should be created and used. For example, instead of evaluating individuals on the first measure, participants could have been asked to evaluate different types of groups.

There are various directions that future research can take, including tests of other personality characteristics that might affect entitativity, tests using more dynamic methods to measure entitativity, and tests of environmental factors that could influence entitativity judgments. Each of these will be discussed briefly.

My studies showed that the need to belong is a predictor of how people evaluate group entitativity. There are other personality traits that might be important. Such traits include right-wing authoritarianism, social dominance, and the tendency to identify with groups. People who are higher in right-wing authoritarianism tend to be more prejudiced (Altemeyer, 1981), and thus are more likely to notice certain types of groups in their environment. This is consistent with research showing that prejudiced people tend to "see" members of groups against which they are prejudiced. Scodel & Austrin (1959), for example, found that authoritarianism was linked with a tendency to label individuals in photographs as Jewish, even though such judgments were often inaccurate. People also vary in their social dominance orientation. Those with a stronger dominance orientation are more prejudiced than those with a weaker orientation

(Guimond, Dambrun, Michinov, & Duarte, 2003), again suggesting that they might be vigilant for particular kinds of groups. Finally, some people base a large part of their self-esteem on group memberships. Luhtanen and Crocker (1989), for example, have argued that one component of collective self-esteem is how important group memberships are in general to a person's self-concept. Because group memberships are such an important component of the self for some people, those people may have a predisposition to perceive groups in their environment.

Experience in groups may be another important individual difference, because it gives people "practice" with groups and their members. That practice enables them to learn what groups are, what makes them more or less entitative, and so on. As people gain more experience with groups, they may evaluate entitativity in more sophisticated ways. Indeed, the results from Study 3 showed that the number of groups to which people belonged significantly predicted how they rated meaningful and meaningless groups. Experience can also reflect the quality of group memberships. Whether group memberships are positive or negative, and how strongly people identify with the groups to which they belong, may affect how entitative other groups seem. For example, people who strongly identify with their own groups may view outgroups as more entitative, because they perceive those outgroups as more threatening.

Although more research on perceiver characteristics is important, it would be unfortunate if such work became a blind exploration of all possible personality traits, or traits that are popular at the moment, such as the Big Five. Instead, future research should be guided by theory about personality and entitativity. Unfortunately, there is no theory of this type, making the selection of appropriate personality traits difficult.

Another alternative would be to examine the same set of personality traits tested here, but using more dynamic methods to measure entitativity. Judging static photographs of groups, or reading a list of groups and then rating them, probably does not reflect how people judge groups in the real world. Such a presentation allows researchers to control for extraneous variables that might influence entitativity judgments, but control is achieved at the expense of

66

realism. People are constantly processing dynamic information about groups, perhaps even without awareness. They see others walking down streets, sometimes in the same direction, sometimes not. These people may or may not appear similar to each other, and their proximity to one another varies as they walk. With such complex and changing cues, how do people decide whether a group exists? And once that decision is made, is it stable or does it change as new information is received? These are questions that cannot be answered using the procedures I employed. A more appropriate strategy would be to gather on-line information from participants as they watch others, either live or on videotape. For example, participants might be asked to watch other people walking on a city street or shopping in a mall and then make judgments about their entitativity. By describing how they make such decisions, people may reveal some of the complexities that are involved.

A more dynamic method of studying entitativity would also allow people to observe interactions among group members. Recall that interaction was always the most important predictor of entitativity judgments in the group rating task. Other studies have also described the importance of interaction for determining how people behave toward members of a group. Cheyne and Efran (1972), for example, found that passersby are less likely to walk between two interacting rather than non-interacting persons. Presumably, the people who were interacting seemed more like a group. Levels of interaction are minimal in static photographs like those used in Studies 2 and 3. By showing people videos of group members interacting with each other, researchers could study how and why interaction is important for entitativity. For example, researchers could test the amount of interaction that is necessary and sufficient for groups to be perceived as real, the types of interaction (e.g., cooperative and informal) that make groups seem more real, and so on.

In a related vein, researchers could examine the role of coordinated action among group members who are not necessarily close to each other in time or space. For example, some group members might try to distract an authority's attention away from other members who are

misbehaving elsewhere. The two sets of members may seem like separate groups to observers, yet the coordinated nature of their behavior ties them together. The group's social integration is thus high, but its entitativity is low.

Another way that entitativity could be measured might involve adaptations of the structural-hole paradigm (Freeman, 1992). Participants could be asked to watch a video of group members interacting with each other. Later on, they would recall the "connections" among members (e.g., who talked to each other, which members were friends, and so on). The groups observed could vary in their entitativity. Some groups might be described as families (higher entitativity), while others are described as task groups or social categories (lower entitativity). When participants try to recall the relationships among members, there should be fewer holes (missing connections) in groups with higher entitativity. Thus, participants might believe there are more ties among members of entitative groups.

As I noted earlier, most entitativity research has focused on properties of groups that affect how groupy they seem. Not only have personality traits been neglected in this research, but so have environmental factors that influence how people perceive groupiness. Future research should thus explore the role of the environment in entitativity judgments as well. A group of people may seem strongly entitative when other groups are nearby, but not when they are surrounded by individuals or aggregates.   Whether or not those other groups are interacting with each other, and the nature of that interaction, may also be important factors. A group's physical environment could also affect how real the group seems. For example, a group of people may seem groupier in a small versus a large room. And if there is a lot of "noise" in the environment, then observers may be distracted and thus less likely to notice groups. Similarly, some environments may produce arousal in observers, which could narrow their focus of attention, leading them to overlook groups.

These ideas for future research all suggest that perceptions and reality can be quite different. Individual, group, and environmental characteristics can affect people's judgments

about entitativity. Because there is often a gap between perceptions of groups and their reality, groups should be able to manage impressions about themselves. Moreland and McMinn (in press) argued that groups sometimes want to seem more or less entitative than they actually are. For example, members of political minorities may want to attract attention and seem more powerful than they are, and so they try to seem more entitative to others. In contrast, members of terrorist organizations and illicit romances may want to avoid detection by seeming less entitative to others. The extent to which groups are successful in managing impressions may depend on the personality characteristics of the impression management targets. One implication of my studies is that people with a higher need to belong or higher levels of self-monitoring (who see more entitativity in others) may be more convinced by groups that want to seem more entitative, but less convinced by groups that want to seem less entitative.

The concept of entitativity was introduced in the late 1950s, but its impact on the study of groups is relatively recent. Existing research has highlighted characteristics of groups that influence how entitative they seem, and what consequences that perception has for information processing, social cognition, and behavior. Interest in how groups are perceived and why those perceptions matter continues to grow. Before an adequate theory of group entitativity can be developed, however, researchers must do more to understand how perceiver (and group and environmental) characteristics affect judgments about group entitativity.

Table 1

Correlations Among the Personality Scales in Study 1

	1	2	3	4	5	6
1. Need to belong	(.80)					
2. Personal need for structure	.22*	(.86)				
3. Need for closure	-.13*	.76*	(.80)			
4. Self-monitoring	.08	-.18*	.04	(.70)		
5. Individualism/ Collectivism	.24*	-.07	.08	.17*	(.71)	
6. Cognitive complexity[a]	.04	.08	-.06	.10	.08	(.70)

* $p < .01$.   Reliability estimates (coefficient alpha) are reported in parentheses.

[a] Bieri's modified REP-Test scale.

Table 2

Fit Indices for the Published Personality Factor Structures Using Confirmatory Factor Analysis

Personality Trait	χ^2	SRMR	CFI	RMSEA
Need to belong	148.6	.01	.90	.09
Personal need for structure	794.9	.44	.94	.18
Need for closure	2428.6	.10	.96	.07
Self-monitoring	604.6	.05	.97	.06
Individualism/ Collectivism	1272.5	.12	.97	.09
Cognitive complexity[a]	54.5	2.09	.63	.05

[a] Bieri's modified REP-Test scale.

Table 3

Correlations among the Personality Scales and the Entitativity Indices for the Slide Ratings and Group Ratings, Study 2

	1	2	3	4	5	6	7
1. Need to belong	--						
2. Personal need for structure	.523*	--					
3. Self-monitoring	.015	-.238*	--				
4. Collectivism	.202*	.198*	-.098	--			
5. Cognitive complexity[a]	-.085	-.049	-.024	-.046	--		
6. Slide entitativity index	.176	.045	-.023	-.009	.053	--	
7. Group ratings index	.229*	.083	.102	-.091	.096	.686*	--

* p < .05.

[a] Sentence completion paradigm (Suedfeld et al., 1992).

Table 4

Summary of Regression Analysis for Variables Predicting Slide Ratings, Study 2

Predictors	B	ß	t	p
Step 1				
Need to belong	.10	.23	2.07	.04
Personal need for structure	-.02	-.07	-.58	.56
Self-monitoring	-.01	-.02	-.24	.81
Individualism/Collectivism	-.04	-.05	-.56	.58
Cognitive complexity	.04	.07	.78	.44
Step 2				
Belong x Structure	.06	.14	1.34	.18
Belong x Self-monitoring	-.14	-.19	-1.43	.15
Belong x Collectivism	.14	.17	1.36	.18
Belong x Cognitive complexity	.05	.07	.59	.56
Structure x Self-monitoring	.15	.35	2.66	.01
Structure x Collectivism	.00	-.01	-.05	.96
Structure x Cognitive complexity	.00	.00	.00	1.00
Self-monitoring x Collectivism	.05	.05	.39	.70
Self-monitoring x Cognitive complexity	.02	.02	.20	.84
Collectivism x Cognitive complexity	-.12	-.09	-.84	.41

Total R^2 = .15   Adjusted R^2 = .03 $F (15, 105) = 1.23$, $p > .05$

Table 5

Median Correlations Among the Group Ratings Dimensions, Study 2

Dimension	1	2	3	4	5	6	7	8	9
1. Entitativity	--								
2. Interaction	.57 (.58)	--							
3. Importance	.56 (.50)	.58 (.63)	--						
4. Outcomes	.34 (.37)	.45 (.42)	.32 (.36)	--					
5. Goals	.40 (.41)	.42 (.47)	.39 (.49)	.47 (.47)	--				
6. Similarity	.42 (.45)	.48 (.49)	.44 (.45)	.39 (.42)	.39 (.42)	--			
7. Duration	.28 (.11)	.08 (.17)	.37 (.30)	-.14 (-.05)	-.06 (.00)	.11 (.14)	--		
8. Size	-.06 (-.20)	-.32 (-.26)	.02 (-.07)	-.35 (-.29)	-.19 (-.17)	-.21 (-.27)	.51 (.50)	--	
9. Permeability	-.35 (-.15)	-.32 (-.37)	-.38 (-.37)	-.22 (-.14)	-.19 (-.15)	-.17 (-.20)	-.32 (-.37)	-.04 (-.02)	--

Note: Values in parentheses are the median correlations reported by Lickel et al. (2000).

74

Table 6

Comparison of the Median Standardized Beta Weights for the Group Ratings Dimensions

Across Studies

Dimension	Lickel et at. (2000)	Study 2	Study 3
1. Interaction	.29	.25	.35
2. Importance	.16	.17	.04
3. Outcomes	.07	.08	.11
4. Goals	.08	.09	.10
5. Similarity	.13	.07	.09
6. Duration	.05	.10	.16
7. Size	-.02	.04	.03
8. Permeability	-.01	-.08	-.08
Median R	.70	.80	.83

Table 7

Analysis of Mean Ratings on the Nine Entitativity Dimensions for Meaningful and

Meaningless Groups, Study 2

Dimension	Meaningful Groups	Meaningless Groups	*t*
Entitativity	6.35	2.54	28.89*
	(1.10)	(1.68)	
Interaction	6.28	1.92	43.88*
	(.80)	(1.00)	
Importance	5.94	1.85	34.41*
	(1.01)	(1.12)	
Outcomes	4.89	3.29	9.23*
	(.94)	(2.15)	
Goals	5.98	3.73	12.57*
	(.90)	(2.12)	
Similarity	4.39	1.85	28.03*
	(.94)	(1.07)	
Duration	5.45	1.52	43.62*
	(.70)	(.93)	
Size	4.84	3.07	21.24*
	(.94)	(1.37)	
Permeability	5.16	8.36	-24.14*
	(.67)	(1.39)	

Note: Standard deviations are reported in parentheses.

* $p < .001$

Table 8

Summary of Multiple Regression Analysis for Variables Predicting Ratings for Meaningful

Groups, Study 2

Predictors	B	β	t	p
Step 1				
Need to belong	.57	.09	.80	.43
Personal need for structure	.38	.09	.81	.42
Self-monitoring	-.16	-.02	-.21	.83
Individualism/Collectivism	.07	.01	.08	.94
Cognitive complexity	.70	.09	.95	.35
Step 2				
Belong x Structure	.45	.07	.69	.49
Belong x Self-monitoring	-1.95	-.18	-1.37	.17
Belong x Collectivism	1.95	.15	1.23	.22
Belong x Cognitive complexity	-1.57	-.15	-1.28	.20
Structure x Self-monitoring	.68	.11	.80	.42
Structure x Collectivism	-.24	-.03	-.25	.80
Structure x Cognitive complexity	.98	.13	1.05	.30
Self-monitoring x Collectivism	3.28	.23	1.71	.09
Self-monitoring x Cognitive complexity	-1.12	-.07	-.70	.49
Collectivism x Cognitive complexity	-4.78	-.23	-2.16	.03

Total R^2 = .15   Adjusted R^2 = .02 F (15, 105) = 1.19, p > .05

Table 9

Summary of Multiple Regression Analysis for Variables Predicting Ratings for Meaningless

Groups, Study 2

Predictors	B	ß	t	p
Step 1				
Need to belong	.23	.09	.84	.40
Personal need for structure	.16	.10	.87	.39
Self-monitoring	-.09	-.03	-.32	.75
Individualism/Collectivism	-.59	-.15	-1.61	.11
Cognitive complexity	.07	.02	.26	.80
Step 2				
Belong x Structure	-.19	-.08	-.75	.45
Belong x Self-monitoring	-.71	-.17	-1.27	.21
Belong x Collectivism	.24	.05	.38	.71
Belong x Cognitive complexity	.40	.10	.84	.41
Structure x Self-monitoring	.47	.19	1.42	.16
Structure x Collectivism	.04	.01	.10	.92
Structure x Cognitive complexity	-.02	-.01	-.07	.95
Self-monitoring x Collectivism	.20	.04	.26	.80
Self-monitoring x Cognitive complexity	-.62	-.10	-.98	.33
Collectivism x Cognitive complexity	-1.81	-.22	-2.09	.04

Total R^2 = .11   Adjusted R^2 = .00 $F(5, 115) = .89$, $p > .05$

Table 10

Summary of Multiple Regression Analysis for Variables Predicting Ingroup Entitativity, Study 2

Predictors	B	ß	t	p
Step 1				
Need to belong	.23	.06	.58	.57
Personal need for structure	.23	.10	.87	.38
Self-monitoring	1.28	.29	3.05	.00
Individualism/Collectivism	.15	.03	.27	.79
Cognitive complexity	-.02	-.00	-.04	.97
Step 2				
Belong x Structure	.29	.08	.80	.43
Belong x Self-monitoring	-.70	-.11	-.87	.38
Belong x Collectivism	.89	.12	.99	.32
Belong x Cognitive complexity	-1.02	-.16	-1.48	.14
Structure x Self-monitoring	.02	.01	.04	.97
Structure x Collectivism	-1.06	-.25	-1.93	.06
Structure x Cognitive complexity	.96	.21	1.82	.07
Self-monitoring x Collectivism	1.29	.15	1.19	.24
Self-monitoring x Cognitive complexity	.28	.03	.31	.76
Collectivism x Cognitive complexity	-1.54	-.13	-1.23	.22

Total R^2 = .19   Adjusted R^2 = .07 $F (15, 105) = 1.64$, $p < .08$

Table 11

Summary of Multiple Regression Analysis for Variables Predicting Outgroup Entitativity, Study 2

Predictors	B	ß	t	p
Step 1				
Need to belong	.37	.09	.82	.41
Personal need for structure	-.02	-.01	-.08	.94
Self-monitoring	-1.63	-.32	-3.45	.00
Individualism/Collectivism	-.49	-.07	-.81	.42
Cognitive complexity	.90	.17	1.90	.06
Step 2				
Belong x Structure	.06	.02	.15	.89
Belong x Self-monitoring	-.72	-.10	-.77	.44
Belong x Collectivism	.65	.08	.63	.53
Belong x Cognitive complexity	.16	.02	.20	.84
Structure x Self-monitoring	.71	.16	1.29	.20
Structure x Collectivism	.90	.19	1.41	.16
Structure x Cognitive complexity	-.27	-.05	-.45	.65
Self-monitoring x Collectivism	.43	.04	.34	.73
Self-monitoring x Cognitive complexity	-.54	-.05	-.51	.61
Collectivism x Cognitive complexity	-1.30	-.09	-.90	.37

Total R^2 = .20   Adjusted R^2 = .08 $F(15, 105) = 1.69$, $p < .07$

Table 12

Summary of Multiple Regression Analysis for Variables Predicting Ingroup Versus

Outgroup Entitativity, Study 2

Predictors	B	ß	t	p
Step 1				
Need to belong	-.09	-.01	-.12	.90
Personal need for structure	.26	.05	.50	.62
Self-monitoring	3.38	.38	4.16	.00
Individualism/Collectivism	.58	.05	.55	.58
Cognitive complexity	-.88	-.09	-1.09	.28
Step 2				
Belong x Structure	.20	.03	.28	.78
Belong x Self-monitoring	.05	.00	.03	.97
Belong x Collectivism	.02	.00	.01	.99
Belong x Cognitive complexity	-1.54	-.12	-1.13	.26
Structure x Self-monitoring	-.83	-.11	-.88	.38
Structure x Collectivism	-2.11	-.25	-1.95	.05
Structure x Cognitive complexity	1.53	.17	1.47	.14
Self-monitoring x Collectivism	.85	.05	.40	.69
Self-monitoring x Cognitive complexity	1.17	.07	.66	.51
Collectivism x Cognitive complexity	-.30	-.01	-.12	.90

Total R^2 = .22   Adjusted R^2 = .11 $F (15, 105) = 1.95, p < .05$

Table 13

Responses on the Manipulation Check Items, Study 3

	Inclusion		Exclusion		
Item	*M*	*SD*	*M*	*SD*	*t*
How much do you feel you belonged to the group in this game?	6.04	2.39	3.40	1.69	6.38*
How true is the statement 'Life is meaningless'?	2.22	1.83	2.04	2.01	.47
How true is the statement 'I am in control of my life'?	6.26	2.03	6.22	2.37	.09
To what extent do you think the other participants value you as a person?	5.00	2.08	4.42	1.87	1.47
How much did you like the other players?	5.80	1.98	4.74	1.76	2.83*
How much do you think the other players liked you?	5.46	1.82	4.38	1.74	2.63*
How much did you enjoy playing this game?	4.16	2.51	3.59	1.94	1.12
To what extent did you feel that you were being ignored or excluded by the other participants?	3.64	2.15	6.82	1.79	-8.04*
To what extent did you feel that you were being noticed or included by the other participants?	6.12	1.97	3.82	1.71	6.24*

Note: * $p \leq .01$

Table 14

Means and Standard Deviations for the Differential Emotion Scale + Affect

Category		Inclusion	Exclusion
Enjoyment-Joy [Items: delighted, joyful, happy, pleasant comfortable, at ease, relaxed, secure]	4.65	4.22 (1.24)	(1.12)
Distress-Anguish [Items: downhearted, sad, upset]		2.23 (1.29)	2.13 (1.30)
Anxiety [Items: overexcited, anxious, afraid nervous, tense, worried, scared, jittery]		2.41 (.97)	2.29 (1.07)
Anger [Items: enraged, scornful, angry, mad]		1.61 (.96)	1.48 (.63)
Disgust [Items: distaste, disgusted, revulsion]		2.07 (.95)	1.85 (.81)
Contempt [Items: contemptuous, disdainful]		2.15 (1.07)	2.00 (.75)
Surprise [Items: surprised, astonished, amazed]		2.06 (1.10)	2.27 (1.18)
Shyness [Items: sheepish, shy, bashful]		2.47 (1.22)	2.78 (1.27)

Note: Standard deviations are reported in parentheses.

Table 15

Summary of Multiple Regression Analysis for Variables Predicting Slide Ratings, Study 3

Predictors	B	ß	t	p
Step 1				
Inclusion/Exclusion	.07	.10	1.00	.32
Need to belong	.10	.19	1.85	.07
Personal need for structure	-.01	-.02	-.23	.82
Self-monitoring	.00	-.01	-.06	.95
Individualism/Collectivism	-.06	-.08	-.77	.45
Gender	.06	.09	.87	.39
Group gender composition	.00	-.06	-.38	.71
Step 2				
Inclusion/Exclusion x Belonging	.15	.20	1.39	.17
Inclusion/Exclusion x Structure	-.10	-.19	-1.32	.19
Inclusion/Exclusion x Self-monitoring	.01	.01	.06	.95
Inclusion/Exclusion x Collectivism	.03	.03	.19	.85
Inclusion/Exclusion x Gender	.08	.10	.55	.59
Inclusion/Exclusion x Gender composition	.00	-.12	-.39	.70

Total R^2 = .10   Adjusted R^2 = .00 $F_{(13, 85)} = .73$, $p > .05$

Table 16

Median Correlations Among the Group Ratings Dimensions, Study 3

	1	2	3	4	5	6	7	8	9
1. Entitativity	--								
2. Interaction	.66 (.58)	--							
3. Importance	.26 (.50)	.26 (.63)	--						
4. Outcomes	.41 (.37)	.53 (.42)	.16 (.36)	--					
5. Goals	.43 (.41)	.49 (.47)	.30 (.49)	.52 (.47)	--				
6. Similarity	.45 (.45)	.52 (.49)	.20 (.45)	.42 (.42)	.43 (.42)	--			
7. Duration	.33 (.11)	.13 (.17)	.02 (.30)	-.06 (-.05)	.05 (.00)	.18 (.14)	--		
8. Size	-.04 (-.20)	.07 (-.26)	-.09 (-.07)	.14 (-.29)	.05 (-.17)	.08 (-.27)	-.37 (.50)	--	
9. Permeability	.34 (-.15)	.36 (-.37)	.19 (-.37)	.18 (-.14)	.22 (-.15)	.20 (-.20)	.26 (-.37)	-.12 (-.02)	--

Note: Values in parentheses are the median correlations reported by Lickel et al. (2000).

Table 17

Means and Standard Deviations for Group Ratings Dimensions Across Meaningful and

Meaningless Groups, Study 3

Dimension	Meaningful Groups		Meaningless Groups	
	Inclusion	Exclusion	Inclusion	Exclusion
Entitativity	6.55 (1.08)	6.33 (1.24)	2.70 (.59)	2.44 (.49)
Interaction	6.41 (1.56)	6.33 (1.63)	1.93 (.12)	1.77 (.17)
Importance	6.15 (1.32)	5.93 (1.47)	1.84 (.23)	1.79 (.41)
Shared outcomes	4.90 (1.62)	4.74 (1.75)	3.15 (.42)	2.54 (.03)
Goals	6.35 (1.24)	6.11 (1.46)	3.79 (.27)	2.98 (.47)
Similarity	4.55 (1.29)	4.47 (1.37)	1.87 (.43)	1.65 (.44)
Duration	5.38 (1.88)	5.41 (1.95)	1.45 (.24)	1.35 (.29)
Size	4.94 (2.18)	4.79 (2.14)	3.05 (1.33)	3.59 (1.49)

Table 17 (cont)

Dimension	Meaningful Groups		Meaningless Groups	
	Inclusion	Exclusion	Inclusion	Exclusion
Permeability	5.05 (1.28)	5.11 (1.44)	7.97 (.07)	8.21 (.19)

Note: Standard deviations are reported in parentheses.

Table 18

Summary of Multiple Regression Analysis for Variables Predicting Ratings of Meaningful

Groups, Study 3

Predictors	B	$ß$	t	p
Step 1				
Inclusion/Exclusion	.11	.12	1.20	.23
Need to belong	.09	.13	1.32	.19
Personal need for structure	-.02	-.04	-.38	.71
Self-monitoring	.06	.07	.67	.51
Individualism/Collectivism	.18	.19	1.92	.06
Gender	-.01	-.02	-.14	.89
Group gender composition	.00	-.18	-1.10	.28
Step 2				
Inclusion/Exclusion x Belonging	-.04	-.04	-.32	.75
Inclusion/Exclusion x Structure	.01	.01	.09	.93
Inclusion/Exclusion x Self-monitoring	-.15	-.12	-.87	.39
Inclusion/Exclusion x Collectivism	-.07	-.05	-.34	.73
Inclusion/Exclusion x Gender	.19	.17	.95	.34
Inclusion/Exclusion x Gender composition	.00	.33	1.08	.29

Total R^2 = .12   Adjusted R^2 = .00 $F (13, 85) = .89, p > .05$

Table 19

Summary of Multiple Regression Analysis for Variables Predicting Ratings of Meaningless

Groups, Study 3

Predictors	B	β	t	p
Step 1				
Inclusion/Exclusion	.35	.23	2.29	.02
Need to belong	.10	.09	.85	.40
Personal need for structure	.11	.14	1.35	.18
Self-monitoring	.00	.00	-.03	.97
Individualism/Collectivism	-.10	-.06	-.61	.54
Gender	.04	.03	.28	.78
Group gender composition	.00	.08	.50	.62
Step 2				
Inclusion/Exclusion x Belonging	.06	.04	.28	.78
Inclusion/Exclusion x Structure	.02	.02	.13	.90
Inclusion/Exclusion x Self-monitoring	-.49	-.22	-1.71	.09
Inclusion/Exclusion x Collectivism	-.08	-.03	-.24	.81
Inclusion/Exclusion x Gender	.38	.20	1.18	.24
Inclusion/Exclusion x Gender composition	.01	.44	1.51	.14

Total R^2 = .21   Adjusted R^2 = .08 $F (13, 85) = 1.68, p < .10$

Table 20

Summary of Multiple Regression Analysis for Variables Predicting Ingroup Ratings, Study 3

Predictors	B	ß	t	p
Step 1				
Inclusion/Exclusion	.04	.02	.22	.83
Need to belong	.19	.15	1.52	.13
Personal need for structure	.02	.03	.28	.78
Self-monitoring	.12	.08	.75	.46
Individualism/Collectivism	.14	.08	.80	.43
Gender	-.05	-.03	-.29	.77
Group gender composition	.00	.22	2.13	.04
Step 2				
Inclusion/Exclusion x Belonging	.16	.09	.62	.54
Inclusion/Exclusion x Structure	.11	.08	.60	.55
Inclusion/Exclusion x Self-monitoring	-.18	-.07	-.55	.59
Inclusion/Exclusion x Collectivism	.04	.01	.10	.92
Inclusion/Exclusion x Gender	.07	.03	.19	.85
Inclusion/Exclusion x Gender composition	.01	.56	1.87	.07

Total R^2 = .16   Adjusted R^2 = .03 $F_{(13, 85)}$ = 1.20, $p > .05$

Table 21

Summary of Multiple Regression Analysis for Variables Predicting Outgroup Ratings, Study 3

Predictors	B	ß	t	p
Step 1				
Inclusion/Exclusion	.13	.09	.92	.36
Need to belong	.08	.08	.75	.46
Personal need for structure	.04	.05	.50	.62
Self-monitoring	.11	.08	.80	.42
Individualism/Collectivism	.21	.14	1.38	.17
Gender	-.10	-.07	-.67	.51
Group gender composition	.00	.06	.59	.56
Step 2				
Inclusion/Exclusion x Belonging	-.07	-.04	-.31	.76
Inclusion/Exclusion x Structure	.04	.04	.27	.79
Inclusion/Exclusion x Self-monitoring	-.24	-.12	-.88	.38
Inclusion/Exclusion x Collectivism	-.31	-.14	-1.01	.32
Inclusion/Exclusion x Gender	.50	.28	1.61	.11
Inclusion/Exclusion x Gender composition	.01	.59	1.94	.06

Total R^2 = .13 Adjusted R^2 = .00 $F(13, 85) = .99$, $p > .05$

Table 22

Summary of Multiple Regression Analysis for Variables Predicting Ingroup Versus Outgroup

Entitativity, Study 3

Predictors	B	ß	t	p
Step 1				
Inclusion/Exclusion	-.07	-.06	-.58	.57
Need to belong	.08	.10	.94	.35
Personal need for structure	-.01	-.02	-.14	.89
Self-monitoring	.01	.01	.07	.94
Individualism/Collectivism	-.04	-.04	-.37	.71
Gender	.04	.03	.28	.78
Group gender composition	.00	.18	1.71	.09
Step 2				
Inclusion/Exclusion x Belonging	.17	.13	.92	.36
Inclusion/Exclusion x Structure	.05	.06	.39	.70
Inclusion/Exclusion x Self-monitoring	.04	.03	.19	.85
Inclusion/Exclusion x Collectivism	.25	.14	.98	.33
Inclusion/Exclusion x Gender	-.31	-.22	-1.21	.23
Inclusion/Exclusion x Gender composition	.00	.08	.27	.79

Total R^2 = .10   Adjusted R^2 = .00 $F (13, 85) = .69, p > .05$

APPENDICES

Need to Belong Scale (Leary, Kelly, Cottrell, & Schreindorfer, 2001)

Items

1. If other people don't seem to accept me, I don't let it bother me.

2. I try hard not to do things that will make other people avoid or reject me.

3. I seldom worry about whether other people care about me.

4. I want other people to accept me.

5. I have a strong "need to belong."

6. It bothers me a great deal when I am not included in other people's plans.

7. My feelings are easily hurt when I feel that others do not accept me.

8. I need to feel that there are people I can turn to in times of need.

9. I do not like being alone.

10. Being apart from my friends for long periods of time does not bother me.

<u>Personal Need for Structure Scale (Neuberg & Newsome, 1993)</u>

<u>Items</u>

1. It upsets me to go into a situation without knowing what I can expect from it.

2. I'm not bothered by things that interrupt my daily routine.

3. I enjoy being spontaneous.

4. I find that a well-ordered life with regular hours makes my life tedious.

5. I find that a consistent routine enables me to enjoy life more.

6. I enjoy having a clear and structured mode of life.

7. I like to have a place for everything and everything in its place.

8. I don't like situations that are uncertain.

9. I hate to change my plans at the last minute.

10. I hate to be with people who are unpredictable.

11. I enjoy the exhilaration of being in unpredictable situations.

12. I become uncomfortable when the rules in a situation are not clear.

Need for Closure Scale (Kruglanski, Webster, & Klem, 1993)

Items

1. I think that having clear rules and order at work is essential for success.

2. I find that a well ordered life with regular hours suits my temperament.

3. I hate to change my plans at the last minute.

4. My personal space is usually messy and disorganized.

5. I believe that orderliness and organization are among the most important characteristics of a good student.

6. I think that I would learn best in a class that lacks clearly stated objectives and requirements.

7. I find that establishing a consistent routine enables me to enjoy life more.

8. I enjoy having a clear and structured mode of life.

9. I like to have a place for everything and everything in its place.

10. I dislike the routine aspects of my work (studies).

11. I like to have friends who are unpredictable.

12. When dining out, I like to go to places where I have been before so that I know what to expect.

13. I don't like to go into a situation without knowing what I can expect from it.

14. I think it is fun to change my plans at the last moment.

15. I enjoy the uncertainty of going into a new situation without knowing what may happen.

16. I don't like to be with people who are capable of unexpected actions.

17. I prefer to socialize with familiar friends because I know what to expect from them.

18. I dislike unpredictable situations.

19. I don't like situations that are uncertain.

20. I feel uncomfortable when I don't understand the reason why an event occurred in my life.

21. When I am confused about an important issue, I feel very upset.

22. In most social conflicts, I can easily see which side is right and which is wrong.

23. I like to know what people are thinking all the time.

24. I dislike it when a person's statement could mean many different things.

25. It's annoying to listen to someone who cannot seem to make up his or her mind.

26. I feel comfortable when someone's meaning or intention is unclear to me.

27. I'd rather know bad news than stay in a state of uncertainty.

28. Even after I've made up my mind about something, I am always eager to consider a different opinion.

29. I dislike questions which could be answered in many different ways.

30. I feel irritated when one person disagrees with what everyone else in a group believes.

31. When considering most conflict situations, I can usually see how both sides could be right.

32. When thinking about a problem, I consider as many different opinions on the issue as possible.

33. I prefer interacting with people whose opinions are very different from my own.

34. I always see many possible solutions to problems I face.

35. I do not usually consult many different opinions before forming my own view.

36. When I go shopping, I have difficulty deciding exactly what it is that I want.

37. When faced with a problem I usually see the one best solution very quickly.

38. I tend to put off making important decisions until the last possible moment.

39. I usually make important decisions quickly and confidently.

40. I would describe myself as indecisive.

41. I tend to struggle with most decisions.

42. When trying to solve a problem I often see so many possible options that it's confusing.

Revised Self-Monitoring Scale (Snyder & Gangestad, 1986)

1. I find it hard to imitate the behavior of other people.

2. I can only argue for ideas which I already believe.

3. I can make impromptu speeches even on topics about which I have almost no information.

4. I would probably make a good actor.

5. I have considered being an entertainer.

6. I have never been good at games like charades or improvisational acting.

7. I can look anyone in the eye and tell a lie with a straight face (if for a right end).

8. In a group of people I am rarely the center of attention.

9. I am not particularly good at making other people like me.

10. I have trouble changing my behavior to suit different people and different situations.

11. At a party I let others keep the jokes and stories going.

12. I feel a bit awkward in public and do not show up quite as well as I should.

13. At parties and social gatherings, I do not attempt to do or say things that others will like.

14. I guess I put on a show to impress or entertain others.

15. In different situations and with different people, I often act like very different persons.

16. I'm not always the person I appear to be.

17. I would not change my opinions (or the way I do things) in order to please someone or win their favor.

18. I may deceive people by being friendly when I really dislike them.

Shortened Individualism-Collectivism Scale (Hui & Yee, 1994)

1. The motto "sharing in both blessing and calamity" still applies even if one's friend is clumsy, dumb, and causes a lot of trouble.

2. I would help if a colleague at work told me that he/she needed money to pay utility bills.

3. If a colleague lends a helping hand, one needs to return the favor.

4. There is everything to gain and nothing to lose for co-workers to group themselves to help each other.

5. Colleagues' assistance is indispensable to good performance at work.

6. I like to live close to my friends.

7. It is a personal matter whether I worship money or not. Therefore it is not necessary for my friends to give any counsel.

8. To go on a trip with friends makes one less free and mobile. As a result, there is less fun.

9. I would not let my parents use my car (if I have one), whether they are good drivers or not.

10. I would not let my needy mother use the money that I have saved by living a less than luxurious life.

11. I would not share my ideas and newly acquired knowledge with my parents.

12. Teenagers should listen to their parents' advice on dating.

13. Young people should take into consideration their parents' advice when making education/career plans.

14. Each family has its own problems unique to itself. It does not help to tell relatives about one's problems.

15. Whether one spends an income extravagantly or stingily is of no concern to one's relatives (cousins, uncles).

16. One need not worry about what the neighbors say about whom one should marry.

17. When deciding what kind of education to have, I would pay absolutely no attention to my uncles' advice.

18. If possible, I would like co-owning a car with my close friends, so that it wouldn't be necessary for them to spend much money to buy their own cars.

19. I can count on my relatives for help if I find myself in any kind of trouble.

20. When deciding what kind of education to have, I would definitely pay attention to the views of relatives of my generation.

Shortened Individualism-Collectivism Scale (cont)

21. I am often influenced by the moods of my neighbors.

22. My neighbors always tell me interesting stories that have happened around them.

23. Even if a child won the Nobel prize, parents should not feel honored in any way.

24. Children should not feel honored even if their father were highly praised and given an award by a government official for his contribution and service to the community.

25. In these days parents are too stringent with their kids, stunting the development of initiative.

26. The decision of where one is to work should be jointly made with one's spouse, if one is married.

27. If a husband is a sports fan, a wife should also cultivate an interest in sports. If the husband is a stick broker, the wife should also be aware of the current market situation.

28. I don't really know how to befriend my neighbors.

29. My neighbors have never borrowed anything from me or my family.

30. I am not interested in knowing what my neighbors are really like.

31. I have never chatted with my neighbors about the political future of this state.

32. One needs to be cautious when talking with neighbors, otherwise others might think you are nosy.

33. I have never loaned any of my possessions to any colleagues.

34. When I am among my colleagues, I do my own thing without minding about them.

35. I enjoy meeting and talking to my neighbors every day.

Measure of Cognitive Complexity (Bieri, Atkins, Briar, Leaman, Miller, & Tripodi, 1966)

Instructions: Please read each of the roles listed down the side of the following table. Think of the person you know who best matches each role. Once you have identified the person, write his or her name beside each role. Then, read each of the traits listed on the right side of the table. For each person you have identified, evaluate him or her on each of the traits. So, for example, you will evaluate yourself on how outgoing-shy, calm-excitable, etc. that you perceive yourself to be. Use the 6-point scale to make your judgments.

Please make sure that every box in the table below has a number in it.

1. Yourself

2. Person you dislike _____

3. Mother _____

4. Person you'd like to help _____

5. Father _____

6. Friend of same sex _____

7. Friend of opposite sex
   (or spouse)   _____

8. Person with whom you
   feel most uncomfortable _____

9. Boss _____

10. Person difficult
    to understand _____

(If you do not have a boss, use one of your professors.)

+3									+3
+2									+2
+1									+1
interesting	independent	considerate	responsible	cheerful	interested in others	calm	decisive	adjusted	outgoing
-1									-1
-2									-2
dull	dependent	inconsiderate	irresponsible	ill humored	self absorbed	excitable	indecisive	maladjusted	shy
-3									-3

101

(from Lickel et al., 2000)

Listed on this page are a number of collections of people that might qualify as groups. We would like you to rate each one on the degree to which you think it qualifies as a group. In the space next to each one, write a number that represents your opinion about the extent to which it qualifies as a group.
1=Not at all a group   9=Very much of a group

Now we would like your opinion about the degree to which the people in these groups interact with each other. In some groups, the members of the group interact a great deal, whereas in other groups they interact hardly at all. For each group, we would like your opinion about the extent to which the people in the group interact with each other.
1=Very little interaction   9=A great deal of interaction

Another way of describing a group is the extent to which membership in the group is important to the people in the group. For each of the groups below, we would like your opinion about the extent to which being a member of the group is important for the people in the group.
        1=Not very important   9=Very important

Groups also differ in the extent to which membership in the group means that the group's members experience the same outcomes. That is, in some groups, all members either succeed or fail together, whereas in other groups, individual members may succeed or fail independently of the other members. For each group, please indicate the extent to which the members of the group experience the same outcomes.
1=Members have independent outcomes   9=Members have some outcomes

Another way of describing a group is the extent to which the members of the group have the same goals. So, aside from whether the people themselves are similar or dissimilar, they may have common goals that bring them together. For each group, we would like your opinion about the extent to which the people in the group have common goals.
1=No goals in common   9=Important goals in common

One important element in describing a group is the extent to which the people in the group are the same or different from each other. Sometimes we would expect that the people are all quite similar to each other. In other cases, we might not expect a high degree of similarity among members of the group. For each group below, we would like your opinion about the extent to which people in the group are similar or dissimilar to each other.
1=Very different from each other   9=Very similar to each other

Groups differ in the length of time that they exist, that is, their history and their likely future. Some groups exist for only a very short time, whereas other groups exist for a very long time. For each of the groups listed below, we would like your opinion about the <u>extent to which each group is a long-term or short-term group</u>.

1=Very short-term   9=Very long-term

Groups vary in how large or small they are. In this part of the survey, we would like to learn your opinion about how large or small you think groups are. Below are the groups you rated before. Please <u>rate the size of each group</u>.

1=Very small   9=Very large

1. Members of a professional sports team
2. Members of a family
3. Members of a rock band
4. Friends who do things together
5. Members of a local street gang
6. Members of a local environmental group
7. People attending a support group
8. Members of an orchestra
9. Members of the cast of a play
10. Members of a university social club
11. Members of a student campus committee
12. Members of a labor union
13. Members of a jury
14. Students studying for an exam
15. A company committee designing a new product
16. Members of an airline flight crew
17. People having dinner together on a Saturday night
18. Coworkers assigned to a project
19. Two people in a romantic relationship
20. Roommates
21. Members of the same political party
22. Employees of a local restaurant
23. Jews
24. Students enrolled in a class
25. Women
26. Blacks
27. People living in a retirement home
28. People who live in the same neighborhood
29. Students at a university
30. Teachers
31. People who work in the same factory
32. Citizens of America
33. Doctors
34. Citizens of Poland
35. People who enjoy classical music
36. People attending an athletic contest
37. Plumbers
38. People in the audience at a movie
39. People at a bus stop
40. People in line at the bank

APPENDIX C: Differential Emotion Scale + Affect (Izard, 1972)

This scale consists of words that describe different emotions or feelings. Please indicate the extent to which each word describes the way you feel <u>right now</u>. Record your answers by circling the appropriate number on the scale following each word.

1	2	3	4	5	6	7
very slightly or not at all			moderately			very strongly

1. comfortable	1 2 3 4 5 6 7	26. sluggish	1 2 3 4 5 6 7
2. delighted	1 2 3 4 5 6 7	27. relaxed	1 2 3 4 5 6 7
3. calm	1 2 3 4 5 6 7	28. angry	1 2 3 4 5 6 7
4. feeling of distaste	1 2 3 4 5 6 7	29. sad	1 2 3 4 5 6 7
5. downhearted	1 2 3 4 5 6 7	30. guilty	1 2 3 4 5 6 7
6. surprised	1 2 3 4 5 6 7	31. anxious	1 2 3 4 5 6 7
7. fatigued	1 2 3 4 5 6 7	32. bashful	1 2 3 4 5 6 7
8. contemptuous	1 2 3 4 5 6 7	33. nervous	1 2 3 4 5 6 7
9. sheepish	1 2 3 4 5 6 7	34. disgusted	1 2 3 4 5 6 7
10. attentive	1 2 3 4 5 6 7	35. joyful	1 2 3 4 5 6 7
11. discouraged	1 2 3 4 5 6 7	36. feeling of revulsion	1 2 3 4 5 6 7
12. blameworthy	1 2 3 4 5 6 7	37. upset	1 2 3 4 5 6 7
13. enraged	1 2 3 4 5 6 7	38. disdainful	1 2 3 4 5 6 7
14. astonished	1 2 3 4 5 6 7	39. secure	1 2 3 4 5 6 7
15. scornful	1 2 3 4 5 6 7	40. tense	1 2 3 4 5 6 7
16. pleasant	1 2 3 4 5 6 7	41. happy	1 2 3 4 5 6 7
17. concentrating	1 2 3 4 5 6 7	42. alert	1 2 3 4 5 6 7
18. content	1 2 3 4 5 6 7	43. worried	1 2 3 4 5 6 7
19. amazed	1 2 3 4 5 6 7	44. mad	1 2 3 4 5 6 7
20. fearful	1 2 3 4 5 6 7	45. rested	1 2 3 4 5 6 7
21. at ease	1 2 3 4 5 6 7	46. scared	1 2 3 4 5 6 7
22. shy	1 2 3 4 5 6 7	47. regretful	1 2 3 4 5 6 7
23. sleepy	1 2 3 4 5 6 7	48. afraid	1 2 3 4 5 6 7

| 24. | repentant | 1 2 3 4 5 6 7 | | 49. | jittery | 1 2 3 4 5 6 7 |
| 25. | overexcited and rattled | 1 2 3 4 5 6 7 | | 50. | confident | 1 2 3 4 5 6 7 |

REFERENCES

REFERENCES

Abelson, R. P., Dasgupta, N., Park, J., & Banaji, M. R. (1998). Perceptions of the collective other. *Personality and Social Psychology Review, 4,* 243-250.

Altemeyer, B. (1981). *Right-wing authoritarianism*. Winnipeg, Canada: University of Manitoba Press.

Atkinson, J. W., & McClelland, D. C. (1948). The projective expression of needs II. The effect of different intensities of the hunger drive on thematic apperception. *Journal of Experimental Psychology, 38,* 643-658.

Baumeister, R. F., Dori, G. A., & Hastings, S. (1998). Belongingness and temporal bracketing in personal accounts of changes in self-esteem. *Journal of Research in Personality, 32*, 222-235.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117,* 497-529.

Baumeister, R. F., & Tice, D. M. (1990). Anxiety and social exclusion. *Journal of Social and Clinical Psychology, 9,* 165-195.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107,* 238-246.

Bieri, J. (1955). Cognitive complexity-simplicity and predictive behavior. *Journal of Abnormal and Social Psychology, 51,* 163-168.

Bieri, J., Atkins, A. L., Briar, S., Leaman, R. L., Miller, H., & Tripodi, T. (1966). *Clinical and social judgment: The discrimination of behavioral information*. New York: Wiley.

Blashfield, R. K., & Aldenderfer, M. S. (1988). The methods and problems of cluster analysis. In J. R. Nesselroade & R. B. Cattell (Eds.), *Handbook of multivariate experimental psychology* (2nd ed., pp. 447-473). New York: Plenum Press.

Brase, G. L. (2001). Markers of social group membership as probabilistic cues in reasoning tasks. *Thinking and Reasoning, 7*, 313-346.

Brewer, M. B. (1997). On the social origins of human nature. In C. McGarty & S .A. Haslam (Eds.), *The message of social psychology: Perspectives on mind in society* (pp. 54-62). Oxford, England: Blackwell.

Brewer, M. B., & Harasty, A. S. (1996). Seeing groups as entities: The role of perceiver motivation. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition* (Vol. 3, pp. 347-370). New York: Guilford Press.

Brewer, M. B., Weber, J. G., & Carini, B. (1995). Person memory in intergroup contexts: Categorization versus individuation. *Journal of Personality and Social Psychology, 69*, 29-40.

Brown, L. J. (2002). *A comparison of the cognitive complexity levels of inexperienced and experienced school psychology practitioners.* Unpublished doctoral dissertation, The University of Toledo.

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming.* Mahwah, NJ: Lawrence Erlbaum.

Campbell, D. T. (1958). Common fate, similarity, and other indices of the status of aggregates of persons as social entities. *Behavioral Science, 3,* 14-25.

Cantor, N., & Mischel, W. (1979). Prototypes in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 12, pp. 3-52). New York: Academic Press.

Castano, E., Yzerbyt, V., Paladino, M. P., & Sacchi, S. (2002). I belong, therefore, I exist: Ingroup identification, ingroup entitativity, and ingroup bias. *Personality and Social Psychology Bulletin, 28*, 135-143.

Cheyne, J. A., & Efran, M. G. (1972). The effect of spatial and interpersonal variables on the invasion of group controlled territories. *Sociometry, 35,* 477-489.

Cialdini, R. B. (1989). Indirect tactics of image management: Beyond basking. In R. A. Giacalone & P. Rosenfeld (Eds.), *Impression management in the organization* (pp. 45-56). Hillsdale, NJ: Lawrence Erlbaum.

Cohen, J., & Cohen, P. (1975). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.

Coovert, M. D., & Reeder, G. D. (1990). Negativity effects in impression formation: The role of unit formation and schematic expectations. *Journal of Experimental Social Psychology, 26,* 49-62.

Crawford, M. T., Sherman, S. J., & Hamilton, D. L. (2002). Perceived entitativity, stereotype formation, and the interchangeability of group members. *Journal of Personality and Social Psychology, 83*, 1076-1094.

Dasgupta, N., Banaji, M. R., & Abelson, R. P. (1999). Group entitativity and group perception: Associations between physical features and psychological adjustment. *Journal of Personality and Social Psychology, 77*, 991-1003.

Deaux, K., & Farris, E. (1975). Complexity, extremity, and affect in male and female judgments. *Journal of Personality, 43,* 379-389.

Dillard, J. P., & Miller, K. I. (1988). Intimate relationships in task environments. In S. W. Duck & D. F. Hay (Eds.), *Handbook of personal relationships: Theory, research, and interventions* (pp. 449-465). Chichester, England: John Wiley & Sons.

Douglas, W. (1983). Scripts and self-monitoring: When does being a high self-monitor really make a difference? *Human Communication Research, 10,* 81-96.

Dovidio, J. F., Gaertner, S. L., Isen, A. M., & Lowrance, R. (1995). Group representations and intergroup bias: Positive affect, similarity, and group size. *Personality and Social Psychology Bulletin, 21,* 856-865.

Edney, J. J., & Grundmann, M. J. (1979). Friendship, group size, and boundary size: Small group spaces. *Small Group Behavior, 10,* 124-135.

Festinger, L., Schachter, S., & Back, K. (1950). *Social pressures in informal groups: A study on human factors in housing.* Stanford, CA: Stanford University Press.

Fiske, A. P., Haslam, N., & Fiske, S. T. (1991). Confusing one person with another: What errors reveal about the elementary forms of social relations. *Journal of Personality and Social Psychology, 60*, 656-674.

Freeman, L. C. (1992). Filling in the blanks: A theory of cognitive categories and the structure of social affiliation. *Social Psychology Quarterly, 55,* 118-127.

Freeman, L. C., Freeman, S. C., & Michaelson, A. G. (1988). On human social intelligence. *Journal of Social Biological Structures, 11*, 415-425.

Gaertner, L., & Schopler, J. (1998). Ingroup entitativity and intergroup bias: An interconnection of self and others. *European Journal of Social Psychology, 28,* 963-980.

Gaines, S. O., Marelich, W. D., Bledsoe, K. L., & Steers, W. N. (1997). Links between race/ethnicity and cultural values as mediated by racial/ethnic identity and moderated by gender. *Journal of Personality and Social Psychology Bulletin, 72,* 1460-1476.

Gangestad, S. W., & Snyder, M. (2000). Self-monitoring: Appraisal and reappraisal. *Psychological Bulletin, 126*, 530-555.

Gardner, W. L., Pickett, C. L., & Brewer, M. B. (2000). Social exclusion and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin, 26,* 486-496.

Gruenfeld, D. H., Thomas-Hunt, M. C., & Kim, P. H. (1998). Cognitive flexibility, communication strategy, and integrative complexity in groups: Public versus private reactions to majority and minority status. *Journal of Experimental Social Psychology, 34*, 202-226.

Guarino, A., Michael, W. B., & Hocevar, D. (1998). Self-monitoring and student integration of community college students. *Journal of Social Psychology, 138*(6), 754-757.

Guimond, S., Dambrun, M., Michinov, N., & Duarte, S. (2003). Does social dominance generate prejudice? Integrating individual and contextual determinants of intergroup cognitions. *Journal of Personality and Social Psychology, 84,* 697-721.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis* (4th ed.). Englewood Cliffs, NJ: Prentice Hall.

Hamilton, D. L., & Sherman, S. J. (1996). Perceiving persons and groups. *Psychological Review, 103,* 336-355.

Hamilton, D. L., Sherman, S. J., & Castelli, L. (2002). A group by any other name--The role of entitativity in group perception. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 12, pp. 139-166). Chichester, England: John Wiley & Sons.

Hamilton, D. L., Sherman, S. J., & Lickel, B. (1998). Perceiving social groups: The importance of the entitativity continuum. In D. Sedikides & C. A. Insko (Eds.), *Intergroup cognition and intergroup behavior* (pp. 47-74). Mahwah, NJ: Lawrence Erlbaum.

Hamilton, D. L., Sherman, S. J., & Maddox, K. B. (1999). Dualities and continua: Implications for understanding perceptions of persons and groups. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 606-626). New York: Guilford.

Haslam, N. O. (1998). Natural kinds, human kinds, and essentialism. *Social Research, 65*, 291-314.

Haslam, N., Rothschild, L., & Ernst, D. (2000). Essentialist beliefs about social categories. *British Journal of Social Psychology, 39*, 113-127.

Haslam, N., Rothschild, L., & Ernst, D. (2002). Are essentialist beliefs associated with prejudice? *British Journal of Social Psychology, 41*, 87-100.

Hess, T. M. (2001). Ageing-related influences on personal need for structure. *International Journal of Behavioral Development, 25*, 482-490.

Hogg, M. A. (1996). Social identity, self-categorization, and the small group. In E. White & J. H. Davis (Eds.), *Understanding group behavior: Small group processes and interpersonal relations* (Vol. 2, pp. 227-253). Mahwah, NJ: Lawrence Erlbaum.

Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*, 424-453.

Hui, C. H. (1988). Measurement of individual-collectivism. *Journal of Research in Personality, 22,* 17-36.

Hui, C. H., & Triandis, H. C. (1986). Individualism-collectivism: A study of cross-cultural researchers. *Journal of Cross-cultural Psychology, 17,* 225-248.

Hui, C. H., & Yee, C. (1994). The shortened Individualism-Collectivism Scale: Its relationship to demographic and work-related variables. *Journal of Research in Personality, 28,* 409-424.

Hui, C. H., & Yee, C. (1999). The impact of psychological collectivism and workgroup atmosphere on Chinese employees' job satisfaction. *Applied Psychology: An International Review, 48,* 175-185.

Izard, C. E. (1972). *Patterns of emotions: A new analysis of anxiety and depression.* New York: Academic Press.

Jackson, S. E., Brett, J. F., Sessa, V. I., Cooper, D. M., Julin, J. A., & Peyronnin, K. (1991). Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates of recruitment, promotions, and turnover. *Journal of Applied Psychology, 76,* 675-689.

Jöreskog, K. G., & Sörbom, D. (1981). *LISREL V: Analysis of linear structural relationships by the method of maximum likelihood.* Chicago: National Educational Resources.

Kelly, G. A. (1955). *The psychology of personal constructs.* New York: Norton.

Kelly. K. M. (1999). Measurement and manifestation of the need to belong. Unpublished doctoral dissertation, University of Tennessee, Knoxville.

Kirk, R. E. (1995). *Experimental design: Procedures for the behavioral sciences (3rd ed.).* Pacific Grove, CA: Brooks/Cole Publishing.

Knowles, E. S. (1973). Boundaries around group interaction: The effect of group size and member status on boundary permeability. *Journal of Personality and Social Psychology, 26,* 327-331.

Knowles, E. S., Kreuser, B., Haas, S., Hyde, M., & Schuchart, G. E. (1976). Group size and the extension of social space boundaries. *Journal of Personality and Social Psychology, 33,* 647-654.

Koenig, F. (1975). Group affective stimulus value and cognitive complexity. *Journal of Social Psychology, 97,* 143-144.

Koenig, F. W., & King Jr., M. B. (1962). Cognitive simplicity and prejudice. *Social Forces, 40,* 220-222.

Koenig, F. W., & King Jr., M. B. (1964). Cognitive simplicity and out-group stereotyping. *Social Forces, 42,* 324-327.

Koenig, F., & Seaman, J. (1974). Comparison of cognitive complexity of male and female subjects responding to male and female stimuli. *Perceptual and Motor Skills, 38,* 1345-1346.

Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing". *Psychological Review, 103,* 263-283.

Kruglanski, A. W., Webster, D. M., & Klem, A. (1993). Motivated resistance and openness to persuasion in the presence or absence of prior information. *Journal of Personality and Social Psychology, 65,* 861-876.

Kurzban, R., & Leary, M. R. (2001). Evolutionary origins of stigmatization: The functions of social exclusion. *Psychological Bulletin, 127,* 187-208.

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. (2001). Individual differences in the need to belong. Manuscript in preparation.

Lee, R. M., & Robbins, S. B. (1998). The relationship between social connectedness and anxiety, self-esteem, and social identity. *Journal of Counseling Psychology, 45,* 338-345.

Leone, C., & Wallace, H. M. (1999). The need for closure and the need for structure: Interrelationships, correlates, and outcomes. *Journal of Psychology, 133,* 553-562.

Levine, J. M., & Moreland, R. L. (1992). Small groups and mental health. In D. N. Ruble, P. R. Costanzo, & M. E. Oliveri (Eds.), *The social psychology of mental health: Basic mechanisms and applications* (pp. 127-165)*.* New York: Guilford Press.

Levy, S. R., Plaks, J. E., Hong, Y. Y., Chiu, C. Y., & Dweck, C. S. (2001). Static versus dynamic theories and the perception of groups: Different routes to different destinations. *Personality and Social Psychology Review, 5,* 156-168.

Leyens, J. P., Rodriguez-Perez, A., Rodriguez-Torres, R., Gaunt, R., Paladino, M. P., Vaes, J., & Demoulin, S. (2001). Psychological essentialism and the differential attribution of uniquely human emotions to ingroups and outgroups. *European Journal of Social Psychology, 31*, 395-411.

Lickel, B. (2000). Perceptions of interdependence and judgments of collective responsibility. Unpublished doctoral dissertation, University of California, Santa Barbara.

Lickel, B., Hamilton, D. L., & Sherman, S. J. (2001). Elements of a lay theory of groups: Types of groups, relational styles, and the perception of group entitativity. *Personality and Social Psychology Review, 5,* 129-140.

Lickel, B., Hamilton, D. L., Wieczorkowska, G., Lewis, A., Sherman, S. J., & Uhles, A. N. (2000). Varieties of groups and the perception of group entitativity. *Journal of Personality and Social Psychology, 78,* 223-246.

Lickel, B., Schmader, T., & Hamilton, D. L. (2003). A case of collective responsibility: Who else was to blame for the Columbine High School shootings? *Personality and Social Psychology Bulletin, 29,* 194-204.

Lindsey, A. E., & Greene, J. O. (1987). Social tendencies and social knowledge: Self-monitoring differences in the representation and recall of social knowledge. *Communication Monographs, 54,* 381-395.

Luhtanen, R., & Crocker, J. (1989). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin, 18,* 302-318.

McConnell, A. R. (2001). Implicit theories: Consequences for social judgments of individuals. *Journal of Experimental Social Psychology, 37,* 215-227.

McConnell, A. R., Sherman, S. J., & Hamilton, D. L. (1994). On-line and memory-based aspects of individual and group target judgments. *Journal of Personality and Social Psychology, 67*, 173-185.

McConnell, A. R., Sherman, S. J., & Hamilton, D. L. (1997). Target entitativity: Implications for information processing about individual and group targets. *Journal of Personality and Social Psychology, 72*, 750-762.

McGarty, C. (1999). Some explorations in social categorization. In C. McGarty (Ed.), *Categorization in social psychology* (pp. 155-189). London: Sage.

McGarty, C., Haslam, S. A., Hutchinson, J. K., & Grace, D. M. (1995). Determinants of perceived consistency: The relationship between group entitativity and the meaningfulness of categories. *British Journal of Social Psychology, 34*, 237-256.

Medin, D. L. (1989). Concepts and conceptual structure. *American Psychologist, 44*, 1469-1481.

Medin, D., & Ortony, A. (1989). Psychological essentialism. In S. Vosniadou & A. Ortony (Eds.), *Similarity and analogical reasoning* (pp. 179-195). Cambridge: Cambridge University Press.

Mehra, A., Kilduff, M., & Brass, D. J. (2001). The social networks of high and low self-monitors: Implications for workplace performance. *Administrative Science Quarterly, 46*, 121-146.

Mischel, W. (1968). *Personality and assessment*. New York: Wiley.

Mojena, R. (1977). Hierarchical grouping methods and stopping rules: An evaluation. *Computer Journal, 20,* 359-363.

Moreland, R. L. (1987). The formation of small groups. In C. Hendrick (Ed.), *Group processes* (Vol. 8, pp. 80-110). Newbury Park, CA: Sage.

Moreland, R. L., & Beach, S. R. (1992). Exposure effects in the classroom: The development of affinity among students. *Journal of Experimental Social Psychology, 28,* 255-276.

Moreland, R. L., & Levine, J. M. (1982). Socialization in small groups: Temporal changes in individual-group relations. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 137-192). New York: Academic Press.

Moreland, R. L., & McMinn, J. (2000, June). Entitativity redux: Detecting real vs. fake groups. Invited paper presented at the International Conference on Groups, Networks, and Organizations, Boca Raton, FL.

Moreland, R. L., & McMinn, J. G. (in press). Entitativity and social integration: Managing beliefs about the reality of groups. To appear in V. Yzerbyt, C. Judd, & O. Corneille (Eds.), *The psychology of group perception: Contributions to the study of homogeneity, entitativity, and essentialism*. Philadelphia, PA: Psychology Press.

Morris, M. W., Menon, T., & Ames, D. R. (2001). Culturally conferred conceptions of agency: A key to social perception of persons, groups, and other actors. *Personality and Social Psychology Review, 5*, 169-182.

Moskowitz, G. B. (1993). Individual differences in social categorization: The influence of personal need for structure on spontaneous trait inferences. *Journal of Personality and Social Psychology, 65,* 132-142.

Newcomb, T. M. (1961). *The acquaintance process*. New York: Holt, Rinehart, & Winston.

Neuberg, S. L., & Newsom, J. T. (1993). Personal need for structure: Individual differences in the desire for simple structure. *Journal of Personality and Social Psychology, 65,* 113-131.

O'Laughlin, M. J., & Malle, B. F. (2002). How people explain actions performed by groups and individuals. *Journal of Personality and Social Psychology, 82*, 33-48.

Ostrom, T. M., & Sedikides, C. (1992). Out-group homogeneity effects in natural and minimal groups. *Psychological Bulletin, 112*, 536-552.

Pancer, S. M., Hunsberger, B., Pratt, M. W., & Alisat, S. (2000). Cognitive complexity of expectations and adjustment to university in the first year. *Journal of Adolescent Research, 15*, 38-57.

Rabbie, J. M., & Horwitz, M. (1988). Categories versus groups as explanatory concepts in intergroup relations. *European Journal of Social Psychology, 18*, 117-123.

Radzik, L. (2001). Collective responsibility and duties to respond. *Social Theory and Practice, 27*, 455-471.

Realo, A., Koido, K., Ceulemans, E., & Allik, J. (2002). Three components of individualism. *European Journal of Personality, 16*, 163-184.

Roney, C. J. R., & Sorrentino, R. M. (1987). Uncertainty orientation and person perception: Individual differences in categorization. *Social Cognition, 5*, 369-382.

Rosch, E. (1988). Principles of categorization. In A. Collins & E. E. Smith (Eds.), *Readings in cognitive science: A perspective from psychology and artificial intelligence* (pp. 312-322). San Mateo, CA: Morgan Kaufmann Publishers.

Ross, L. D., Amabile, T. M., & Steinmetz, J. L. (1977). Social roles, social control, and biases in social-perception processes. *Journal of Personality and Social Psychology, 35*, 485-494.

Rothbart, M., & Taylor, M. (1992). Category labels and social reality: Do we view social categories as natural kinds? In G. R. Semin & K. Fiedler (Eds.), *Language, interaction and social cognition* (pp. 11-36). London: Sage.

Russell, D. W. (2002). In search of underlying dimensions: The use (and abuse) of factor analysis in *Personality and Social Psychology Bulletin*. *Personality and Social Psychology Bulletin, 28,* 1629-1646.

Schaller, M., Boyd, C., Yohannes, J., & O'Brien, M. (1995). The prejudiced personality revisited: Personal need for structure and formation of erroneous group stereotypes. *Journal of Personality and Social Psychology, 68,* 544-555.

Schopler, J., & Insko, C. A. (1992). The discontinuity effect in interpersonal and intergroup relations: Generality and mediation. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 3, pp. 121-151). Chichester, England: John Wiley & Sons.

Scodel, A., & Austrin, H. (1959). The perception of Jewish photographs by non-Jews and Jews. *Journal of Abnormal and Social Psychology, 54,* 278-280.

Scott, W. A. (1962). Cognitive complexity and cognitive flexibility. *Sociometry, 25*, 405-414.

Sedikides, C., Olsen, N., & Reis, H. T. (1993). Relationships as natural categories. *Journal of Personality and Social Psychology, 64*, 71-82.

Sherman, S. J., Castelli, L., & Hamilton, D. L. (2002). The spontaneous use of a group typology as an organizing principle in memory. *Journal of Personality and Social Psychology, 82,* 328-342.

Sherman, S. J., Hamilton, D. L., & Lewis, A. C. (1999). Perceived entitativity and the social identity value of group memberships. In D. Abrams & M. A. Hogg (Eds.), *Social identity and social cognition* (pp. 80-110). Malden, MA: Blackwell Publishers.

Smith, C. P., & Franz, C. E. (1992). Appendix I: Practice materials for learning the scoring systems. In C. P. Smith, J. W. Atkinson, D. C. McClelland, & J. Veroff (Eds.), *Motivation and personality: Handbook of thematic content analysis* (pp. 537-560). New York: Cambridge University Press.

Smith, M. R., & Gordon, R. A. (1998). Personal need for structure and attitudes toward homosexuality. *Journal of Social Psychology, 138*(1), 83-87.

Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology, 30,* 526-537.

Snyder, M. (1987). *Public appearances/private realities: The psychology of self-monitoring*. New York: W. H. Freeman.

Snyder, M., & Gangestad, S. (1986). On the nature of self-monitoring: Matters of assessment, matters of validity. *Journal of Personality and Social Psychology, 51,* 125-139.

Soucar, E. (1970). Students' perceptions of liked and disliked teachers. *Perceptual and Motor Skills, 31,* 19-24.

Steiger, J. H., & Lind, J. C. (1980, May). *Statistically based tests for the number of common factors*. Paper presented at the annual meeting of the Psychometric Society, Iowa City, IA.

Suedfeld, P., & Coren, S. (1992). Cognitive correlates of conceptual complexity. *Personality and Individual Differences, 13,* 1193-1199.

Suedfeld, P., Tetlock, P. E., & Streufert, S. (1992). Conceptual/integrative complexity. In C. P. Smith, J. W. Atkinson, D. C. McClelland, & J. Veroff (Eds.), *Motivation and personality: Handbook of thematic content analysis* (pp. 393-400). New York: Cambridge University Press.

Susskind, J., Maurer, K., Thakkar, V., Hamilton, D. L., & Sherman, J. W. (1999). Perceiving individuals and groups: Expectancies, dispositional inferences, and causal attributions. *Journal of Personality and Social Psychology, 76*, 181-191.

Tajfel, H., & Turner, J. (1979). An integrative theory of intergroup conflict. In W. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks/Cole.

Taylor, S. E., Fiske, S. T., Etcoff, N. L., & Ruderman, A. J. (1978). Categorical and contextual bases of person memory and stereotyping. *Journal of Personality and Social Psychology, 36*, 778-793.

Thompson, M. M., Naccarato, M. E., Parker, K. C. H., & Moskowitz, G. B. (2001). The personal need for structure and personal fear of invalidity measures: Historical perspectives, current applications, and future directions. In G. B. Moskowitz (Ed.), *Cognitive social psychology: The Princeton symposium on the legacy and future of social cognition* (pp. 19-39). Mahwah, NJ: Lawrence Erlbaum.

Turnley, W. H., & Bolino, M. C. (2001). Achieving desired images while avoiding undesired images: Exploring the role of self-monitoring in impression management. *Journal of Applied Psychology, 86,* 351-360.

Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology, 81*, 1058-1069.

Vacc, N. A., & Greenleaf, W. (1975). Sequential development of cognitive complexity. *Perceptual and Motor Skills, 41,* 319-322.

van Beest, I., Wilke, H., van Dijk, E. (2003). The excluded player in coalition formation. *Personality and Social Psychology Bulletin, 29,* 237-247.

Vannoy, J. S. (1965). Generality of cognitive complexity-simplicity as a personality construct. *Journal of Personality and Social Psychology, 2*, 385-396.

Wallace, M. D., Suedfeld, P., & Thachuk, K. (1993). Political rhetoric of leaders under stress in the Gulf crisis. *The Journal of Conflict Resolution, 37*, 94-107.

Webster, D. M., & Kruglanski, A. W. (1994). Individual differences in need for cognitive closure. *Journal of Personality and Social Psychology, 67,* 1049-1062.

Welbourne, J. L. (1999). The impact of perceived entitivity on inconsistency resolution for groups and individuals. *Journal of Experimental Social Psychology, 35,* 481-508.

Wilder, D. A. (1978). Perceiving persons as a group: Effects on attributions of causality and beliefs. *Social Psychology, 41,* 13-23.

Wilder, D. A., & Simon, A. F. (1998). Categorical and dynamic groups: Implications for social perception and intergroup behavior. In C. Sedikides, J. Schopler, & C. A. Insko (Eds.), *Intergroup cognition and intergroup behavior* (pp. 27-44). Mahwah, NJ: Lawrence Erlbaum.

Williams, K. D. (2001). *Ostracism: The power of silence.* New York: Guilford Press.

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the internet. *Journal of Personality and Social Psychology, 79,* 748-762.

Wyer Jr., R. S., Bodenhausen, G. V., & Srull, T. K. (1984). The cognitive representation of persons and groups and its effects on recall and recognition memory. *Journal of Experimental Social Psychology, 20*, 445-469.

Yzerbyt, V. Y., Castano, E., Leyens, J. P., & Paladino, M. P. (2000). The primacy of the ingroup: The interplay of entitativity and identification. In W. Stroebe & M. Hewstone (Eds.), *European Review of Social Psychology* (Vol. 11, pp. 257-295). Chichester, England: John Wiley & Sons.

Yzerbyt, V. Y., Corneille, O., & Estrada, C. (2001). The interplay of subjective essentialism and entitativity in the formation of stereotypes. *Personality and Social Psychology Review, 5*, 141-155.

Yzerbyt, V., Rocher, S., & Schadron, G. (1997). Stereotypes as explanations: A subjective essentialistic view of group perception. In R. Spears, P. J. Oakes, N. Ellemers, & S. A. Haslam (Eds.), *The social psychology of stereotyping and group life* (pp. 20-50). Oxford, England: Blackwell.

Yzerbyt, V. Y., Rogier, A., & Fiske, S. T. (1998). Group entitativity and social attribution: On translating situational constraints into stereotypes. *Personality and Social Psychology Bulletin, 24*, 1089-1103.

Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology, 9,* 1-27.