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PERCEIVING GROUPS AS ENTITIES: THE ROLE OF 'ENTITATIVITY' FOR
IMPRESSION FORMATION PROCESSES AND STEREOTYPE USE

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy
in the Graduate School of The Ohio State University

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1996

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ABSTRACT

A wealth of research on the perception of groups has examined stereotypes, or the traits associated with a given group. However, simply knowing the content of individuals' stereotypes does not provide a complete understanding of how people think about social groups. Social groups can be perceived as coherent entities having behaviors, motivations, intentions and traits of their own. The degree to which a group itself is thought of as a single, cohesive unit (i.e., a group’s “entitativity”) can affect the way knowledge about social groups is structured in memory and how it is used when the perceiver is exposed to individual group members. The concept of entitativity of social groups originated with Campbell’s writings on whether social aggregates could be perceived as single entities; he proposed that social groups could be more than nominal labels. The present project attempted to elaborate upon the conceptualization of entitativity and to evaluate the consequences of entitativity for thinking about social groups.

A preliminary study (reported in Chapter 2) found that previously examined factors such as group cohesiveness, intra-group similarity, group size and amount of intra-group interaction were related to, but not redundant with, entitativity. In addition, entitativity was found to be determined in multiple ways across groups—no one
characteristic or pattern of characteristics was necessary for perceived entitativity across all groups.

The present project proposed that the defining characteristic of entitativity is coherence within the group. Individual elements of an entity do not have to be similar in form or appearance, but they form a single coherent whole. Thus, the perception of some underlying bond among group members is conceptualized as an important characteristic of a highly entitative group. Resulting from the expected coherence among individual elements, the group itself then is perceived as having a single, underlying essence. The investigations in Chapters 3 and 4 validated this conceptualization by determining the consequences of perceived entitativity for prototype development and prototype use. Three studies revealed that a unified impression was formed for highly entitative groups but not for low entitative groups (Chapter 3). In addition, the impression of the group was found to affect the perception of individual group members for a highly entitative group in terms of assimilation-contrast effects that were not obtained in the case of the low entitative group (Chapter 4). The importance of group entitativity for understanding the relationships between stereotyping, prejudice and discrimination is discussed.
ACKNOWLEDGMENTS

I sincerely thank Marilynn Brewer. Her advice, mentoring, and theoretical insights were vital to my completion of this project. I would also like to extend my thanks to my committee members Richard Petty, John Skowronski, and Bill von Hippel for providing helpful suggestions and insightful questions about my program of research on entitativity; their comments during dissertation meetings and at my research presentations were invaluable in the progression of this line of work. My research project was also improved by the suggestions from members of the Social Cognition Research Group, especially Wendi Gardner, Jennifer Welbourne, Mike Sargent, and Michael Silver. In addition, several undergraduate research assistants aided my data collection and analysis: thanks to Greg Robinson, Gina Benson, and Matt Crawford. Finally, I want to thank Jeffrey Feinstein for all his support during the last five years. He also deserves thanks for helping me to clarify my thinking and writing about entitativity.
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CHAPTER 1

INTRODUCTION

A wealth of research on the perception of groups has examined stereotypes, or the traits associated with a given group (e.g., stereotype content: Katz & Braly, 1933; Ashmore & DelBoca, 1979; stereotype development: Eagly & Steffen, 1984, Ford & Stangor, 1992). However, simply knowing the content of individuals' stereotypes does not provide a complete understanding of how people think about social groups. Individuals' beliefs about social groups can focus on more than just the traits associated with the groups; people can be aware of variability of group members (e.g., Linville, Salovey, & Fischer, 1986; 1989; Park & Judd, 1990), the relations between themselves and group members, and the meaningfulness of the group itself.

Common statements such as "Women win the battle for maternity leave" suggest that social groups can be perceived as coherent entities having behaviors, motivations, intentions and traits of their own. The degree to which a group itself is thought of as a single, cohesive unit can affect how knowledge about social groups is structured in memory and how it is used when the perceiver is exposed to individual group members. The goal of the present project is to improve understanding of how social groups are perceived. Specifically, the factors that affect perceiving a group as a single unit and the outcomes of such perceptions will be investigated. This line of research is designed to
extend the field's knowledge of how individuals think about and act toward social groups; all groups are not alike, nor are they thought about in the same manner.

The focus on the perception of a group as a coherent unit is not a new idea. In 1958, Donald Campbell wrote an important paper discussing whether or not an aggregate of individuals could be considered a social entity. During this time period, the question of whether social collections could be viewed as "real" objects rather than just aggregates of separate elements was under debate in social science circles. Campbell suggested that social aggregates can legitimately be seen as single entities and that the "entitativity" (the degree to which a social group constitutes an "entity" or as a single object) can be measured empirically. By utilizing the same principles that underlie individual perception of physical objects as entities, he explained how social units could also be perceived as entities. Thus, Campbell's primary goal was to determine how the entitativity of a social unit could be measured.

Campbell suggested that because individuals rely upon their visual systems so heavily, the factors that "lead discrete elements to be perceived as parts of a whole organization" for physical, middle-sized objects should also affect the perception of social groups as coherent entities (p. 17). Social groups could be more or less entitative based upon factors such as common fate, similarity, and proximity of elements within the entity.

Common fate of elements was presented as the most important cue to determining entitativity; it refers to the degree to which elements within the same entity move together in time, in space, and on other characteristics such as "activity level, temperature.
reflected light, morale, hedonic tone, nutritional status, etc." (p. 19). Campbell illustrated how common fate could be quantified by taking composite measurements of intra-entity elements' positions and inter-entity elements' positions on multiple dimensions (e.g., latitude, longitude, altitude) across multiple occasions (to compute common fate coefficients). To the extent that intra-entity items covary more closely than inter-entity items (i.e., the ratio of intra-entity coefficients to inter-entity coefficients is high), the given target is highly entitative. For example, a boulder rolling down a hill will have a high intra-entity coefficient (as elements within the boulder move together in time and space) but will have a low inter-entity coefficient (as elements surrounding the boulder are not moving together over time).

However, one difficulty of determining common fate within a social group is that the actual boundaries of social entities are less sharp than of physical entities; therefore, it is difficult to determine which elements are part of the unit and which are not. This difficulty would lower the perceived common fate within an entity due to the error in measurement; therefore, social units with less sharp boundaries are in turn perceived as less entitative. A second difficulty in measuring common fate is re-identifying "the individual particles" of an entity on successive occasions (p.21); this difficulty can be attenuated if the individual elements are similar on some physical dimension.

Similarity of elements within a target (a second visual cue to entitativity) can aid in the measurement of intra- and inter-entity common fate. The similarity of elements can also directly affect perceived entitativity; the more similar the individual elements are, the more likely the object is perceived as a single unit. However, Campbell
suggested that outward similarity of elements on a dimension should be utilized to a lesser extent than common fate in determining bounded units (with similarity primarily serving as a marker for identifying elements which are part of a social unit).

Contiguous proximity of elements at a single point in time can also serve as a cue to entitativity. To distinguish this cue from common fate, proximity refers to the closeness of separate elements on a single occasion; although items with common fate might also be proximal to each other, proximity on a given occasion is not necessary. The movement of two objects together in time and space does not necessitate that the two objects are adjacent to each other. Campbell viewed physical proximity as less essential for entitativity than common fate, but conceded that because proximity is used by the visual system, it is a useful indicator of entitativity. In addition, proximity of elements creates the visual perception of bounded entities, and proximity can lead to increased similarity as a result of communication between group members or to increased common fate as a result of shared experience.

Campbell stated that the first three visual clues to entitativity—common fate, similarity, proximity—should generate the perception of a bounded unit. In addition to these cues from individual elements, Campbell also suggested that perceptual organization can affect entitativity. For example, elements forming a pattern are seen as part of some whole; items which seem to produce a “closed figure or completed boundary” create an entity (p. 18). In other words, to the extent that individual elements form a coherent whole, the unit is perceived as a single entity. As each of the cues can vary in degree, perceived entitativity was conceptualized as a continuum rather than as a
dichotomous variable. In addition, this entitativity continuum can be applied to any

target; groups, individuals, or physical units can vary in entitativity. Campbell concluded

his paper by pointing out the inconsistency that "the sociologist’s entity constructions are
treated as fictional while the psychologist’s entity constructions, such as persons,
individuates, or organisms are given a real status" (p. 24). Campbell’s paper demonstrates

that social units can sometimes be perceived as entities just as single individuals are.

Importantly, Campbell focused on what characteristics of a social group could be

used as cues to entitativity; he did not address the nature of entitative groups or the

consequences of group entitativity on individuals’ perceptions of other group

characteristics. In addition, no empirical work followed from Campbell’s original paper

until the entitativity concept began to receive new attention in the 1990s (as will be
discussed later). However, during the 30 year lapse in entitativity research, research on

group perception has utilized many of the separate cues or components of group

entitativity indirectly. Important work on prototype representations, group variability,

and group cohesiveness all relate to the components and outcomes of entitativity. In the

following section, these research areas will be summarized and related to the

conceptualization of entitativity; by doing so, the entitativity concept will also be better
delineated. Based upon the separate insights revealed about entitativity through these

comparisons, an explicit discussion of this paper’s conceptualization of entitativity is
given in the final section.
Related Concepts

Prototype Representations

One important question for group research is how information about groups is stored in memory. Models of social categorization suggest that perceivers divide the stimulus information of the world into separate categories. Just as non-social objects are grouped into categories (e.g., trees, dogs, cats) so are social objects (e.g., women, Asians, feminists). Prototype models (e.g., Posner & Keele, 1968; 1970; Rosch, 1978) suggest that upon exposure to individual exemplars of a category, perceivers form an abstract representation of the typical, or "prototypical," category member. This prototype does not necessarily represent an actual category member, but an ideal instance of the category. The prototype represents the characteristics most likely possessed by members of the category but not by members of contrasting categories. This prototypic representation can then be utilized to categorize new instances. Although all category members are not expected to have all of the prototypic characteristics, an instance is classified as a category member if it is more similar to the category prototype than to prototypes of contrasting categories. Importantly, categories are viewed as having fuzzy boundaries; the classification of an element as a part of the category does not depend upon some fixed criterion to be met, but upon the relative match of an instance to one category's prototype over another category's prototype.

Alternative models of group representation suggest that these abstracted prototypes are not formed about groups, and instead, perceivers simply store knowledge of individual exemplars (e.g., Linville, Fischer, & Salovey, 1989; Linville, Salovey &
Fischer, 1986; Smith & Zarate, 1992). Exemplar models suggest that categories are composed of individual exemplars of the category and that categorization of new members occurs by comparing the new instance to some subset (or all) of retrieved exemplars.

Finally, more recent mixed-representation models (e.g., Medin, Altom, & Murphy, 1984; Park & Hastie, 1987; Park & Judd, 1990) suggest that information about groups is encoded and stored in the form of prototypic abstractions and as information about individual group members (i.e., exemplars). Importantly, when judgments are made about a category, either the abstracted prototype or individual exemplars can be retrieved. The prototype representation can vary in strength or likelihood of being used depending upon qualities of the groups (Park & Judd, 1990). In other words, the relative strength or accessibility of the abstract representation can vary across groups.

Entitativity can be related to both prototype models and mixed representation models. Campbell (1958) did not focus on the consequences of entitativity or on the characteristics of an entitative group's mental representation. However, the idea of a prototype representation alludes to one important assumption about group entitativity; coherent entities have some definable characteristics which separate them from other entities. An abstracted prototype can provide a structure for the content of the general knowledge about the entity. In addition, a prototypic representation of a social group could also aid in identifying individual intra-entity elements for the evaluation of common fate; the presence or absence of prototypic characteristics of an item can help a perceiver determine the boundary of the social entity. Rather than rely upon superficial
similarities between individual elements, the perceiver can use the similarity of the instance to his or her stored, abstracted prototype in identifying elements within an entity. As a prototype can serve as a comparison point for determining group membership, storing a prototype of a group can aid in determining the entitativity of a group.

The previous paragraph suggests that the presence of a prototype can affect perceived entitativity. Conversely, the development and utilization of the prototype of a social category may be affected by the perceived entitativity of a group. Perception of a group as an entity may actually motivate a perceiver to form a prototypic representation of the social unit rather than to simply store knowledge about separate exemplars. As an entity should have a underlying essence, a perceiver should attempt to determine what the essence is. In other words, upon exposure to individual exemplars of a highly entitative group, perceivers should form an abstract representation of the underlying characteristics of the group (i.e., a prototype representation). If the perceiver does not think of the group as an entity, then the perceiver should not attempt to form an abstracted impression of the group as a whole (but may store information about the individual exemplars). In addition, perceived entitativity may also affect use of the prototype in categorizing instances as members of the category; new instances should be more likely compared to the prototype to the extent that the category is perceived as a coherent entity.

Although there have not been direct investigations of the relationship between group entitativity and prototypes, indirect evidence suggests that the entitativity of a target does affect the reliance on prototypic representations (or on general summary information) about the target (e.g., Srull, 1981; Stern, Marrs, Millar, & Cole, 1984; von
Hippel, Jonides, Hilton, & Narayan, 1993). For example, in Srull’s original paper on memory for behaviors which are incongruent with a prior expectancy (1981; Study 1), he varied the “meaningfulness” of the group target to manipulate attempts to “integrate information into a meaningful impression of the target as a whole” (p. 445). Specifically, he posited that better memory for incongruent information than for congruent information resulted from the increased number of mental links between individual behavioral episodes when the episodes are associated with the same target. Thus, a non-meaningful group distinction should not provide the single target under which behaviors performed by separate group members are associated. Indeed, he found that participants had better overall memory for behaviors (and proportionally better memory for incongruent behaviors) when the behaviors were presented about a single individual or a meaningful group (a political caucus which meets regularly) than when presented about a non-meaningful group (“a group of people”).

To interpret this finding in terms of entitativity, participants did not seem to relate together the individual behaviors when performed by members of the low entitative group but did when the behaviors were performed by members of the highly entitative group or by the single individual. In other words, the initial expectation provided about the target (i.e., the prototype) did not affect the processing of later information about the group for the low entitative group—possibly due to the failure to associate the separate group members’ behaviors with the group “prototype”. One goal of the present project is to address directly the effect of group entitativity on prototype formation and utilization. The empirical investigations are presented in Chapters 3 and 4.
Group Variability

Research on prototypes and central tendencies of social categories evaluate the content of knowledge about groups. However, the cognitive revolution and emergence of information processing models prompted researchers to investigate process-related issues for group perception. Instead of focusing on the content of mental representations alone, researchers began to investigate such issues as how category representations change, how prototypes develop, and how inconsistent category members are dealt with (see Park, Judd & Ryan, 1991 for a brief history).

One factor thought to influence information processing about groups is the perceived variability among individual group members. Research has found that perceivers tend to be aware of the variability among the individual members of a group on various dimensions, and they tend to represent this as part of the structure of the group representation (e.g., Judd & Park, 1988; Linville, Salovey & Fischer, 1986; Linville, Fischer, & Salovey, 1989; Park & Judd, 1990). More specifically, intra-group variability can be conceptualized as two distinct constructs: as perceived dispersion of individual instances along a given dimension, and as the degree of adherence of individual group members to the prototype (Park & Judd, 1990). Park and Judd (1990) factor analyzed the variability measures used in prior research on group variability and found two distinct factors. Some variability measures (such as range estimates and standard deviation measures) loaded on a “dispersion” factor and other measures (such as estimates of the percentage of group members possessing stereotypic versus counterstereotypic traits) loaded on a “stereotypicality” factor. Perceived dispersion reflects how similar the
individual group members are to each other whereas stereotypicality reflects the tightness of fit of individual group members to the group prototype. To relate these group variability measures to entitativity, the stereotypicality variable seems most relevant to the present conceptualization of entitative group characteristics; an entitative group should be represented with an highly accessible prototype that represents the characteristics expected of individual group members.

A group's perceived variability has been shown to affect information processing about the group. For example, group variability affects application of the group prototype to individual members of the group (Park & Hastie, 1987), affects categorization of new, inconsistent group members as members of the group (Park & Hastie, 1987), and affects generalization of group characteristics from the behaviors of individual instances (Quattrone & Jones, 1980). In other words, when a group is perceived as homogeneous, individual group members are expected to have the stereotypic traits and conversely, the traits of individual group members are expected to reflect the traits of the group.

The perceived variability of a group is clearly related to Campbell's' similarity cue to entitativity. Group homogeneity may lead to increased perception of a group's entitativity (as homogeneity serves as a cue) or, conversely, perceiving a group as a single unit may lead to the expectation of intra-group similarity (e.g., Judd & Park, 1988). In addition, some of the consequences of perceived homogeneity are identical to those expected on the basis of group entitativity (such as prototype use). If entitativity leads to expectations that group members will closely adhere to the group prototype, then
entitativity may be simply synonymous with group variability. An important question is whether perceived variability is a proxy for perceived entitativity. Given that similarity of elements can serve as a cue for the entitativity of a group, perhaps all highly homogeneous groups are also highly entitative and vice versa. In addition, if homogeneity does relate to entitativity, then out-groups (which are often perceived as more homogeneous than in-groups) might also be more entitative than in-groups. The separability of these constructs is addressed in Chapter 2.

**Group Cohesiveness and Social Identity**

Research on social cohesiveness and social identity theory suggest that some groups are more cohesive, or tightly connected, than others (see Hogg, 1992). Group cohesiveness has been conceptualized as the total forces acting upon individual group members to keep them in the group. Interestingly, Lewin (1948) suggested that cohesiveness itself is a dimension upon which groups vary “from a loose ‘mass’ to a compact unit” (p. 84). Traditional social cohesiveness models (e.g., Festinger, Schachter, & Back, 1950; Lewin, 1952) suggest that intragroup attraction or positive outcomes are the driving forces keeping group members together. Whether cohesiveness is the result of mutual need satisfaction (Lewin, 1952) or interdependent goals which can only be accomplished by the group action (e.g., Deutsch, 1949), these cohesion-building factors generally focus on common fate of group members. In addition, some researchers (e.g., Heider, 1958) suggest that similarity among group members leads to increased perceived cohesion within the unit. As these theories all rely upon positive intragroup interaction (or interpersonal attraction), the amount of interpersonal interaction (due to proximity of
group members or size of the group) and the effectiveness of the group are hypothesized to affect group cohesiveness.

A different perspective for group cohesiveness is derived from Social Identity theory (Tajfel & Turner, 1986) and more specifically, self-categorization theory (Turner et al., 1987). According to self-categorization theory, groups are represented as prototypes. When an individual’s social identity is activated, the individual’s self identity is assimilated to the prototype representation of the in-group. Group cohesiveness is the result of individual group members’ perceptions that they are part of a social entity (Hogg, 1992). In addition, this self-categorization creates conformity to group norms and consistency across group members’ behaviors because individuals form a representation of themselves based upon the characteristics of the group prototype. The self-categorization perspective suggests that not only do group members incorporate the traits of the group into their own self representation, but group members also can redirect their behaviors and motivations toward the group goals. Importantly then, self-categorization theory gives credence to the conceptualization of social entities possessing intentions, motivations, and behaviors of their own.

Research and theory on group cohesiveness focuses primarily on how intra-group cohesiveness occurs. It is less clear how the factors affecting intra-group cohesiveness affect the perception of a group as a single unit. In other words, it is not known whether the same processes that increase cohesiveness within a group also lead perceivers to view the group as more cohesive. To relate entitativity to group cohesiveness, the factors of common outcomes and interdependence of elements found to increase intra-group
cohesiveness should also increase the perceived entitativity of the group. Similarly, self-categorization theory suggests that categorizing one’s self as a group member involves viewing the in-group as a single representation. These ideas are clearly similar to the perceived entitativity of a group. It is therefore necessary to determine the relationships between perceptions of a group’s cohesiveness and of the group’s entitativity. The separability of these constructs will also be examined in Chapter 2.

Other Group Characteristics

Several other group characteristics also have relevance to the concept of group entitativity. For example, Mullen (1991) suggested that the size of a group has important implications for the ways individuals think about the groups. He hypothesized that minority groups are more salient than majority groups and as such, minority groups are represented with prototype representations to a greater extent than are majority groups and are perceived as more homogeneous than majorities. Mullen’s theory suggests that group size can affect the perceived entitativity of a group; the smaller the group, the more the group is seen as a single unit rather than a collection of separate elements.

Rothbart and Taylor’s (1992) theorizing on natural kinds also has conceptual similarity to entitativity. Rothbart and Taylor attempted to explain why some social categories have a more powerful impact on the processing of information about category members than other categorizations; for example, racial and gender category labels provide strong expectations for the behaviors of category members. They suggest that some social categories are perceived as “natural kinds” rather than “artifacts” (Gelman, 1988). Natural kinds are objects that exist independently of humans; they are not reliant
upon humans' beliefs or operations. Conversely, artifacts are objects created by humans: their existence is interdependent with human behaviors, needs and mental constructions. Importantly, natural kinds are perceived as possessing distinct underlying essences.

Rothbart and Taylor (1992) hypothesized that social categories which are perceived as natural kinds will be seen as having an underlying essence, and in turn this expectation should affect information processing about the category.

Two dimensions were posited as most important cues to natural kind status—inductive potential and unalterability. Inductive potential refers to the degree to which category membership provides information about other attributes of the group member. Unalterability focuses on the ability of category members to change their category status. To the extent that group membership allows for inferences to be made about group members and that group membership is unalterable, the category is perceived as a natural kind. Rothbart and Taylor also argue that similarity of physical characteristics among category members can create expectations of high inductive potential and high unalterability.

The conceptualization of social categories as natural kinds is closely related to entitativity. Highly entitative groups are perceived as single units; they are perceived as having an existence of their own. As such, a highly entitative group should be expected to have an underlying essence which is manifest in the individual elements (i.e., group members). An interesting question for group entitativity is the extent to which unalterability is an important feature of a highly entitative group; in other words, does choice of group membership relate to group entitativity.
Entitativity and Group Cognition

These disparate areas of research can be seen as focusing on the separate cues to entitativity and their consequences for information processing. However, the whole construct of entitativity did not receive direct attention until the 1990s (see Brewer & Harasty, 1996; Hamilton & Sherman, 1996) as researchers in stereotyping and social categorization have increased their focus on the way that social groups are mentally represented (see Mackie & Hamilton, 1993). Campbell’s (1958) entitativity construct predated information processing models. The new conceptualizations, although they differ from each other in several ways, all extend the entitativity concept beyond measurement issues to the implications for how information about social groups is processed.

Hamilton (1991) reintroduced the entitativity concept in an attempt to resolve differences between findings from research on person impression formation and research on group cognition. He suggested that differences in how impressions are formed about individuals and how impressions are formed about groups can be traced to expectations of entities. Individuals are thought of as single entities, and single entities are expected to have a stable, consistent, coherent essence. However, groups on average are not perceived as single entities and so are not expected to show consistency between elements (group members) and are not expected to have a coherent underlying disposition.

One such information processing difference between individuals and groups is found in initial impression formation. Hamilton cited evidence that for individual targets,
perceivers tend to form impressions as they receive information about the individual (i.e., form on-line impressions) whereas individuals are less likely to form an impression of the group as they receive information about individual group members. For group targets, evidence suggests that impressions are not formed on-line; if the perceiver is asked for an opinion about the group, the impression is constructed based upon the perceiver’s memory for specific behaviors (e.g., McConnell, Sherman, and Hamilton, 1994). Again, it is reasonable for individuals to form an immediate impression of a target if that target is perceived as a single, coherent entity.

Hamilton and his colleagues have also discussed the critical features of entitative groups. Hamilton (1991) originally focused on the expectation of consistency of elements as most critical feature of an entity. Hamilton and Sherman’s (1996) theoretical paper suggests that entitativity is highly related to the meaningfulness of the group— that the more meaningful the group distinction, the more entitative the group is. For example, they suggested that in-groups are more entitative than out-groups as in-groups are “indeed meaningful groups that have a reality” (p.349). The most recent position taken by Hamilton and colleagues is that organization within the group is most important for entitativity (Hamilton, Sherman, & Lickel, in press). Specifically, they suggest that the most entitative group is one with a formalized structure in which different group members have different functions which are necessary for the well-being of the group. This conceptualization focuses on the group’s structural coherence and the importance of common fate.
A different perspective has been put forth by Abelson (1994). He suggests that social groups do not just have characteristics, but groups also are “purposeful organizers of self-interested activities” (p. 8). He suggests that another side to entitativity is a group’s “actitivity” which focuses on the group’s “unity of purpose” (p. 8). Abelson proposed that a group will be perceived as a single actor as a result of several cues such as statements of intended action by group representatives, mass participation in events, accomplishments which are recognized as “group achievements,” and unanimously justified mass actions. These cues all provide information about the intentions of a entitative group. Abelson’s reconceptualization changes the perception of a group member as a stereotypic exemplar to the perception of a group member as an agent for the group’s purposes. He has applied actitivity to understanding intergroup conflict—if an out-group is thought of as active force with intentions, then negative behaviors of out-group members are seen as indicators of the intentions of the group as a whole.

Presenting a similar conceptualization to the current paper, Brewer and Harasty (1996) focus on characteristics of the perceiver which can affect perception of group entitativity and discuss the qualities and consequences of perceived entitativity. They suggest that entitativity is related to prototype activation; individuals are more likely to think of the group prototype for a highly entitative group. In addition, the structure of the mental representation is posited to differ as a function of group entitativity. For highly entitative groups, information about individual group members is encoded as information about the group. In other words, information learned from individuals’ behaviors is stored as part of the group representation.
One implication of this predicted dissociation of the behavior from the individual person representation is that a perceiver may not remember which group member performed which behavior. Consistent with this prediction, Brewer, Weber & Carini (1995) found more intra-group recognition errors for groups that were conceptualized as high in entitativity. Specifically, participants were presented with self descriptions from individual members of two separate groups and were later asked to match the given statement with the correct person. Participants confused which group member made what statement more when the group was perceived as highly entitative (e.g., a minority group or under competition conditions) than when the group was lower in entitativity (e.g., a majority group or under non-competition conditions).

Most importantly, Brewer & Harasty (1996) suggest that entitativity does not arise solely from qualities of the group. Instead, the perception of a group’s entitativity can be affected by the intergroup context, the perceivers’ motivations and goals, and the situational constraints. Rather than conceptualizing entitativity as a stable quality of a group, entitativity is thought to vary according to subjective perceiver factors. For example, competition between groups may lead individuals to think about the opposing groups as single objects rather than as collections of independent elements.

**Theoretical Conceptualization of Entitativity**

The theory and research described above differed widely in focus. Investigations have focused on (1) the cues which lead to the perception of a group as a meaningful entity, (2) the characteristics associated with entitativity (i.e., defining qualities of entitativity), and (3) the consequences of entitativity for information processing. The
relationship between the characteristics of an entitative group and the characteristics that cause one to perceive a group as an entity is complex; the causal relations between perceived common fate, similarity, expectations of coherence and consistency, prototype development and use, etc. are likely to be bi-directional. For example, learning that a group has formed based upon eating problems (common fate) might lead the perceiver to expect similarity among group members on other characteristics, might motivate the perceiver to form a coherent impression about the group, and might cause the perceiver to infer some common intention of the group based upon the behaviors of a given group member. On the other hand, perhaps a perceiver first identifies group members by their physical similarity and then infers a common bond between the group members. It is expected that no one characteristic or stable pattern of characteristics is a necessary or sufficient cause of group entitativity; the factors which lead one to perceive a group as an entity can vary across groups.

The second question for the entitativity concept is what characteristics are highly associated with entitativity, or in other words, which qualities define entitativity. The present project proposes that the defining characteristic of an entitative group is coherence within the group. Individual elements of an entity do not have to be similar in form or appearance, but they form a single coherent whole. For example, a face is a coherent structure although the nose, eyes and eyebrows do not look at all alike. However, there are clear relationships between the individual elements and they move together to produce an overall effect. A "true" smile involves activity by the mouth and eyes; disgust involves the brow, nose and mouth, etc. Thus, common fate of group
members or the perception of some underlying bond among group members is the most important characteristic of a highly entitative group. Resulting from this expected coherence of individual elements, the group itself then is perceived as having an underlying essence (i.e., a coherent quality).

As perceivers should expect coherence between elements and a meaningful underlying essence of an entity, they should attempt to determine what the essence is. Information learned about individual members of a highly entitative group should be brought to bear on the overall impression of the group; the behaviors of elements that are part of a coherent whole should be thought of in relation to each other. For example, just as a smile with no movement in the corners of the eyes is interpreted differently than a smile with eye movement, the actions of one group member can be interpreted in relation to the behaviors of other group members when the group is perceived as a single unit.

Once an impression is formed about a highly entitative group, individual group members should be thought about in relation to the group essence. In other words, the representation of the group (the prototype) should be highly accessible for an entitative group. In addition, perceivers can think about the group's intentions and actions; the individual elements produce a coherent whole thought of as acting as a single unit. For example, the stock market is a social entity composed of many unique elements which combine to create a seemingly organized outcome (e.g., "the market is sluggish today; the market is hesitant"). A sorority is also a social entity whose individual elements combine to create as organized outcome; individuals can point out the "intelligent sorority". The
“partying sorority”, or can attribute intentions to the group (e.g., “that sorority is trying to improve its grades”).

To test the validity of this conceptualization and to distinguish entitativity from previously investigated group characteristics, three separate investigations were conducted. First, a preliminary study was designed to evaluate the characteristics associated with entitativity, to determine whether group entitativity could be measured meaningfully, and to determine whether entitativity is a conceptually distinct characteristic. It was predicted that factors such as group cohesiveness, intra-group similarity, group size and amount of intra-group interaction will be related to, but not redundant with, entitativity. In addition, it was predicted that entitativity can be determined in multiple ways—that no one characteristic or pattern of characteristics is necessary, and that the pattern of relationships between characteristics will vary across different groups.

The second and third investigations were designed to determine the consequences of perceived entitativity on prototype development and prototype use. The expectation of an underlying essence of the unit and the perceived coherence of elements should lead to (1) the development of a unified impression of the group (tested in impression integration studies, Chapter 3) and (2) the perception of individual group members as interchangeable units which should also possess the group’s essence (addressed in Chapter 4) for highly entitative groups.

The following empirical chapters were designed to clarify the entitativity concept and to extend Campbell’s initial conceptualization to include the consequences of group
entitativity for information processing. These initial studies are therefore first attempts at defining this complex concept; as such, many important questions remain to be answered. However, these studies provide a theoretically sound foundation for evaluating the role of group entitativity in how individuals think about and act towards social groups.
CHAPTER 2

Correlates of Group Entitativity

Determining which factors affect the perceived entitativity of a social collective is not straightforward (see Hamilton, 1991; Hamilton et al., in press). The principles Campbell examined are all subjective in their own right and the relations between the principles can be unclear; sometimes one cue to entitativity is more important than another for drawing group boundaries. For example, Campbell suggested that common fate of group members should be primary to similarity of group members for perceived group entitativity: the group of "Redheads" is likely to be less entitative than the group "Blacks" because the "latter boundary is confirmed by some degree of common fate, while the former is not" (Campbell, 1958, p. 21).

However, sometimes similarity of elements can create a boundary where common fate does not; for example, members of a tour group might have common fate but may not be perceived as an entity whereas the Americans in the tour group might be perceived as an entity. Different cues might create the expectation of a coherence between elements and an expectation of an underlying group essence. Similarly, Campbell uses the example that a reinforced piece of concrete is more entitative than a piece of soft limestone (which can be broken apart easily) under the principle of common fate, but
limestone is more entitative given the principle of similarity of elements. In a social example, although it is clear that some groups are more entitative than others (e.g., a family is more entitative than redheads), it is not clear what specific qualities about a group make it more entitative. Although Campbell and Hamilton have suggested that different cues can be important in determining the entitativity of a group, no empirical work has evaluated these hypotheses for social groups.

Another concern with respect to evaluating the entitativity concept is its relationship and possible redundancy with previously investigated constructs such as group variability and group cohesiveness. An important question for entitativity is whether it is a conceptually and empirically distinct characteristic of a group. In addition, as many other group characteristics have been proposed to affect group perception, it is important to determine whether such factors also covary with group entitativity. For example, choice in being a group member is proposed to affect natural kind status (Rothbart & Taylor, 1992), and group size and amount of group interaction are thought to affect group cohesiveness; these factors might also be related to group entitativity.

As the first step in evaluating entitativity more concretely, a study was designed to evaluate the relationship of entitativity to previously investigated constructs such as group variability, group cohesiveness, and group size. In addition, the study assessed the relationship of perceived entitativity to Campbell's cues (common fate, proximity, similarity, good figure) and to factors theorized to affect other related constructs (group size, choice in group membership, amount of contact between group members). This study was designed to determine how the constructs are related and to determine whether
any previously examined construct is a single determinant of entitativity. Participants in the study rated many groups in terms of entitativity and related characteristics; the groups were systematically selected to vary on several dimensions such as size, closeness of members, and meaningfulness of the group distinction.

Specific group characteristics measured. Three types of characteristics were measured: (1) factors theoretically related to entitativity directly (common goals and daily events as "common fate", perception of a single unit as "good figure"), (2) related constructs to entitativity (group variability, group cohesiveness), and (3) factors theoretically related to the related constructs (choice in group membership, amount of group interaction, degree to which the behaviors of group members reflects on the group, and group size). (See Appendix B for a complete description of each of these measures.)

To operationalize entitativity, a brief description was created to express the essence of entitativity in language easily understood by naive participants. As highly entitative groups are conceptualized as coherent units having motivations, behaviors, intentions, and traits, the description included examples of these characteristics.

Method

Participants

Sixty-one Introduction to Psychology students participated in the study in partial fulfilment of course requirements (30 females and 31 males). One participant (male) did not complete the full booklets and was therefore not included in the analyses.
Procedure

Participants were informed that the study was investigating how people think about different types of groups. They were told that they would be presented with the names of several groups and would be asked some questions about their opinions of each of the groups. In addition, they were informed that because groups vary in many characteristics [such as size: from very large groups (such as U.S. citizens) to very small groups (such as a carpool)], they would be asked about groups that vary in size and in how well known they are.

Booklets. Each booklet presented 18 different groups. The groups varied in size, expected similarity of members, amount of interaction among group members, and amount of choice members have about being members of the group. The 16 groups that were presented to participants in random order are listed in Table 2.1. In addition, on the last two pages participants were asked (1) to think of a group they belong to that was very meaningful to them and (2) to think of a group that was not meaningful to them at all. Participants were told to think about the given group (which was listed at the top of each page) for a few minutes and then to answer a set of questions about the group. The questions are listed in Table 2.2. Each of these questions was followed by a ten point scale with labels at the endpoints.

On the final page of the booklet, participants were asked to rate how entitative each group was on a ten point scale ranging from 1 (not a real, single object at all) to 10 (a very real single object). Before rating each group on the scale, participants were given
Group (and abbreviation)

African-Americans (Afri-Amer)

Catholics (Catholic)

Students in the same Psychology 100 class (Class)

Democrats (Democrat)

Doctors (Doctor)

A typical family (Family)

A typical fraternity (Fraternity)

Psychology majors (Major)

People participating in an experiment during the same month (Month)

A group of office coworkers (Office)

OSU students (OSU)

People waiting for the same airplane (Plane)

Plumbers (Plumber)

A typical sorority (Sorority)

An intramural softball team (Team)

Women (Women)

Table 2.1: List of groups presented and their abbreviations.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Question wording</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice</td>
<td>How much choice do you think group members have in being members of this group?</td>
</tr>
<tr>
<td>Interaction</td>
<td>How much interaction do you think all members of this group have with each other?</td>
</tr>
<tr>
<td>Reflection</td>
<td>How much does the behavior of one group member reflect upon the group as a whole?</td>
</tr>
<tr>
<td>Goals</td>
<td>How similar are the daily life events and goals of members of this group?</td>
</tr>
<tr>
<td>Cohesiveness</td>
<td>How important is the group membership to each of this group's members?</td>
</tr>
<tr>
<td>Perception</td>
<td>If members of this group were together in a room, would you think of them as a collection of separate individuals or as a single group, or something between the two?</td>
</tr>
<tr>
<td>Similarity</td>
<td>How similar do you think members of this group are to each other?</td>
</tr>
</tbody>
</table>

Table 2.2: List of questions asked about the groups.
a paragraph describing just what this scale meant. Specifically, they were given the following paragraph in writing:

"Some groups are meaningful objects in their own right. People often don't think of these groups as a collection of separate individuals but instead as a single, real object. For these meaningful groups, people are usually able to point out one or two characteristics of the group, and people expect that individual group members will have each of these characteristics. In addition, people can imagine acting toward these meaningful groups as a whole (you might say something like, "I'm going to turn that group in to the authorities" if you perceive group members doing something wrong, or you might say "I like that group" rather than saying "I like people in that group").

Results

Ratings of each group and overall means. To evaluate the characteristics across the 18 groups, mean ratings on each measure were calculated for each group. These group scores were then utilized to compute the overall mean and standard deviations (therefore N=18; however the 18 data points were stable as they were the average of 60 individual scores). On the 1 to 10 scale, the mean entitativity rating across groups was 5.42 (standard deviation = 1.71). As can be seen from the distribution of mean ratings in Figure 2.1, the entitativity ratings form a continuum rather than a dichotomous categorization. The means and standard deviations for entitativity and the other characteristics are presented in Table 2.3. These characteristics also varied continuously.

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1 To insure that the continuous nature of the aggregate ratings resulted from individual participants rating entitativity on a continuum, the distributions of ratings per participant were evaluated. The scatterplots of the individual participants' ratings of the 18 groups revealed that entitativity was evaluated as a continuum. Scatterplots of 8 randomly selected participants' entitativity ratings are presented in Figure A.1 in Appendix A. In addition, no participant responded dichotomously on the entitativity ratings.
Figure 2.1: Plot of entitativity ratings of groups.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
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<td>Entitativity</td>
<td>5.42</td>
<td>1.71</td>
</tr>
<tr>
<td>Choice</td>
<td>6.68</td>
<td>2.40</td>
</tr>
<tr>
<td>Interaction</td>
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</tr>
<tr>
<td>Reflection</td>
<td>5.09</td>
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</tr>
<tr>
<td>Goals</td>
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<tr>
<td>Cohesiveness</td>
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<td>2.34</td>
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<tr>
<td>Perception</td>
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<td>1.70</td>
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<tr>
<td>Similarity</td>
<td>4.18</td>
<td>1.58</td>
</tr>
</tbody>
</table>

Note. These statistics were computed upon the mean ratings for each group. Therefore N=18.

Table 2.3: Rating means and standard deviations on each characteristic.
across groups. (See Table 2.4 for the mean ratings of the characteristics of the individual groups.)

As an aid to evaluating the pattern of characteristics across groups, Table 2.5 presents the rank ordering of the individual groups on each of the group characteristics. It is important to note that there is some variability in the ordering of the groups on each characteristic; however groups which were rated high in one dimension were generally also rated high in the other dimensions, except for the ratings of Choice.

To evaluate the relationship between size of the group and entitativity, the individual groups were categorized as large or small, and the mean entitativity rating was calculated. Half of the groups were coded as small (e.g., class, family, fraternity, month, office, plane, sorority and team) and the other eight groups were coded as large (African-Americans, catholics, democrats, doctors, Psychology majors, OSU students, plumbers, and women). The mean entitativity rating did not differ across group size (M: small groups = 5.45, large groups = 5.83, F<1).

Correlations between entitativity and other characteristics. To evaluate the relationships among the group characteristics and entitativity more systematically, correlational analyses were conducted. Again, the mean ratings of each characteristic for each group constituted the unit of analysis; due to the initial averaging across 60 ratings for each group score, much of the random error and within subject variability has been removed. Table 2.6 presents the correlations between the characteristics. All ratings were highly correlated with each other except for choice.
<table>
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<th>Group</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<td>2.25</td>
<td>2.44</td>
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<td>Class</td>
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Table 2.4: Mean ratings of characteristics for each group.
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<th>Choice</th>
<th>Interactn</th>
<th>Reflectn</th>
<th>Goals</th>
<th>Cohesive</th>
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<th>Similarity</th>
</tr>
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<td>Month</td>
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<td>Plane</td>
<td>Plane</td>
<td>Plane</td>
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<td>LowM.</td>
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<td>Catholics</td>
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<td>Catholics</td>
<td>Democrat</td>
<td>Office</td>
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<td>HighM.</td>
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<td>Doctors</td>
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<td>Team</td>
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<td>Plumbers</td>
<td>Doctors</td>
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<td>Afri-Amer</td>
<td>Afri-Amer</td>
<td>Major</td>
<td>Team</td>
<td>Doctors</td>
<td>Office</td>
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</tr>
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<td>HighM.</td>
<td>HighM.</td>
<td>Family</td>
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<td>Democrat</td>
<td></td>
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<td>Team</td>
<td>Office</td>
<td>Catholics</td>
<td>Team</td>
<td>Doctors</td>
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<tr>
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<td>Doctors</td>
<td>Fraternity</td>
<td>Fraternity</td>
<td>Sorority</td>
<td>Family</td>
<td>Family</td>
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<td>Family</td>
<td>Doctors</td>
<td>Fraternity</td>
<td>Sorority</td>
<td>Sorority</td>
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<td>Sorority</td>
<td>Sorority</td>
<td>Family</td>
<td>Fraternity</td>
<td>Fraternity</td>
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</tr>
</tbody>
</table>

Note. Groups are listed from low ratings to high ratings on each dimension.

Table 2.5: Groups sorted by ratings on each dimension.
<table>
<thead>
<tr>
<th></th>
<th>Entitativ</th>
<th>Choice</th>
<th>Interactn</th>
<th>Reflectn</th>
<th>Goals</th>
<th>Cohesive</th>
<th>Peceptn</th>
<th>Similar</th>
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</thead>
<tbody>
<tr>
<td>Entitativ</td>
<td>1.00</td>
<td>-0.12</td>
<td>0.93***</td>
<td>0.94***</td>
<td>0.70**</td>
<td>0.96***</td>
<td>0.87***</td>
<td>0.87***</td>
</tr>
<tr>
<td>Choice</td>
<td>1.00</td>
<td>-0.04</td>
<td>0.01</td>
<td>0.38</td>
<td>0.03</td>
<td>0.09</td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td>Interactn</td>
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<td></td>
<td>0.93***</td>
<td>0.78***</td>
<td>0.92***</td>
<td>0.83***</td>
<td>0.85***</td>
<td></td>
</tr>
<tr>
<td>Reflectn</td>
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<td></td>
<td></td>
<td>0.77**</td>
<td>0.97***</td>
<td>0.92***</td>
<td>0.94***</td>
<td></td>
</tr>
<tr>
<td>Goals</td>
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<td></td>
<td></td>
<td></td>
<td>0.80***</td>
<td>0.77**</td>
<td>0.91***</td>
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<tr>
<td>Cohesive</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.88***</td>
<td>0.94***</td>
<td></td>
</tr>
<tr>
<td>Perceptn</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.93***</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note. Correlations were computed with the unit of analysis being the mean ratings across the 60 participants for each group. Therefore, N=18. * p<.01; ** p<.001; *** p<.0001.

Table 2.6: Correlations of the mean ratings of each characteristic.

The correlations between entitativity ratings and the other characteristic ratings for each group (computed across participants) are shown in Table 2.7. Importantly, the pattern of correlations differs among the groups; no one characteristic was significantly correlated with entitativity for every group. For example, for the office workers and softball team, entitativity ratings were highly correlated with amount of interaction and the perceived intra-group cohesiveness. However, for the social categories (African-Americans and women), entitativity ratings were correlated with the degree to which the actions of one group member reflect on the group, the cohesiveness of the group, the
### Table 2.7: Correlations of group characteristics with entitativity as a function of group.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Choice</th>
<th>Interactn</th>
<th>Reflectn</th>
<th>Goals</th>
<th>Cohesive</th>
<th>Perceptn</th>
<th>Similar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afri-Amer</td>
<td>-0.07</td>
<td>0.22</td>
<td>0.45***</td>
<td>0.20</td>
<td>0.31*</td>
<td>0.35**</td>
<td>0.35**</td>
</tr>
<tr>
<td>Catholics</td>
<td>0.03</td>
<td>0.14</td>
<td>0.05</td>
<td>0.20</td>
<td>0.23</td>
<td>0.17</td>
<td>0.29*</td>
</tr>
<tr>
<td>Class</td>
<td>0.12</td>
<td>0.25*</td>
<td>0.27*</td>
<td>0.14</td>
<td>0.57***</td>
<td>0.31*</td>
<td>0.08</td>
</tr>
<tr>
<td>Democrats</td>
<td>0.04</td>
<td>0.38**</td>
<td>0.17</td>
<td>0.36**</td>
<td>0.34**</td>
<td>0.10</td>
<td>0.35**</td>
</tr>
<tr>
<td>Doctors</td>
<td>0.13</td>
<td>0.18</td>
<td>0.26*</td>
<td>0.54***</td>
<td>0.36**</td>
<td>0.23</td>
<td>0.49***</td>
</tr>
<tr>
<td>Family</td>
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<td>0.29*</td>
<td>0.21</td>
<td>0.17</td>
<td>0.15</td>
<td>0.18</td>
</tr>
<tr>
<td>Fraternity</td>
<td>0.19</td>
<td>0.13</td>
<td>0.06</td>
<td>0.21</td>
<td>0.08</td>
<td>0.35**</td>
<td>0.25*</td>
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<tr>
<td>HighM.</td>
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<td>0.43***</td>
<td>0.42***</td>
<td>0.26**</td>
<td>0.59***</td>
<td>0.21</td>
<td>0.44***</td>
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<tr>
<td>LowM.</td>
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<td>0.42***</td>
<td>0.48***</td>
<td>0.52***</td>
<td>0.61***</td>
<td>0.57***</td>
<td>0.63***</td>
</tr>
<tr>
<td>Majors</td>
<td>0.12</td>
<td>0.08</td>
<td>0.23</td>
<td>0.21</td>
<td>0.32*</td>
<td>0.25</td>
<td>0.30*</td>
</tr>
<tr>
<td>Month</td>
<td>-0.07</td>
<td>0.31*</td>
<td>0.21</td>
<td>0.36**</td>
<td>0.26*</td>
<td>0.16</td>
<td>0.30*</td>
</tr>
<tr>
<td>Office</td>
<td>-0.14</td>
<td>0.37**</td>
<td>0.22</td>
<td>-0.05</td>
<td>0.29*</td>
<td>0.22</td>
<td>0.24</td>
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<tr>
<td>OSU</td>
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<td>0.7</td>
<td>0.33**</td>
<td>0.25</td>
<td>0.26*</td>
<td>0.11</td>
<td>0.26*</td>
</tr>
<tr>
<td>Plane</td>
<td>0.02</td>
<td>0.14</td>
<td>0.23</td>
<td>0.16</td>
<td>0.18</td>
<td>0.27*</td>
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<td>0.34**</td>
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<td>0.30*</td>
<td>0.12</td>
<td>0.13</td>
<td>0.19</td>
<td>0.38**</td>
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<tr>
<td>Team</td>
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<td>0.36**</td>
<td>0.21</td>
<td>0.16</td>
<td>0.35**</td>
<td>0.22</td>
<td>0.18</td>
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<td>Women</td>
<td>0.18</td>
<td>-0.05</td>
<td>0.34**</td>
<td>0.34**</td>
<td>0.38**</td>
<td>0.29*</td>
<td>0.26*</td>
</tr>
</tbody>
</table>

*Note.* Correlations were computed with individual participants ratings as the unit of analysis. Therefore, N=60. Asterisks after the correlations reflect the significance level: * p<.05; ** p<.01; *** p<.001
perception of the group as a single unit, and the similarity of group members (common fate and goals was also significantly correlated with entitativity ratings for women). These differences are discussed more thoroughly in the discussion section.

**Regression analyses.** First, the averaged group ratings were included in a model in which entitativity rating was predicted by the 7 other variables (N=18). Consistent with the correlational results, the $R^2$ for the model was 0.97, $F(7,10)=48.55, p<.0001$ (the high collinearity renders the comparison of betas as meaningless).

For a more meaningful evaluation of the variance accounted for in entitativity ratings by the previously investigated characteristics, regression analyses were also conducted for the ratings within each of the separate groups (N=60). Table 2.8 presents the results from separate regressions performed for the ratings of each group considered separately. Entitativity was predicted by the seven characteristics for each group; the table presents the overall $R^2$ and its significance for each group. Importantly, although the characteristics accounted for significant amounts of variance in entitativity ratings for most of the groups, the entitativity ratings were not completely accounted for by the previously investigated characteristics.

**Discussion**

This direct investigation revealed that groups perceived as meaningful entities by a participant tend to have group members (1) who often interact with each other, (2) whose behavior reflects on the group as a whole, (3) who view their group membership as important for themselves, and (4) who have similar characteristics and goals as other group members. Although these characteristics were all highly correlated with perceived
Individual group regression models (N=60)

<table>
<thead>
<tr>
<th>Group</th>
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<tbody>
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<td>Afri-Amer</td>
<td>0.29***</td>
</tr>
<tr>
<td>Catholics</td>
<td>0.12</td>
</tr>
<tr>
<td>Class</td>
<td>0.44****</td>
</tr>
<tr>
<td>Democrat</td>
<td>0.24**</td>
</tr>
<tr>
<td>Doctors</td>
<td>0.43****</td>
</tr>
<tr>
<td>Family</td>
<td>0.14</td>
</tr>
<tr>
<td>Fraternity</td>
<td>0.21*</td>
</tr>
<tr>
<td>HiMeaning</td>
<td>0.46****</td>
</tr>
<tr>
<td>LoMeaning</td>
<td>0.56****</td>
</tr>
<tr>
<td>Major</td>
<td>0.25**</td>
</tr>
<tr>
<td>Month</td>
<td>0.16</td>
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<tr>
<td>Office</td>
<td>0.24**</td>
</tr>
<tr>
<td>OSU</td>
<td>0.22*</td>
</tr>
<tr>
<td>Plane</td>
<td>0.19</td>
</tr>
<tr>
<td>Plumbers</td>
<td>0.28***</td>
</tr>
<tr>
<td>Sorority</td>
<td>0.30***</td>
</tr>
<tr>
<td>Team</td>
<td>0.21*</td>
</tr>
<tr>
<td>Women</td>
<td>0.256**</td>
</tr>
</tbody>
</table>

Note. * p<.10, ** p<.05; *** p<.01; **** p<.001

Table 2.8: Regression analyses for individual group ratings.
group entitativity (and with the other characteristics as well), the pattern of correlations differed across groups. The extremely high correlations of the characteristic ratings were the result of reduced variability in the mean group ratings; groups high in one characteristic were high in the other characteristics. In other words, the relative rankings of each group did not differ across the characteristics (see Table 2.5). Importantly however, the characteristics most closely related to entitativity for a given group were not necessarily the characteristics related to entitativity for a different group. In fact, the differences in patterns of correlations reveal differences across types of groups.

For example, the two social categories--women and African-Americans--both have reflection, cohesiveness, perception as a single unit, and similarity highly correlated with perceived entitativity. However, reflection had the highest correlation with entitativity for African-Americans (and was the only significant predictor in regression analyses) and cohesiveness had the highest correlation with entitativity for Women (and was the only significant predictor). In other words, the extent to which an individual African-American’s behavior is thought to reflect upon the group as a whole is highly related to the perceived entitativity of the group; perceivers who think that behaviors of individual group members reflect upon their whole group tend to rate the group as a coherent entity. Interestingly, the entitativity of the social category women seems to be most related to perceived cohesiveness--the more individual women are thought to view their group membership as important, the more entitative the group “women” is seen to be.
Another interesting finding is that for small, interacting groups such as office workers and a softball team, amount of interaction and cohesiveness of the group were both highly correlated with entitativity. Perhaps entitativity is determined primarily by these organizational features for small groups.

To summarize, group entitativity appears to be multiply determined with no one quality necessary or definitive for a given group. Perceived similarity of group members and group cohesiveness are only two of the potential qualities of a highly entitative group. The correlational findings reported in this study suggest that group entitativity is a conceptually distinct factor on which groups can vary. This assertion is supported by the finding that for individual groups, a large proportion of the variation in entitativity ratings was not accounted for by the other measured characteristics. In addition, this study revealed that individuals are able to rate the entitativity of a group in a meaningful way and that the entitativity of groups can vary along a continuum. However, the causal relationships among these factors are unknown; future investigations are necessary to determine if a given characteristic of a group can affect the perception and expectations about other group characteristics.

Given that entitativity is a distinct characteristic of a group, the next concern is to evaluate how this characteristic affects the way individuals think about social groups. Going beyond the factors which relate to perceived entitativity that Campbell discussed, I have investigated the consequences of group entitativity for information processing. Just as other characteristics of a group have been shown to have important consequences for how information about the group is processed (e.g., homogeneity leads to increased
generalization and stereotyping; group cohesiveness leads to increased in-group/out-group bias), perceiving a group as a single, coherent entity should also have implications for information processing. Studies examining the consequences of entitativity for prototype formation and prototype use are presented in Chapters 3 and 4.
CHAPTER 3

Coherent Impression Formation as a Function of Group Entitativity

The perceived entitativity of a group has implications for many important issues in social psychology. Intergroup relations, prejudice and discrimination can all be affected by whether the groups are perceived as single entities versus as a collection of individuals (see Abelson, 1994). As discussed in Chapter One, the entitativity concept has only recently been related to information processing about groups; however, perceived group entitativity is predicted to affect how impressions of groups are formed. If a group is perceived as a single coherent unit, then the impression formed about the group should be different than if the group is perceived as an aggregate of separate individuals. Specifically, the content and structure of the impression and the impression formation process itself should differ across entitativity. The present conceptualization of entitativity suggests that a perceiver will more likely form an abstracted, coherent impression (i.e., a prototype) about the group as he or she is exposed to individual group members if the group is highly entitative. Evidence for impression formation differences across target entitativity is presented in the following section.

Impression Formation. Although not much prior research has compared impression formation processes for groups that differ in entitativity, several interesting
processing differences have been revealed about targets that do clearly differ in entitativity—individuals versus groups. Because individuals are usually perceived as single entities whereas groups in general are perceived as less entitative, differences in impression formation processes for individual and group targets are indicative of differential processing of information about groups that vary in entitativity.

The way perceivers form impressions of a target does seem to differ depending upon whether the target is a single individual or a collective group. One such difference is that perceivers are likely to form impressions of an individual "on-line" whereas they do not spontaneously form on-line impressions of groups (McConnell, Sherman, & Hamilton, 1994). In other words, perceivers form (and update) their impressions of an individual while they learn about the individual's behaviors; if asked for their impressions later, they can access their stored impression. Perceivers are less likely to actively form an impression of a group while they learn about group members' behaviors; if asked for their impression later, they instead make this judgment based upon their memory for specific behaviors.

To evaluate on-line and memory-based judgments for group and individual targets, McConnell et al. (1994) utilized the standard illusory correlation paradigm but varied the targets and the processing-set instructions. In the illusory correlation paradigm, subjects are presented with 36 behaviors about two different targets: 24 from a "majority" target and 12 from a "minority" target. In addition, two-thirds of the behaviors about each target are positive while one-third are negative. Past studies (e.g., Hamilton & Gifford, 1976) have found that for groups, although each target has the same ratio of
positive to negative behaviors, subjects come to like the majority target more than the minority target and they overestimate the frequency of negative behaviors performed by the minority.

Hamilton has suggested that the illusory correlation effects for group targets are indicative of memory-based judgments; if participants do not form an impression of the group on-line but are asked to make a judgment about the group later, they have to rely upon their memories of behaviors performed by members of that group. Because infrequent information is very distinctive, this information is remembered better than non-distinctive information. The negative, minority group behaviors are remembered better than the more frequent behaviors and thus, are over-emphasized in judgments made about the group (see Hamilton & Sherman, 1989 for a review). However, if participants are instructed in advance to form an impression about the two groups, the illusory correlation effect can be eliminated; Pryor (1986) found no difference in the evaluations of minority and majority groups when participants received the behavior information under impression-formation instructions. When perceivers attempt to form an on-line impression of group targets, they do not overestimate the occurrence of highly memorable information (presumably because the perceiver stores an impression of the group and when a judgment is needed, the perceiver can access this stored impression rather than specific group members' behaviors).

Based on these prior findings, McConnell et al. (1994) varied whether participants learned about two individuals or two groups and varied whether participants were instructed to form an impression of the targets, to memorize the information about the
targets, or to judge the coherence and grammar of the sentences (comprehensibility-set). They predicted—and found empirical support—that regardless of target (individual or group), impression-set instructions led to on-line processing (and no illusory correlation effects) and comprehensibility-set led to memory-based judgments (and illusory correlation effects). However, memory-set instructions were expected not to necessitate either type of processing, and so participants’ default processing strategies should have been revealed in the memory-set conditions. McConnell’s results supported the prediction that perceivers’ default processing strategies are to form on-line impressions of individuals and not to form on-line impressions of groups. Given the memory-set instructions, participants showed greater liking for the majority target and an overestimation of negative minority target behaviors only when the targets were two groups; these memory-based illusory correlation effects did not occur for person targets.

To relate these findings to group entitativity, the different processing strategies between individual and group targets might result from the expected coherence of the object being evaluated (Hamilton & Sherman, 1996). Perceivers expect highly entitative individuals to be consistent and coherent in their personalities whereas groups are expected to be less coherent; group members are often expected to differ somewhat in their personalities. Because (at least in Western society) person entities are expected to be consistent in their attributes, to have some underlying essence or disposition, and to be stable over time (e.g., Asch, 1946; Ross, 1989), it is adaptive for perceivers to form spontaneous trait inferences about human entities (see Uleman, 1987), to form impressions about entities on-line (see McConnell et al., 1994), and to try to make sense
of inconsistent information which leads to better memory for the incongruent information (see Srull, 1981). All these processing mechanisms should lead to the formation of an integrated impression of an individual; a perceiver's knowledge of an individual is likely to be a coherently structured organization (e.g., Asch, 1946).

Asch's work on configural impressions suggests that people do not keep separate lists of traits for a single individual; instead, they bring together divergent behaviors and characteristics into a single, integrated impression of the individual. To use a metaphor, forming an impression of an individual has similarities to creating a chemical reaction. In a chemical reaction between two substances, the final product is different from the inputs: the separate inputs become a single integrated whole. The same seems to occur when separate traits are brought together in the same personality. We expect individuals to have coherent personalities in which each behavior of the person is related to previous behaviors. For example, if “Frank” is perceived to be intelligent and critical, and “Mark” is perceived to be envious and critical, the impression of Frank's criticalness is different than the impression of Mark's criticalness because criticalness in conjunction with intelligence has a different meaning (e.g., "critical thinking") than the envious criticalness (e.g., "criticizing").

However, when one learns about a group of people, each behavior observed can be performed by a different person. The formation of configural impressions of groups has not been obtained empirically; instead, stereotypes have been shown to revolve around the trait that best distinguishes the group from other groups (e.g., Ford & Stangor, 1992). For example, Ford and Stangor (1992) presented participants with behavior
descriptions of members of two groups. The behaviors varied on two dimensions (intelligence and friendliness) such that the groups differed from each other on both dimensions. However, in Study 1 there was a larger mean difference between the groups on one dimension than on the other (i.e., the groups differed more in friendliness than in intelligence, or vice versa) and in Study 3 there was more variance within group on one dimension than on the other dimension. Ford and Stangor found that participants spontaneously described the groups with the dimensions on which the groups differed the most (or on which there was less variation among members in the same group); the researchers suggested that these results were due to the association strength of the more differentiating dimension to the group representation. In other words, stereotypes of a group were formed based upon the single characteristic which best differentiated the two groups (rather than upon an integrated impression which includes all the groups’ dimensions).

For groups then, it seems less likely that a perceiver will combine behaviors of different persons into a single impression of the group. There is no inherent reason why traits should be related across people (e.g., Franks’ intelligence should not have any relation to Mark’s enviousness). However, the entitativity of a group may provide a reason for the perceiver to integrate the separate individual’s characteristics into a coherent impression of the group. The same coherence expected among an individual’s attributes should also be expected for highly entitative groups. In other words, a perceiver might take behaviors performed by different group members and relate them together to form an integrated impression of the group if the group itself is perceived as a
single entity. For example, Group A may be viewed as intelligent and envious as the perceiver learns about Frank's intelligent and Mark's envious behaviors.

One aim of the present project is to move beyond comparisons of individuals and groups to examine entitativity as a varying characteristic of groups themselves. Specifically, a group which is highly entitative is conceptualized as similar to a single person; the perceiver sees both as single entities and has the same expectations of coherence, consistency and stability for both targets. To the extent that a group is perceived as a coherent entity, group impression formation will have the same properties as person impression formation. Therefore, when a person perceives a group to be highly entitative, the person should expect consistency and coherence among the attributes of the group as a whole and should attempt to form an on-line, integrated impression of the group by combining all the individual group members' behaviors to form a single impression of the group.

The present studies evaluated the formation of integrated impressions about groups that vary in entitativity. Past research does suggest that differing degrees of on-line impression formation can occur across entitativity (e.g., McConnell et al, 1994); however, no paradigms have been developed in past research to directly measure impression integration. A new method designed to test whether the impression formed about a group is integrated into an organized structure or is not integrated at the time of impression formation was tested in three separate studies.
Impression Integration Studies 1, 2, and 3

Conceptual rationale

To form an integrated impression about a group, a perceiver must encounter a variety of information about individual group members. For example, imagine that a perceiver sees “Marcia” (a member of a campus organization) return a $20 bill to a stranger who dropped it. The perceiver also sees “Peter” (another member of the same group) trip and knock over a stack of books. There are several alternatives for the type of impression the perceiver forms about the campus organization. The perceiver might not form an impression of the group at all, but might simply form impressions of the individual people. Given that the perceiver is asked for his or her impression of the group, the perceiver might focus on only one of the characteristics if one is more memorable than the other (e.g., that the group is very honest). Alternatively, the perceiver might decide that the group has some honest members and some clumsy members which would suggest that the perceiver has kept track of the various behaviors of individual group members. A third alternative is that the perceiver decides that the group is very honest but not too graceful--that members will have both of these characteristics.

This third alternative represents an integrated impression; the perceiver brought together the behaviors of separate group members to form a single, coherent impression of the group. The impression is not a listing of separate characteristics of group members, but a configural structure. The individual characteristics are seen in conjunction with each other, and this integrated impression describes the group as a
whole such that individual members of the group will be thought to possess the configuration of characteristics.

**Overview of experimental procedures**

The hypothetical example described above was formalized in the present impression integration studies. Participants were presented with single behaviors performed by different group members. For example, several group members exhibited a highly intelligent behavior (such as receiving the high score on a history test, or receiving an academic scholarship) and a few group members exhibited a moderately unkind behavior (such as charging a friend interest on a loan, or reluctantly listening to a friend with a problem). A perceiver's impression of the group might focus on the most frequent or extreme behaviors (e.g., the group may be perceived as intelligent). Alternatively, the perceiver may remain aware of the different dimensions and decide that "some group members are intelligent and other group members are unkind."

However, the perceiver might form an integrated impression and decide that the group is intelligent and unkind (or maybe "crafty" or "conniving"). One important consequence of forming an integrated impression is that the perceiver should expect a typical group member to possess both characteristics; in other words, the prototypic group member should have this combination of characteristics. In the experimental scenario, a group member who is both intelligent and unkind should be perceived as very typical of the group—more typical than a group member who shows only one of these traits even though the perceiver had never been exposed to an intelligent and unkind group member before. If a perceiver forms an integrated impression of the group, the
most typical member will be one who portrays two traits not seen in conjunction in any
previously met group member. This rationale underlies the method and dependent
variables in the impression integration studies.

It is hypothesized that for groups which are expected to be coherent (i.e., groups
high in entitativity), perceivers would integrate all information learned about separate
group members into their impressions of the groups. Conversely, perceivers should not
form an integrated impression of groups which are not expected to be coherent (i.e.,
groups low in entitativity); instead, the impression should be based upon the most
memorable behavior or upon a separate listing of group members’ traits.

To test this hypothesis, a measure of impression integration was developed. As
the type of impression formed about a group should lead to systematic differences in the
perceptions of the most typical group member (as described above), impression
integration can be measured through participants’ ratings of how typical of the group a
newly encountered group member is. In this paradigm, after participants are exposed to
individual members of a group who perform behaviors varying on two dimensions (e.g.,
intelligent behaviors and unkind behaviors performed by different group members),
participants are presented with new descriptions of other group members. At this point,
the descriptions consist of two behaviors about the same person. Participants are simply
asked to rate how typical of the group each of these new individuals is.

One such group member is described with behaviors which match the behaviors
of the previously presented group members on both dimensions (e.g., the person is
described as performing one intelligent behavior and one unkind behavior). This
individual should be viewed as typical of the group because the person's behaviors match the individual trait dimensions learned about other individual group members (although no single group member had been described previously with both dimensions). Regardless of the type of impression formed about the group, this individual (referred to as the "Integrated" description) should be rated as typical of the group.

In the experimental paradigm, another group member is described as performing one behavior that matches one of the trait dimensions but as performing another behavior that mismatches on the other trait dimension (e.g., the person performs one intelligent behavior and one kind behavior). If the perceiver does not bring together the behaviors learned about individual group members to form an integrated impression of the group, then this second person, who acts in the same manner as other group members, should be seen as equally typical of the group as the "Integrated" person. In fact, if evaluative consistency within a person is assumed (i.e., the well-known halo effect), perceivers should expect that someone who is intelligent will also have other good qualities such as kindness. Only if the perceiver integrates the divergent bits of information about separate group members would the second person (referred to as the "Halo" description) be viewed as less typical of the group than the first person. It is predicted that for highly entitative groups, participants should perceive that the "Integrated" person is more typical of the group than the "Halo" person. However, for groups low in entitativity, participants should not differentiate between the typicality of the two exemplars.

It is important to clarify the rationale underlying these predictions. Individuals tend to expect evaluative consistency within the traits of a given person (Cooper, 1981); a
entity is expected to have coherence within its characteristics. Under baseline conditions, perceivers should expect that the intelligent group members also have other positive qualities (such as kindness) and that the unkind group members have other negative qualities. Thus, the Halo description would be seen as either more typical or equally typical of the group as the Integrated description under baseline conditions (i.e., when the group is not seen as a coherent unit). However, the paradigm has been purposefully designed to present a series of behaviors for which an integrated impression of the group counters the expected halo effect\(^2\). If a perceiver effortfully integrates the evaluatively-inconsistent behaviors into a single impression of the group, then the default expectations of individual halo should be overcome. Given that highly entitative groups are expected to be coherent and have a single underlying essence, then the most typical group member would be one whose behaviors are evaluatively inconsistent (e.g., intelligent and unkind).

Because these measures of impression integration had not been previously validated, three studies were conducted using this procedure. These studies were conceptual replications with minor variations. As the procedures of each study were very similar, they will be described together with the differences across studies noted. Table 3.1 provides a summary of the designs of the three studies.

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\(^2\) The behaviors were also designed so that the evaluative inconsistency was not completely unbelievable; the kindness related behaviors were not severely kind or unkind. It was assumed that if the behaviors expressed extremely positive behaviors on one dimension and extremely negative behaviors on a different dimension, participants would be unable to form a single impression of the group.
### I. Entitativity Manipulation

<table>
<thead>
<tr>
<th>Groups</th>
<th>Study 1</th>
<th>Sorority and Family</th>
<th>Study 2</th>
<th>Sorority</th>
<th>G-processors</th>
<th>Study 3</th>
<th>Sorority</th>
<th>G-processors</th>
</tr>
</thead>
</table>

### II. Behavior Presentation

<table>
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<tr>
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<th>Study 2</th>
<th>Study 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Intelligence</td>
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<td>6</td>
</tr>
<tr>
<td>Trait dimension</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>6</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

(Mixed valence)

### III. Recall of behaviors measured?

<table>
<thead>
<tr>
<th>Recall</th>
<th>Study 1</th>
<th>Study 2</th>
<th>Study 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 3.1: Summary of impression integration study designs.
Method

Participants

A total of 318 OSU students participated in partial fulfillment of Introduction to Psychology course requirements. Individuals participated in groups of three to eight per experimental session. Study 1 had 74 participants; study 2 had 127 participants; and study 3 had 117 participants.

Overview and Design

Participants were provided with behavioral descriptions said to have been performed by individual members of a group; the group was either a highly entitative group or a low entitative group based upon the ratings obtained from the preliminary study. Participants then were asked to recall as many of the behavioral descriptions as possible. Finally, participants received the typicality questionnaire used to measure whether they formed integrated impressions of the groups.

The basic design of each study was a 3 (target group entitativity) x 2 (behavior version: intelligent but unkind vs. unintelligent but kind behaviors) between subject design; the behavior version manipulation served as a control for valence of the two traits. Study 1 utilized two highly entitative groups (a sorority and a family\(^3\)) and a group low in entitativity (people who participated in the same month). Studies 2 and 3 utilized the sorority and month groups and also included an ambiguous group called "G-

\(^3\) Although sororities should be seen as highly entitative, there was a concern that participants' prior stereotypes about sororities might affect the impressions formed, especially because intelligence-level and kindness might be stereotype relevant for sororities. Family was included as a conceptual replication of a highly entitative group.
processors." This ambiguous group was included as a moderately entitative target to allow for an initial examination of the continuous nature of entitativity.

Procedure

Initial Instructions. The experimenter read aloud the initial instructions which provided a cover story for why participants were learning about the behaviors from a group of individuals. Participants were told that the experiment's purpose was to examine the "relationship between social interaction style and personality" and that because performance in "an artificial experimental session" provides only limited information, the experimenter would like students to participate in an "activity report study." Participants were told that they would receive additional experimental credit if they would complete an activity report for a week, and because it was very important that they write down the appropriate types of behaviors in their activity reports, they would be provided with examples of the behaviors written down by previous activity-report subjects. Participants did not actually complete activity reports.

Target Group Descriptions (Entitativity Manipulation). Participants then were given written descriptions about the "sample" of people who had previously completed the activity reports. In the different conditions, the descriptions were said to have been obtained either from (a) a family, (b) a sorority, (c) a group of people found to share a perceptual processing style ("G-Category members"), or (d) subjects who had participated in the activity report study during the same month. Because the entitativity manipulation was in written form, different conditions were run in the same experimental session.
In the **Family and Sorority conditions** (high entitativity conditions), participants were informed that the behaviors were obtained in a Family (or Sorority) activity-report study conducted at a different university, and "because extended families (sororities) are often close-knit groups with a great deal of interpersonal contact, we chose to evaluate members of different" families (sororities). They were also informed that all the behavioral descriptions that they would receive came from participants in the **same** family (sorority).

In the **G-category condition** (ambiguous entitativity condition), participants were informed that the behaviors were obtained in a study evaluating people "who fall into two distinct perceptual processing styles: called F-processors and G-processors." Participants were told that about half the population falls into the F-processor category and half into the G-processor category based upon their responses on a perceptual test and that although the "perceptual difference is thought to create other important differences in the way people approach day-to-day life," very little research had been conducted to investigate the differences. Participants were informed that all the behavioral descriptions that they would receive came from participants in the **same** perceptual category.

In the **Month condition** (low entitativity condition), participants were informed that the behaviors were obtained in an activity-report study conducted over two quarters and because "different events occur over an extended period which can impact on people's lives...we recorded in which months the participants completed their activity
reports." Subjects were informed that they would receive the behavioral descriptions from participants who participated in the same month.

Behavior Presentation. Participants then received a booklet which provided one behavioral description per page; participants were given eight seconds to read each behavior. In all studies the behaviors represented two dimensions: intelligence and kindness. There were two versions of the behaviors presented. Within any one booklet, the separate behaviors were either (a) intelligent or unkind or (b) unintelligent or kind. In addition, the behaviors were presented in two different orders within each version condition. Importantly, the two dimensions were designed to be opposite in valence.

In Study 1, twenty-four behaviors were provided. Twelve of the behaviors were intelligence-related (i.e., either all very intelligent or all very unintelligent as rated by 35 pilot subjects in a previous quarter) (see Appendix A for the behavior items' intelligence ratings and Appendix B for the order of behavior presentation). Six of the behaviors were kindness-related (i.e., either moderately kind or unkind). There were 6 neutral, irrelevant behaviors as well. Each behavior was presented as an item from a different member of the target group, and each behavioral description was presented in the same form—the person's initials followed by group affiliation in parentheses and then the behavior [e.g., for irrelevant behavior: "A. H. (Sorority A) hit the ball at a softball game."].

In Study 2, six additional behaviors were added to the end of the behavior presentation: three of these were neutral behaviors and three were kindness related. The kindness-related behaviors were of the opposite valence of the six previously presented kindness-related behaviors (behaviors are included in Appendix A). This variation was
included as another way to distinguish between judgments formed on-line versus
memory-based judgments. One result of forming on-line impressions is that a primacy
effect is likely to occur (see Asch, 1946; Hamilton & Sherman, 1996). Information
learned early on has greater impact on the overall impression as this early information
provides the initial expectancy. On the other hand, recency effects have been found in
impressions when the perceiver relies upon his/her memory of behaviors to form the
impression (e.g., memory-based judgments). Based upon the expected primacy effect for
highly entitative groups, the final inconsistent behaviors were predicted not to affect the
overall impression of the highly entitative group (e.g., the group will still be perceived as
intelligent but unkind). However, for groups low in entitativity, the final behaviors
should have an effect on the later judgments of the group as these last behaviors should
be more memorable. In Study 3, the number of behaviors presented (24 or 30 behaviors)
was varied between subjects.

Dependent Variables

Free Recall. In Study 1 and Study 2, after the behavioral description booklets
were collected, the participants were asked to try to remember as many behaviors as they
could. They were given a blank, stapled booklet on which they were told to write one
behavior per page and not to look back at behaviors they had previously written.
Participants were told to write down as much of each behavior as they could remember
even if they could not remember the behavior exactly. They were allotted 5 minutes to
complete this task. Participants did not complete the free recall task in Study 3 (in order
to allow for the evaluation of whether recall affected the other dependent variables such as typicality ratings in the other two studies).

**Typicality Questionnaire.** Following the recall task (or following the behavioral presentation in Study 3), the experimenter informed participants that as "we are very interested in learning about social interaction style and personality," we would like to know about their initial impressions of the group. Questionnaire instructions stated that "based upon the information you received about the group members, we are interested in your estimates of how typical of Family A (or "of Sorority A", or "of Category G participants" or "of Month A participants") the following individuals are." These instructions were followed by brief descriptions of separate individuals. Two behaviors were presented about each individual, and participants were to rate how typical of the group the individual was, using a 10-point scale with endpoints of "Very atypical of" and "Very typical of" Family A/Sorority A/Category G/Month A participants.

Although there were seven combinations of two behaviors in the typicality questionnaire, only three behavior pairs were of importance (see Appendix B for listings of the other behavior combinations). The three important descriptions for each behavior version condition are presented in Table 3.2. These descriptions were: (1) the "Integrated" description in which both behaviors matched the separate trait dimensions of the individual group members (e.g., intelligent and unkind); (2) the "HaloI" description in which the intelligence-related behavior matched the group members but the kindness-related behavior did not (e.g. an unintelligent behavior and an unkind behavior); and (3) the "HaloK" description in which the intelligence-related behavior did not match but the
kindness-related behavior did match. Ratings of the two Halo descriptions were averaged to form a more conservative measure.

For counterbalancing purposes, there were two variations in the description presentation. First, the two behaviors which created the Integrated description and the Halo descriptions were varied: two different pairings were created. The different pairing versions are listed in Table 3.2. Second, the order of presentation of the Integrated and the Halo descriptions was varied; the Integrated description was either presented second or fourth.

**Group Ratings.** After completing the typicality ratings, participants were asked for their impressions of the group itself. They were asked to rate (1) how kind they thought the group was, (2) how intelligent they thought the group was, (3) how much they liked the group, and (4) how similar they thought the group members were to each other. (Study 1 did not include the similarity measure.)

**Results**

Collectively, these studies assessed the nature of the impressions formed about a group depending upon whether the group was high or low in entitativity. It was expected that participants would form more integrated impressions of highly entitative groups than of groups low in entitativity, as revealed by the typicality ratings. If participants formed an integrated impression of the group, the Integrated description should be rated as more typical than the Halo description. If participants did not integrate the two traits of the group, then the impression should be based solely on one dominant trait (e.g., the more frequent intelligence-related behaviors or the opposite valenced kindness-related
Description types for intelligent but unkind behavior version

Pairing 1

Integrated  
Would not lend her class notes to another student who missed class.
Set the curve on her history exam.

HaloI  
Gave her friend a ride to school even though it was ten minutes out of her way.
Spotted a factual error in Discover Magazine.

HaloK  
Took a neighbor with a disability to the grocery store after the neighbor paid her $10.
Had difficulty understanding Time Magazine.

Pairing 2

Integrated  
Took a neighbor with a disability to the grocery store after the neighbor paid her $10.
Spotted a factual error in Discover Magazine.

HaloI  
Made a special effort to visit a friend in the hospital.
Set the curve on her history exam.

HaloK  
Would not lend her class notes to another student who missed class.
Had difficulty understanding Time Magazine.

Description types for unintelligent but kind behavior version.

Pairing 1

Integrated  
Made a special effort to visit a friend in the hospital.
Got fired because she was not able to work the cash register.

HaloI  
Took a neighbor with a disability to the grocery store after the neighbor paid her $10.
Had difficulty understanding Time Magazine.

HaloK  
Gave her friend a ride to school even though it was ten minutes out of her way.
Spotted a factual error in Discover Magazine.

Pairing 2

Integrated  
Gave her friend a ride to school even though it was ten minutes out of her way.
Got fired because she was not able to work the cash register.

HaloI  
Would not lend her class notes to another student who missed class.
Had difficulty understanding Time Magazine.

HaloK  
Made a special effort to visit a friend in the hospital.
Set the curve on her history exam.

Table 3.2: Description types from typicality questionnaire.
behaviors) or be based upon separate expectations about intelligence and kindness, and the two behavior descriptions will be seen as equally typical. Specifically, it was predicted that the Halo description would be rated as either equally typical of the group or more typical of the group than the Integrated description for the low entitative group.

The typicality ratings, the recall data, and the group ratings were analyzed for each study with separate 3 target group x 2 behavior version (intelligent but unkind, unintelligent but kind) between subjects analyses of variance.

**Typicality Ratings**

The test of impression integration is based on comparison between the typicality ratings of the "Integrated" and averaged "Halo" descriptions (see Method section for details). These two ratings were submitted to a mixed ANOVA with description type (integrated, halo) as a repeated measure (in addition to the target group and behavior version between subject variables).

Study 1. The only significant main effect in the Target group x Behavior version x Description type mixed ANOVA was for description type, $F(1,67)=59.52, p<.0001$; across target group conditions, participants rated the Integrated description as more typical of the group ($M=7.79$) than the Halo description ($M=5.63$). More importantly, this effect was qualified by the predicted Target group x Description type interaction which was also statistically significant, $F(2,67)=4.23, p<.02$ (see the top of Figure 3.1).

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4 Three additional counterbalancing variables were included in the analysis design (as described in the Method section): the order of the behavioral description presentation, the pairing of the two behaviors which compose the individual descriptions and the position of the Integrated and Halo descriptions in the typicality questionnaire.
To interpret this interaction, planned simple effects tests were conducted separately for each level of the target group variable. For the highly entitative groups, the Integrated description was rated significantly more typical of the group (M_s: Sorority = 8.67, Family = 7.78) than was the Halo description (M_s: Sorority = 5.44, Family = 5.72), [Sorority: F(1, 67) = 42.95, p < .0001; Family: F(1, 67) = 16.88, p < .001]. The rating differentiation for the low entitative group was smaller; however, the typicality ratings did differ significantly between the Integrated (M = 7.0) and Halo descriptions (M = 5.73) even for the low entitative group [Month: F(1, 67) = 6.96, p < .03].

Study 2. For study 2, the description type main effect was also obtained, F(1, 121) = 27.81, p < .0001; the Integrated description was rated as more typical of the group (M = 6.90) than the Halo description (M = 5.58). The Target group x Description type interaction did not reach statistical significance, F(2, 121) = 1.82, p < .17; however, the pattern of means was as predicted (see the middle of Figure 3.1). To test the a priori predictions of differences between typicality ratings, simple effects tests were conducted separately for each level of the group variable. For the highly entitative sorority condition, the typicality ratings for the Integrated (M = 7.14) and Halo descriptions (M = 5.50) differed significantly, F(1, 121) = 14.22, p < .001. In addition, the ambiguous G-category condition also produced a significant difference between the Integrated (M = 7.29) and Halo (M = 5.60) descriptions, F(1, 121) = 14.73, p < .001. Finally, in the low entitative Month condition, participants did not differentiate between the Integrated (M = 6.28) and Halo (M = 5.63) descriptions, F(1, 121) = 2.27, p < .13.
Figure 3.1: Typicality ratings of integrated and halo descriptions across group.
Study 3. Two main effects reached statistical significance in the Target Group (sorority, G-category, month) x Behavior version (intelligent and unkind, unintelligent and kind) x Number of group behaviors (24, 30) x Description type (Integrated description, Halo description) mixed ANOVA. First, a main effect for target group was obtained, $F(1,105)=5.28, p<.01$; participants exposed to the sorority and G-category groups rated the descriptions as more typical of the group (Means: sorority=6.41; G-category=6.37) than did the participants who learned about the month group (M=5.49). Second, the description type main effect was significant, $F(1,105)=38.01, p<.0001$ (Means: Integrated description=6.91; Halo description=5.27). The number of behaviors presented about the groups (24 or 30) did not produce any significant main effects or interactions.

Importantly, the Target group x Description type interaction reached statistical significance, $F(2,105)=3.91, p<.02$ (see the bottom of Figure 3.1); the same pattern found in the previous studies emerged in study 3. For the highly entitative sorority, participants differentiated between the typicality of the Integrated description and the Halo description, $F(1,105)=28.17, p<.0001$ (Means: Integrated=7.64; Halo=5.21). The G-category condition revealed the same pattern (Means: Integrated=7.28; Halo=5.41), $F(1,105)=15.66, p<.001$. Finally, in the month condition, participants did not differentiate between the two descriptions, $F(1,105)=2.00, p<.17$ (Means: Integrated=5.82; Halo=5.33).

Summary. For the primary dependent variable of interest, the same pattern of effects was found across the three studies (see Figure 3.1). For highly entitative groups,
participants differentiated between an individual who was very typical of the group and one who mismatched the group on one dimension for highly entitative groups. Participants did not differentiate between such group members for a low entitative group.

**Free Recall**

Because the typicality differences across group entitativity could occur as a result of differential attention to the initial behavior presentation, free recall measures of the behavioral examples were taken in studies 1 and 2. Specifically, participants who received information about people in the same month may not have been as interested in this group as were participants who learned about a sorority or a family; this differential interest-level could have led participants in the low entitativity condition to pay less attention to the initial behaviors than did participants in the other conditions. The reduced differentiation between the Integrated and Halo descriptions in the month conditions could have resulted from poor memory for the behaviors presented about group members rather than from not forming an integrated impression. This alternative explanation can be tested by evaluating the behavior recall between target group conditions; if participants in the month condition recalled as many behaviors as participants in the other condition, then the differential attention explanation is less feasible.

Two independent coders naive to the hypotheses counted the number of behaviors correctly recalled and coded whether the behavior was an intelligence-related, kindness-related, or Irrelevant behavior. The coders used a "gist" criterion for inclusion—behaviors did not have to be recalled exactly. Recall booklets were labeled only with the behavior
version; coders were unaware of which group the participants learned about. The two
coders' tallies were compared and any disagreements were determined by an expert coder
(the author) who was also unaware of the target group condition. The total number of
behaviors and the number of intelligence and kindness behaviors each participant recalled
were submitted separately to the Target group x Behavior version between-subjects
ANOVA.

Study 1. There were no significant differences across conditions on the recall
measures. The group entitativity manipulation did not produce any significant effects on
the total number of behaviors recalled \( F(2,68)=1.85, p<.17. \) \( \text{M}s: \text{sorority} = 7.96; \text{family}
= 6.54; \text{month} = 7.96 \) nor on the number of intelligence-related behaviors \( F(2,68)=1.09,\)
\( p<.34 \) or kindness-related behaviors \( F(2,68)=0.34, p<.71 \) recalled. The differences in
typicality ratings across group entitativity do not appear to be the result of differences in
attending to behavioral descriptions. Participants recalled as many behaviors for the
month group as they did for the more meaningful groups. (Table 3.3 presents the mean
recall for each study.)

Study 2. In Study 2, the group entitativity manipulation produced a marginally
significant effect on the total number of behaviors recalled \( F(2,124)=2.92, p<.06. \) \( \text{M}s:
\text{sorority} = 10.16; \text{G-category} = 8.78; \text{month} = 9.98 \). Interestingly, the recall pattern
revealed lower recall for the G-category group than the other groups. There were no
differences in recall on the number of intelligence-related behaviors \( F(2,124)=2.39,\)
\( p<.10 \) or kindness-related behaviors \( F(2,124)<1 \) recalled (see Table 3.3 for simple
effects).
<table>
<thead>
<tr>
<th>Group</th>
<th>Intelligent</th>
<th>Kind</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Month</td>
<td>3.68a</td>
<td>2.68a</td>
<td>7.92a</td>
</tr>
<tr>
<td>Family</td>
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<td>2.61a</td>
<td>6.83a</td>
</tr>
<tr>
<td>Sorority</td>
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<td>2.96a</td>
<td>8.29a</td>
</tr>
<tr>
<td>Study 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Month</td>
<td>3.21ab</td>
<td>4.21a</td>
<td>9.98a</td>
</tr>
<tr>
<td>G-Category</td>
<td>2.80b</td>
<td>3.76a</td>
<td>8.78b</td>
</tr>
<tr>
<td>Sorority</td>
<td>3.60a</td>
<td>4.07a</td>
<td>10.16a</td>
</tr>
</tbody>
</table>

Note. Within-column cells differing at the p<.05 level across target group have different subscript letters.
Clustering of Recall

Based upon the results from the free recall task, an additional measure of impression integration could be computed in studies 1 and 2. Specifically, the organization of recall can be measured with clustering scores, called ARC scores (Roenker, Thompson, & Brown, 1971). The organization of free recall has been used to indicate mental organization in many previous studies (e.g., Ostrom, Carpenter, Sedikides, and Li, 1993). If knowledge of the group is organized around one primary trait or if the impression of the group is segregated into individuals who performed kind behaviors and those who performed unintelligent behaviors, recall should be rather clustered around the trait dimensions. This clustering of behavior recall around separate traits should be evident for the group low in entitativity; relatively high ARC scores were expected for the low entitativity month group. However, if behaviors of individual group members are brought together to form an integrated, single impression of the group, then this clustering of behaviors by trait should not appear in recall; relatively low ARC scores were expected for the high entitativity sorority group.

Table 3.4 presents the ARC scores*. In Study 1, no significant effect for target group was found on the ARC scores, $F(2, 65)=1.54$, $p=.22$. None of the individual means

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* There have been concerns about ARC scores’ properties: ARC scores range from 1 (representing perfect clustering around the expected categories) to negative infinity. A zero value represents random recall whereas negative values represent systematic clustering around some unmeasured category. As negative ARC scores are difficult to interpret, separate analyses were conducted with ARC scores truncated at 0 so that perfect clustering around traits is 1 and no clustering is 0. The analysis of truncated ARC scores revealed the same pattern of results as the reported untruncated analysis in both studies.
differed significantly from the others. However, in Study 2, there was greater clustering around trait in the recall for the month group (ARC score = .18) than for the more highly entitative groups (G-category = .02 and Sorority = .00), F(2,124)=, 2.63, p<.08. See Table 3.4 for the significance of the simple effect tests for the ARC scores.

**Group Ratings: Kindness and Intelligence Ratings**

Participants rated the group's kindness and intelligence. These ratings serve as manipulation checks on whether the initial behavior presentation did suggest the traits which these studies attempted to represent. In addition, differential ratings across groups can indicate impression formation differences. Table 3.5 summarizes the results on the kindness and intelligence ratings across target groups.

**Study 1.** On the kindness scale, only a main effect for behavior version was obtained, F(1,67)=79.9, p<.0001 (Means: intelligent but unkind behaviors presented=4.95; unintelligent but kind behaviors=8.66).

On the intelligence scale, a main effect was found for behavior version, F(1,67)=86.39, p<.0001 (Means: intelligent but unkind behaviors presented=8.03; unintelligent but kind behaviors=4.06) and a significant Target group x Behavior version interaction was found, F(2,67)=4.84, p=.01. For the highly entitative groups, the intelligence ratings showed wide differentiation between the group described with all intelligent behaviors and the group described with all unintelligent behaviors. Participants who learned about the sorority or family whose members performed intelligent behaviors rated the group more highly intelligent (Means: sorority=8.77;
<table>
<thead>
<tr>
<th>Group</th>
<th>ARC scores</th>
</tr>
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<tr>
<td><strong>Study 1</strong></td>
<td></td>
</tr>
<tr>
<td>Month</td>
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</tr>
<tr>
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<td>Sorority</td>
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</tr>
<tr>
<td><strong>Study 2</strong></td>
<td></td>
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<td>Month</td>
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<tr>
<td>G-Category</td>
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<tr>
<td>Sorority</td>
<td>0.00b</td>
</tr>
</tbody>
</table>

Note. Cells differing at the $p<.05$ across target group for each measure have different subscript letters.

Table 3.4: ARC scores for Study 1 and Study 2.
family=7.55) than did participants who learned about the unintelligent behaviors performed by group members (Means: sorority=3.27; family=3.42), [Sorority: F(1,67)=65.47, p<.0001; Family: F(1,67)=27.16, p<.0001]. The intelligence ratings for the month group did not differ as much between ratings of the group performing intelligent behaviors (M=7.71) and performing unintelligent behaviors (M=5.42), F(1,67)=9.54, p<.005.

**Study 2.** Two main effects were obtained on the kindness scale: one for target group (F(2,121)=3.82, p<.03) and one for behavior version (F(1,121)=116.83, p<.0001). The kindness ratings of the groups differing in entitativity were: sorority=5.86, G-category=6.93, and month=6.49. Also, the group with the intelligent and unkind behaviors was rated as less kind (M=4.75) than the group with the unintelligent and kind behaviors (M=8.11). There was no significant interaction.

The intelligence ratings revealed a main effect for behavior version, F(1,121)=130.08, p<.0001 (Means: intelligent behaviors=7.64; unintelligent behaviors=4.56). In addition, a significant Target group x Behavior version interaction was obtained, F(2,121)=9.33, p<.001. Specifically, the participants who learned about the sorority or G-category group differentiated between the group with the intelligent behaviors (Means: sorority=7.86; G-category=8.24) and the group with the unintelligent behaviors (Means: sorority=3.90; G-category=4.35), [sorority: F(1,121)=74.72, p<.0001; G-category: F(1,121)=83.47, p<.0001]. However, participants who learned about the month group did not differentiate as much (Means: intelligent behaviors=6.81; unintelligent behaviors=5.36, F(1,121)=7.78, p<.01).
<table>
<thead>
<tr>
<th>Target Group</th>
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<th>Kindness ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intelligent Version</td>
<td>Unintelligent Version</td>
</tr>
<tr>
<td><strong>Month</strong></td>
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<td></td>
</tr>
<tr>
<td>Study 1</td>
<td>7.71</td>
<td>5.41</td>
</tr>
<tr>
<td>Study 2</td>
<td>6.81</td>
<td>5.36</td>
</tr>
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<tr>
<td>Study 2</td>
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</tr>
<tr>
<td>Study 3</td>
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</tr>
<tr>
<td><strong>Average</strong></td>
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<td>4.58</td>
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<td><strong>Sorority</strong></td>
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<td></td>
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<tr>
<td>Study 1</td>
<td>8.77</td>
<td>3.27</td>
</tr>
<tr>
<td>Study 2</td>
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</tr>
<tr>
<td>Study 3</td>
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<td>3.74</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>8.16</td>
<td>3.69</td>
</tr>
<tr>
<td><strong>Family</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study 1</td>
<td>7.55</td>
<td>3.42</td>
</tr>
</tbody>
</table>

Table 3.5: Intelligence and kindness ratings across groups and behavior version.
Study 3. On the kindness scale, a main effect for target group was found. 
$F(2,105)=3.40, p<.04$; the G-category group was rated as more kind ($M=7.05$) than the other groups (Means: sorority=6.28; month=6.27). In addition, the main effect for behavior version was also significant, $F(1,105)=84.17, p<.0001$ (Means: intelligent and unkind behavior group=5.19; unintelligent and kind behavior group=7.90). The Target group x Behavior version interaction also reached significance, $F(2,105)=3.08, p=.05$. Specifically, the participants who learned about the sorority or G-category group differentiated between the group with the kind behaviors (Means: sorority=7.68; G-category=8.89) and the group with the unkind behaviors (Means: sorority=4.95; G-category=5.30) [sorority: $F(1,105)=25.18, p<.0001$; G-category: $F(1,105)=62.96, p<.0001$). However, the participants who learned about the month group did not differentiate as much (Means: kind behaviors=7.15; unkind behaviors=5.34), $F(1,105)=12.73, p<.001$.

On the intelligence ratings, the behavior version main effect reached significance. $F(1,105)=78.60, p<.0001$ (Means: intelligent behaviors group=7.90; unintelligent behaviors group=4.66). The Target group x Behavior version interaction also reached statistical significance, $F(2,105)=3.61, p<.03$. As found in the previous studies, participants differentiated between the intelligence of the highly entitative groups more so than of the low entitative group (Means: Sorority intelligent behaviors=8.10, unintelligent behaviors=3.74, $F(1,105)=57.44, p<.0001$; G-category intelligent behaviors=8.25, unintelligent behaviors=4.84, $F(1,105)=19.72, p<.0001$; Month intelligent behaviors=7.32, unintelligent behaviors=5.35, $F(1,105)=16.85, p<.001$).
Summary. Consistent with the typicality ratings, participants who were presented with the behaviors of a highly entitative group showed differentiation in their ratings of the intelligence and kindness of the group; participants who learned intelligent and unkind behaviors rated the group as more highly intelligent and unkind than participants who learned unintelligent and kind behaviors. Participants who learned about the low entitative month group did not show as much differentiation on these trait dimensions.

Group Ratings: Liking and Similarity measures

Study 1. Participants rated how much they liked the groups. The Liking scale revealed two significant main effects: for target group \( F(2,67)=6.02, p<.01 \) and for behavior version \( F(1,67)=22.14, p<.001 \). Specifically, the sorority was liked less (M = 4.46) than the other two groups (Means: family = 5.91; month = 6.27), and the group portrayed with the unintelligent and kind behaviors was liked more (M = 6.60) than was the group portrayed with the intelligent but unkind behaviors (M = 4.61). There was no target group x behavior version interaction.

Study 2. On the liking ratings, the main effect for target group reached statistical significance, \( F(2,121)=10.18, p<.0001 \); participants liked the sorority (M = 4.60) less than the other groups (G-category = 6.27; month = 5.86). In addition, a main effect for behavior version was also found, \( F(1,121)=42.30, p<.0001 \); participants liked the group portrayed with unintelligent and kind behaviors better (M = 6.59) than the group portrayed with intelligent and unkind behaviors (M = 4.56).

In addition, participants rated how similar they thought members of the groups were. There were no significant effects on this similarity scale; the target group
entitativity did not affect ratings of similarity, \(F(2,121)=0.56, p=.57\) (Means: sorority = 6.56; G-category = 6.29; month = 6.19).

**Study 3.** On the liking scale, two significant main were found: one for target group \(F(2,105)=9.08, p<.001\) and one for behavior version \(F(1,105)=13.89, p<.0001\).

As found in the previous studies, the sorority was liked less than the other groups (Means: sorority=4.62; G-category=6.44; month=5.36); just as the G-category group was rated as more kind than the other groups, it was also liked more than the other groups. Also, the group portrayed with intelligent and unkind behaviors was liked less (\(M=4.81\)) than the group with the unintelligent but kind behaviors (\(M=6.14\)).

On the similarity scale, a significant main effect was found for target group, \(F(2,105)=11.46, p<.0001\). The members of the low entitative month group were rated as less similar to each other (\(M=5.74\)) than the members of the high entitative groups were to each other (Means: sorority=7.03; G-category=7.18). This was the only indication of homogeneity's relation to entitativity.

**Discussion**

These studies were designed to evaluate the consequences of perceived group entitativity for impression formation. The typicality rating method used in these studies revealed differences in impression integration across entitativity; participants integrated the information they learned about individual group members into a single impression for the highly entitative groups but not for the low entitative group. Participants exposed to people who participated in the same month did not differentiate between the typicality of the integrated description and the halo description. However, participants learning about
a highly entitative sorority or family did perceive the integrated description as more
typical of the group than the halo descriptions.

To clarify the meaning of these results, the integrated impressions are
conceptualized as prototype representations. Even though no single group member was
originally shown performing an intelligent behavior and an unkind behavior, participants
exposed to a highly entitative group rated an intelligent and unkind individual as the most
typical member of group (more so than group members who showed only one behavior).
Perceivers brought together the individual behaviors of separate group members to form a
single, integrated impression of the highly entitative group.

For the group low in entitativity, participants did not distinguish between the
typicality of a group member who possessed both traits revealed about separate group
members versus the typicality of a group member who acted inconsistently with some
other individual group members. This suggests that even if participants were aware that
some group members were intelligent and other group members were kind, the
participants did not bring these separate traits together to create single impression of the
prototypical group member. Perhaps the perceivers determined that there were “good”
group members and “bad” group members and that these different types of people were
equally typical of the group. Alternatively, some participants may have focused primarily
on the intelligence dimension and other participants may have focused on the kindness
dimension of the low entitative group; random variations in perceiver focus would have
produced the same results. Overall, the results for impression integration were as
expected; perceivers formed integrated impressions about highly entitative groups but did not form such impressions for the group low in entitativity.

However, the results for the ambiguous G-category group were somewhat unexpected. There was no strong prediction for the type of impression formed for the ambiguous group, but given the continuous nature conceptualized for entitativity, less differentiation between the integrated and halo description would be expected for a less entitative group. The actual pattern of results found for G-category group was identical to the pattern found for the highly entitative sorority. Several alternative explanations are possible to explain this finding: (1) the G-category distinction may be implicitly meaningful; (2) the impression integration measure may not be sensitive enough to measure variations in impression integration; or (3) entitativity may be a dichotomy rather than a continuum (i.e., a social aggregate is either perceived as a real group or as a nominal distinction).

One explanation for the results is that the description of the G-category group might have suggested some meaningfulness to the group categorization. A “G-category” group based upon some perceptual differences might imply some general, pervasive personality characteristics among group members. Participants were told that people fall into two distinct perceptual processing styles based upon their responses on a “perceptual test” and that the “perceptual difference is thought to create other important differences in the way people approach day-to-day life.” This initial description may have provided participants with motivation to attempt to form an integrated impression of the unknown group. Of course, one cannot assume that because integrated impressions were formed
about the G-category group, the group is highly entitative (as this would be tautological).

This concern can be addressed in future research by measuring the individual participants’ perception of a group’s entitativity in an earlier session, prior to the impression integration procedure. In this way, entitativity of a group can be varied through selection of participants who perceive the group to high, moderate, or low in entitativity.

Another explanation for the G-category results is that the integration measure was not sensitive enough to measure variations in the degree of impression integration. It is difficult to imagine how a partially integrated impression would occur given only two dimensions. If more trait dimensions were provided about individual group members, the degree of impression integration would likely vary across entitativity; the more entitative the group, the more effortfully the individual traits may be integrated into a single impression. Alternatively, impression integration may be an “either-or” occurrence; there might be a threshold for entitativity above which impression integration occurs. In other words, given some level of expected coherence within the group, perceivers might attempt to form an integrated impression of the group. It is important to determine at what level of group entitativity people form integrated impressions about a group—perhaps integrated impressions are always formed except for groups which are very low in entitativity (such as people participating in the same month).

This potential dichotomy in the formation of an integrated impression brings up the issue of whether entitativity itself is a continuous variable. It is possible that entitativity is a dichotomy; individuals may either perceive a social aggregate as an
unique entity or as a nominal label. However, the entitativity ratings from the preliminary study in Chapter 2 revealed that individuals perceived the given groups along an entitativity continuum. Importantly, the potential dichotomy for impression integration and the continuous nature of entitativity are not necessary opposing possibilities. Some of the information processing consequences of entitativity may be dichotomous; some threshold of entitativity may have to be reached in order for a given outcome to occur. This conceptualization of entitativity’s consequences will be discussed in detail in the general discussion (Chapter 5).

Regardless of the nature of the entitativity continuum, it has been shown in the present studies that impression formation processes do differ for high and low entitative groups. Perceivers should expect highly entitative groups to possess an underlying coherence between elements. This expectation could lead perceivers to determine what the underlying essence is based upon the behaviors of individual elements. All three studies in this paradigm provided empirical evidence for the integration of individual behaviors into a single, coherent impression for highly entitative groups but not for groups low in entitativity. A second hypothesized consequence of perceived entitativity involves the increased use of the prototype when a perceiver encounters individual group members. Once a perceiver forms an integrated impression of a highly entitative group, the perceiver should expect individual group members to possess the same behaviors. The research to be described in the following chapter addressed the effect of entitativity on the utilization of a group’s prototype.
CHAPTER 4

Prototype Utilization as a Function of Group Entitativity

A second important implication of group entitativity is the use of the group impression/prototype once it is formed. The relationship between the knowledge one holds about a group and the impressions one forms about individual group members is often not very strong (see Brewer, 1996). Stangor and McMillan (1992) have proposed that stereotyping of individual group members depends on the strength of the expectancy associated with the group stereotype; the stronger the expectancy, the more likely the group member will be evaluated in a stereotype-consistent manner. In fact, expectancy-confirmation strategies seem to be related to the desire for a simple, coherent impression of the group (Stangor & Ford, 1992). Perceived group entitativity may moderate the influence of the category prototype on processing information about individual group members. To the extent that a group is perceived as a social entity, the general summary information about the group (i.e., the group prototype) should become more strongly associated with the group. In other words, the strength of the expectancy about the social group should increase as the entitativity of the group increases.

An implication of the predicted stereotype strength of highly entitative groups is that the stereotype associated with the group should be activated whenever a group
member is encountered (see Brewer & Harasty, 1996). In addition, perceivers should expect that the individual group member will act consistently with the group stereotype. These factors—stereotype activation and expectations of consistency—should increase the likelihood that any given group member is perceived in stereotypic terms for a highly entitative group. For example, if an individual perceives a sorority to be highly entitative and the individual meets a specific sorority member, then he or she is likely to perceive the person along the dimensions relevant to the stereotype. However, the outcome of utilizing one's stereotype becomes complicated when the relationship between the individual group member's actual behavior and the expectancy derived from the stereotype is taken into account. The motivation to find consistency among members of a highly entitative group can lead to varied outcomes depending upon the degree of discrepancy between an individual group member's behavior and the group stereotype.

As stated before, individuals should be motivated to find consistency between group members' behaviors and the group stereotype for highly entitative groups. Behaviors which are mildly or ambiguously discrepant from the group should be assimilated toward the group stereotype for highly entitative groups more so than for groups in low in entitativity. However, the perceiver is not always able to view a given behavior as typical of the group, regardless of the perceiver's motivation. If the behavior is highly discrepant from the group stereotype, the perceiver will not be able to reconcile the behavior with the group stereotype; in this case, the perceiver's desire to perceive consistency within the group may cause the perceiver to exclude the individual group member from the group. In other words, the perceiver may decide that the individual
target is not a “true” member of the group. Again, this exclusion process should be more
ture for highly entitative groups than for groups low in entitativity. Seemingly
conflicting findings from several studies can be reconciled from this perspective.

For example, Hilton and von Hippel (1990) specifically evaluated the role that
consistency between a group member's behavior and the group stereotype plays in the use
of the stereotype to interpret a group member's behaviors. Participants were presented
with information about the pathology of two groups: one group appeared pathological
and the other appeared normal. In the first study, they found that when the information
presented about the two groups did not overlap (i.e., all information about one group
indicated normality and all information about the other group indicated pathology),
behaviors of new individual group members which were moderately discrepant from the
group prototype were contrasted away from the activated group stereotype. However, in
conditions where both groups were also described with some information suggesting
moderate pathology (i.e., forming overlapping categories), the moderately discrepant
information about individual group members was assimilated to the stereotype. This
finding was predicted because with overlapping categories, moderate behaviors are
consistent with both categorizations so they should be assimilated to the activated
category. With nonoverlapping categories, moderate behaviors are inconsistent with both
categorizations so are contrasted from the activated category. Under baseline conditions,
when an individual group member's behavior is moderately inconsistent with the group
prototype (as is the case in non-overlapping category distinctions), the individual group
member is contrasted from the prototype.
However, in Hilton and von Hippel's second study, they presented only nonoverlapping group information (which should produce contrast effects) but then manipulated expectations of group member consistency. They utilized Srull's (1981) group "bondedness" concept; psychologically bonded groups are ones in which a high degree of consistency is expected on the central tendency whereas unbonded groups are not expected to have much consistency.

From this bondedness concept, Hilton and von Hippel (1990) predicted that if the actual variability of the groups is held constant, there should be more motivation to "assimilate unexpected behavior to a bonded group than to an unbonded group" (p. 442) because perceivers expect group members to act consistently with the psychologically-bonded group. Importantly for this paradigm, the moderately discrepant behaviors were designed to be multiply interpretable; although the behaviors were not extremely normal or extremely pathological, the perceiver could interpret the behaviors as consistent with the group prototype if the perceiver effortfully attempted to assimilate the behavior.

In Hilton and von Hippel's second study, participants were presented with information about two individuals (high expected consistency), about two families (medium expected consistency) or about two groups of people whose last name started with a letter from the same half of the alphabet (low expected consistency). As found in Study 1, the moderately discrepant group members were contrasted from the prototype in the low expected consistency conditions. However, in the high expected consistency conditions, the moderately discrepant behaviors were assimilated to the stereotype. Interestingly, in the medium expected consistency conditions, no contrast effects were observed.
found either; the ratings of the moderately discrepant group members did not differ regardless of whether the person was a member of the pathological or normal group.

This pattern of results was consistent with correlations obtained between the pathology rating of the moderately discrepant individuals and the pathology rating of the group as a whole: a significant positive correlation was obtained for the high-consistency conditions ($r=.46$), a negative correlation was obtained for the low-consistency conditions ($r=-.13$), and a weak positive correlation ($r=.12$) was found in the moderate-consistency conditions.

To summarize, Hilton and von Hippel's first study revealed that the default processing outcome under the nonoverlapping category distinction is to contrast the moderately discrepant behavior from the activated stereotype. However, expectations of consistency can overcome the objective inconsistency between the prototype and an individual's behavior. When subjects formed an impression of an individual, information moderately discrepant with the impression was perceived as consistent with the initial impression. However, when an impression was formed of a group not expected to have much internal consistency, the moderately discrepant behaviors of group members were perceived as highly inconsistent with the prototype. Interestingly, when participants expected consistency within a group target (the "medium consistency" conditions), the contrast effect was attenuated.

Hilton and von Hippel's manipulations of expected internal consistency can be interpreted as manipulations of perceived entitativity. Given equal prototype accessibility across conditions, perceivers should be more motivated to interpret moderately discrepant
behaviors as consistent with the target prototype when the target is highly entitative than when the target is low in entitativity. It is clear that the entitativity of a group did make a difference in how perceivers interpreted moderately discrepant information about individual group members; however, it is surprising that a group which should be perceived as highly entitative (a family) did not lead to clear assimilation effects.

Other research conducted by Lambert (Lambert, 1995; Lambert & Wyer, 1990) also focuses on the effects of the relationship between the group prototype and the qualities of individual group members. Lambert suggested that when it is easy to determine how typical of the group an individual group member is, the typicality of the group member will affect how the prototype is utilized to evaluate the individual. When typicality is easy to determine, one's prototype of the group should have an assimilative effect on perceptions of typical group members but should have no effect (or a contrast effect) on perceptions of atypical group members. However, when the typicality of the group member is difficult to determine, the prototype should be applied to interpret the behavior regardless of behavior discrepancy. In other words, an assimilative effect should occur regardless of the behavior's actual discrepancy from the prototype.

Lambert found that for homogeneous out-groups, participants were able to quickly rate the typicality of individual group members (faster than for heterogeneous in-groups and out-groups and for homogeneous in-groups). Because knowledge of homogeneous groups consists of behavior exemplars clustered around the central tendency, it is relatively easy to determine if a new group member matches the central tendency or does not. Only in the homogeneous out-group condition did participants
appear to use the typicality of group members to determine use of the group prototype. For typical group members, a positive correlation between ratings of the target individual and of the group on prototype relevant dimensions was obtained, but no correlation between the group ratings and the moderately and highly atypical targets were found.

In the other three group-representation conditions (i.e., heterogeneous in-group, heterogeneous out-group, and homogeneous in-group), typicality of the individual group members took longer to determine. A heterogeneous group representation has exemplar behaviors which differ from the group’s central tendency; thus a group member who is mildly or highly atypical from the group prototype should not be perceived as completely atypical of the group because some other group exemplars may have the same characteristics. For heterogeneous groups, because the typicality of the individual group member does not provide much information to aid in interpreting the individual’s behavior, beliefs about the group should have an assimilative effect (toward the group prototype) regardless of the target’s typicality. Indeed, Lambert found that for a heterogeneous in-group, homogeneous in-group, and heterogeneous out-group, typicality rating reaction times were slower and there were significant positive correlations between target and group ratings regardless of target discrepancy.

Lambert interpreted his findings as suggesting that the ease of determining degree of typicality affects prototype use. To interpret these findings differently, the ease of interpreting a behavior as typical of the group can also lead to Lambert’s results. Whenever the individual group member can be perceived as "typical-enough" to be classified as belonging to the group, the group prototype is utilized such that the
individual's behavior is assimilated to the prototype. In Lambert's homogeneous outgroup condition, the discrepant behaviors were clearly atypical of the group and so the behaviors may have been excluded from the group (e.g., viewed as exceptions). Therefore, knowledge about the group was not applied interpret the atypical behavior. However, in all other conditions, it was possible that participants actually perceived the behaviors as relatively typical of the group.

To clarify this argument, the distribution of group members around a central tendency can not only affect the ease of determining whether a new behavior is typical of group, but it can also affect the actual perceptions of the behavior's typicality. This interpretation is supported by Lambert's findings that highly and moderately discrepant targets were rated as more typical of the group in a heterogeneous distribution than in a homogeneous distribution and that low discrepant individuals were seen as slightly more typical in homogeneous distributions. The typicality of a group member may not provide much information in heterogeneous groups because the perceiver is less likely to perceive any given group member as atypical. In addition to the distribution of group members, other group variables may also affect prototype-use and perceptions of typicality.

Specifically, the entitativity of a group is also likely to affect Lambert's findings regarding use of a prototype. As described before, high perceived entitativity should lead to (1) activation of the group prototype and (2) motivation to perceive any group member as consistent with the group prototype. Given a moderately discrepant behavior by a group member, if the perceiver is motivated to perceive the group as consistent (under high entitativity), then the perceiver might attempt to assimilate the behavior to the
prototype (so a higher correlation between moderately discrepant behavior ratings and
group ratings would be found). However, if a perceiver has no motivation to perceive
consistency within a group (as in Lambert's experiments), then moderately discrepant
behaviors should be separated from the group.

However, given a clearly discrepant behavior performed by a member of a highly
entitative group, the perceiver should quickly realize that the behavior is an exception to
the group prototype. If the discrepant behavior is compared to the group prototype, the
behavior may seem more extremely discrepant with the prototype than it actually is (i.e.,
a contrast effect can occur when a characteristic is compared to an accessible standard,
see Biernat & Manis, 1994). Thus, perceivers may more quickly view discrepant
individuals as exceptions if the group is high rather than low in entitativity because the
prototype should be used as a standard for the highly entitative group but not for the low
entitative group. Consequently, highly discrepant behaviors performed by members of
highly entitative groups should be contrasted from the group prototype.

Overview of prototype use study

Three possible outcomes are predicted for the interpretation of prototype-
discrepant behaviors performed by individual group members: (1) effortful attempts to
resolve the discrepancy which would lead to assimilation effects, (2) quick perception of
discrepant targets as exceptions from the group which would lead to contrast effects, or
(3) no use of the prototype as a standard which would not affect the interpretation of the
group members’ behavior. It is predicted that the three outcomes will be determined by
the actual discrepancy of the behavior to the prototype and by the expected coherence
within the group. Both the motivation to perceive coherence within a group and the discrepancy of the individual group member's behaviors should affect how the prototype is used to interpret the behaviors of the group members (i.e., not used at all, assimilated to, or contrasted from).

For highly entitative groups, behaviors which are moderately discrepant but ambiguous with regard to the prototype should be effortfully assimilated to the prototype. To clarify the meaning of ambiguous behaviors in the present study, behaviors which can be interpreted in multiple ways are considered ambiguous. Specifically, these ambiguous behaviors are moderately discrepant with the group stereotype but can be reinterpreted as consistent with the stereotype with some cognitive effort.²

In addition, behaviors which are clearly discrepant with the highly entitative group’s prototype should be quickly contrasted from the prototype. Finally, for low entitative groups, perceivers should not expect coherence within the group. Therefore, if a prototype is even formed for the low entitative group, this prototype should not have an effect on the interpretation of individual group members’ behaviors.

A study was conducted to test these predictions about prototype use for groups varying in entitativity. Specifically, participants first developed stereotypes about groups high or low in entitativity and then were presented with behaviors of new individual

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² Importantly, the ambiguously discrepant behaviors utilized in the present study are different from “purely” ambiguous behaviors which might be perceived as expressing the activated trait construct at encoding. It is likely that assimilation to the stereotype could occur quickly given a priming paradigm in which ambiguous behaviors appear consistent with the primed construct. However, the behaviors used in the present experiment were designed to require effort to interpret.
group members. The new behaviors were either clearly discrepant with the intelligence of the previous group members or were ambiguous (i.e., multiply interpretable) with respect to the intelligence of the group members. Participants then rated the degree of intelligence of the new behaviors.

Method

Participants

Sixty-four students participated in this experiment in partial fulfillment of Introduction to Psychology course requirements.

Procedure

The same activity report cover story described in Chapter 3 was used in this study. Participants were presented individual behaviors from a highly entitative group or a low entitative group. The behavior presentation was identical to Study 1; the 24 behaviors were either (1) intelligent or unkind or (2) unintelligent or kind. However, all information was presented to participants on a computer screen (behaviors were presented for 7 seconds each).

Behavior Ratings. After the stereotype formation phase, participants were asked to make judgments about the intelligence of individual group members’ behaviors,

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7 Due to concerns that rating many behaviors on intelligence would change the stereotype of the group (or be used as comparisons for other behaviors), not many variations of discrepancy were included.

8 In this study, only the intelligence dimension was evaluated for prototype use; therefore it did not matter whether an integrated impression of the target was formed, just that both target groups were perceived equivalently in intelligence. In this study, manipulation checks revealed that subjects rated the groups as equal in intelligence (see results section) in both behavior version conditions.
responding on the computer. Participants were told that they were to evaluate how intelligent the given behaviors were on a scale from 1 to 5. After a filler item, 6 behaviors varying in discrepancy with the stereotype were presented in randomized order. Three of the behaviors were ambiguous with respect to intelligence (i.e., multiply interpretable). These were designed to be ambiguous in that they could be interpreted either as intelligent or as unintelligent with effort (e.g., "had to visit the library many times while writing a paper for class" can be interpreted as intelligent or unintelligent). Three clearly discrepant behaviors were also presented. These were average in intelligence ("graduated 48th in her High School class of 104 students") so these behaviors were discrepant from both the very intelligent and very unintelligent group. Participants gave their responses by pressing the number keys (1 through 5) on the keyboard. Response times were measured for each of the intelligence ratings.

Group Ratings. After completing the behavior ratings, participants were asked for their opinions about the group members' kindness, intelligence, and similarity. Participants also reported their liking of the group. The wordings of these questions were identical to the previous studies and the same 10 point scale was utilized.

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9 Each point was labelled; the labels were "extremely unintelligent," "somewhat intelligent," "neutral," "somewhat intelligent," or "extremely intelligent".

10 The three ambiguous behaviors were: "spent many hours trying to finish math homework"; "had to visit the library many times while completing a paper for class"; and "was beaten by her boss in scrabble several times". The three discrepant behaviors were: "received a B- on the Sociology midterm"; "graduated 48th in her High School class of 104 students", and "scored in the 60th percentile on the ACT".
Results

It was predicted that given a highly entitative group, an assimilation effect should occur on the ambiguous behaviors and a contrast effect should occur for the unambiguously discrepant behaviors. However, given a group low in entitativity, the behavior version initially presented should not have an effect on the behavior ratings. Before these hypotheses could be tested, however, the stereotypes formed about the groups had to be evaluated to determine whether the context for subsequent ratings had been established. The intelligence ratings of the sorority and month should be equivalent to allow for a meaningful comparison of prototype use across group entitativity.

Group Ratings. On the intelligence ratings, a main effect was obtained for group stereotype, $F(1,54)=4.49, p<.04$; the groups portrayed with intelligent behaviors were rated as more intelligent ($M=6.19$) than the groups portrayed with unintelligent behaviors ($M=5.30$). No other significant effects were obtained on this scale; importantly, no difference in the intelligence of the sorority versus month groups was found, $F(1,54)=0.2$, ns ($\text{Means: Sorority } = 5.68; \text{ Month } = 5.84$), and the Target Group x Stereotype interaction was also not significant, $F(1,54)=0.55, p=.46$.

On the kindness scale, a main effect for group stereotype ($F(1,54)=13.28, p<.001$) and an interaction between target group entitativity and the group stereotype ($F(1,54)=5.29, p<.02$) were found. The group portrayed with kind behaviors was rated as more kind ($M=6.80$) than the group with the unkind behaviors ($M=5.35$). In addition, participants who learned about the sorority showed greater differentiation between the kind group ($M=7.20$) and unkind group ($M=4.69$) than participants who learned about the
month group (Means: kind behavior group=6.40; unkind behavior group=5.81) as in the
studies reported in Chapter 3. Also replicating the results of the previous studies, the
sorority was liked less than the month group, F(1,54)=4.42, p<.04 (Means: sorority=4.90;
month=5.84). There were no significant effects on the similarity ratings.

To clarify the importance of the group ratings, it was found that participants rated
the high and low entitative groups as equivalent in intelligence. Groups in which
members performed intelligent behaviors were rated as more intelligent than groups in
which members performed unintelligent behaviors, regardless of the group's entitativity.
Therefore, a meaningful comparison of prototype use across group entitativity can be
made; differences in stereotype use were not the result of differences in the overall group
prototypes for intelligence.

Intelligence ratings of behaviors. The intelligence ratings of the three ambiguous
behaviors were averaged and the intelligence ratings of the three discrepant behaviors
were averaged to create the primary dependent variables. These averaged ratings were
submitted to the 2 target group (sorority, month) x 2 group stereotype (intelligent,
unintelligent) x 2 behavior type (ambiguous, discrepant) mixed ANOVA with repeated
measures on the last variable. The predicted Target Group x Group Stereotype x
Behavior Type interaction reached significance, F(1,54)=5.79, p<.02 (See Figure 4.1),
indicating that the use of the stereotype differed as a function of group entitativity.

To decompose the three-way interaction, separate analyses were conducted for the
sorority and month groups. As predicted for the sorority, the Group Stereotype x
Behavior Type interaction reached significance, F(1,54)=6.82, p<.01. Specifically, an
Figure 4.1: Ratings of the intelligence of ambiguous and discrepant behaviors.
assimilation effect occurred for the ambiguous behaviors; if the group was intelligent, the ambiguous behaviors were rated more intelligent (M=3.77) than if the group was thought to be unintelligent (M=3.27), \( F(1,54)=6.79, \ p<.02 \). Also, a very slight, but non-significant contrast effect occurred for the unambiguously discrepant behaviors (Means: intelligent group=3.21; unintelligent group=3.31), \( F(1,54)=0.28, \ ns \).

For the group low in entitativity (the Month), no significant differences occurred as a function of the group stereotype information. The group stereotype main effect (\( F(1,54)=0, \ ns \)) and Group Stereotype x Behavior Type interaction (\( F(1,54)=0.52, \ ns \)) did not reach significance. The behavior presentation of highly intelligent or of highly unintelligent behaviors did not affect the ratings of the moderate behaviors.

**Correlations.** To evaluate the use of the prototype in interpreting the individual group members' behaviors, the correlation between the ratings of the group's intelligence and the ratings of the intelligence of the individual behaviors was computed. As predicted, the only significant correlation found was between the sorority's intelligence ratings and the sorority ambiguous behaviors' ratings, \( r=.483, \ p<.006 \). The correlation with group rating for the sorority's discrepant behaviors was not significant (\( r=.15, \ p=.41 \)), and the correlations between the month's ratings and the behavior types were at zero (for ambiguous behaviors, \( r=.019 \) and for discrepant behaviors, \( r=.095 \)).

**Response Times.** The response times were converted to logarithms and submitted to the Target group x Group stereotype x Behavior type ANOVA. No significant differences were obtained in the RT measures. The only RT difference which approached statistical significance was for the sorority ratings; participants took longer to rate the
intelligence of the ambiguous behaviors (5.41 seconds; this mean has been reconverted from the mean of the logs) than of the discrepant behaviors (5.01 seconds), $F(1,54)=3.05$, $p<.09^{11}$. However, this difference between response times for ratings of ambiguous and discrepant behaviors was not found for the Month condition, $F(1,54)=.65$, ns. This corresponds with the prediction that individuals want consistency within a highly entitative group so they effortfully attempt to interpret ambiguous behaviors as being consistent with the stereotype. The slower response time for ambiguous behaviors can not be solely attributed to longer required reading times for the ambiguous behaviors because the same slower response time was not found in the Month group condition. However, the lack of statistical significance on the response time measures prevents any strong conclusions regarding effort.

Discussion

This study suggests that prototypes can be utilized differently depending upon the entitativity of the group itself. For the highly entitative group, perceivers rated ambiguous behaviors as consistent with the group stereotype whereas for the low entitative group, perceivers' stereotypes of the group had no effect on their ratings of the individual behaviors. This result is consistent with the present conceptualization that entitativity leads individuals to expect coherence among group members; when an ambiguous behavior could be interpreted as consistent with the group stereotype, perceivers do interpret it as consistent. The conceptualization was also supported by the

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11 The means without log transform show the same pattern: the ambiguous behaviors took longer to rate (5.61 seconds) than the discrepant behaviors (5.32 seconds), $F(1,54)=2.45$, $p<.13$. 99
significant positive correlation between the ratings of the group's intelligence and the ratings of the intelligence for the ambiguous behaviors of the sorority and was supported by the longer response times taken to make these judgments about the ambiguous behaviors.

In addition, the predicted contrast effect for the clearly discrepant behaviors for sorority was also not found. Maybe only highly discrepant behaviors lead to quick contrast for high entitative groups; the behaviors selected were not extremely discrepant from the group stereotype. Future research should vary the degree of discrepancy to determine whether a contrast effect occurs for highly entitative groups. A final issue not addressed by the procedure in the present study is what happens to prototype-use when the group is moderately entitative. Entitativity is considered a continuum; therefore, the degree of prototype use should also vary in a continuous manner. The continuum issue is addressed at length in the general discussion.
CHAPTER V
GENERAL DISCUSSION

The concept of entitativity of social groups originated with Campbell’s (1958) writings on whether social aggregates could be perceived as single entities; specifically, he proposed that social groups could be more than nominal labels. Campbell focused on the cues which lead individuals to perceive social collectives as coherent units. The present project attempted to elaborate upon the conceptualization of entitativity and to evaluate the consequences of entitativity for thinking about social groups.

The preliminary study reported in Chapter 2 was designed to evaluate the characteristics associated with entitativity, to determine whether group entitativity could be measured meaningfully, and to determine whether entitativity is a conceptually distinct characteristic of group cognition. It was found that factors such as group cohesiveness, intra-group similarity, group size and amount of intra-group interaction were related to, but not redundant with, entitativity. In addition, entitativity seemed to be determined in multiple ways across groups--no one characteristic or pattern of characteristics was necessary for perceived entitativity across all groups. The pattern of relationships between characteristics was also shown to vary across different groups.
The present project proposed that the defining characteristic of entitativity is coherence within the group. Individual elements of an entity do not have to be similar in form or appearance, but they form a single coherent whole. In addition, there are clear relationships between the individual elements and they move together to produce an overall effect. Thus, the perception of some underlying bond among group members is conceptualized as an important characteristic of a highly entitative group. Resulting from the expected coherence of individual elements, the group itself then is perceived as having an underlying, coherent essence.

As perceivers should expect coherence among elements and a meaningful underlying essence of an entity, they should attempt to determine what the essence is. Information learned about individual members of a highly entitative group should be brought to bear on the overall impression of the group; the behaviors of elements which are part of a coherent whole should be thought of in relation to each other.

The investigations in Chapters 3 and 4 were designed to validate this conceptualization by determining the consequences of perceived entitativity for prototype development and prototype use. The impression integration studies revealed that a unified impression was formed for highly entitative groups but not for low entitative groups (Chapter 3). In addition, the impression of the group was found to affect the perception of individual group members for a highly entitative group in terms of assimilation-contrast effects that were not obtained in the case of the low entitative group (Chapter 4).
One important unresolved issue which remains for entitativity is the nature of its effects on information processing. The impression integration studies suggested a dichotomous distinction between the mode of impressions formed about the very low entitative group and the impressions formed for the other groups. However, as mentioned in Chapter 3, the apparent dichotomy for impression integration and the continuous nature of entitativity are not necessarily mutually exclusive possibilities. Some of the information processing consequences of entitativity may be dichotomous even if the entitativity dimension itself is continuous; some threshold of entitativity may have to be reached in order for a given outcome to occur.

The Entitativitv Continuum

Rather than conceptualize the impact of entitativity as a continuum such that all consequences increase linearly as entitativity increases, different outcomes might arise as entitativity increases. For example, perhaps at a moderate level of entitativity, perceivers form an online, integrated impression of the group. At a slightly higher degree of entitativity, perceivers might use their impressions to interpret the behaviors of individual group members. At a still higher level of entitativity, group members might be perceived as interchangeable elements such that information learned about one group member might be dissociated from the individual representation (e.g., Brewer et al, 1995). Finally, individuals might act toward group members as interchangeable elements such that one group members' transgressions can be addressed by punishing another group member. These outcomes should be examined to determine if the degree of entitativity affects the occurrence of these characteristics. To summarize this argument, the degree of
entitativity might initiate different effects such that as entitativity increases, more diverse processing effects occur.

Furthermore, rather than the degree of entitativity affecting the occurrence of specific outcomes, the group characteristics which covary with entitativity may affect information processing. As Chapter 2 revealed, entitativity is correlated with different characteristics for different groups (e.g., correlated with the amount of interaction for teams and office workers; correlated with group cohesiveness for the social category “women”). There are different antecedents to group entitativity, and these separate antecedents may have different consequences for thinking about groups. For example, entitativity resulting from perceived similarity of group members might increase stereotype use upon encountering individual group members; if the group members are perceived as very similar, then a newly encountered group member should be expected to possess the characteristics of the group. Alternatively, entitativity resulting from perception of an underlying bond or cohesiveness between group members might lead to increased impression integration. These relationships between antecedents and consequences of entitativity have yet to be examined.

Future Directions

Beyond the questions raised by this project’s empirical studies, other important issues arise from the extension of the entitativity concept. Research on group representations can be furthered by the application of perceived group entitativity to models of mental representation of social information. In addition, an assumption of the present conceptualization is that perceived entitativity results as an interaction between
effects from the group’s characteristics and effects from the perceiver. This paper has provided evidence that entitativity is not solely the result of one group characteristic or pattern of characteristics. Compared to other conceptualizations which portray entitativity as primarily based upon characteristics of the group (e.g., Hamilton et al., in press), the present conceptualization is that entitativity is a function of both group effects and perceiver effects. Motivations of the perceiver and situational constraints may also impact a group’s perceived entitativity. The role of entitativity in mental representations and the role of perceiver effects in entitativity are discussed below.

Consequence of entitativity: Representation differences. An important question for evaluating mental representations of groups is just how knowledge about individual exemplars is stored. Rothbart, Fulero, Jensen, Howard, and Birrell (1978; Experiment 1) investigated the relationship between individual and group representations and found that memory load had an impact on the representations. In study 1, Rothbart et al. (1978) found that when individuals were under a memory load, they did not keep track of which group members were described with what traits and instead formed an impression of the group based upon the overall frequency of all positive and negative traits. Conversely, when subjects did not experience a memory-load, they associated the traits with the individual group members such that the impression of the group was based upon the number of different individuals that were described with a traits (rather than the overall frequency all the traits).

More specifically, Rothbart et al. (1978) found that in the high memory-load conditions, ratings of group attractiveness increased as the frequency of desirable traits
increased, regardless of whether these traits were repeatedly paired with the same individuals (multiple exposure) or with different individuals (single exposure). However, under low memory-load, no difference in group attractiveness was found as the frequency of desirable traits increased when the traits were paired with the same individuals (such that the same number of people were described with desirable and undesirable traits; just the frequency of repetition changed). But, group attractiveness did increase as the frequency of desirable traits increased when these traits were paired with different individuals (single exposure) under low memory load.

The present conceptualization of entitativity suggests that high entitativity may lead to the same processing outcomes as high memory load. In a highly entitative group, individual group members are not differentiated from each other or from the group as a whole. Thus, traits of a group member would less likely be stored as a representation of the person, but as a trait of the group. Thus, under high entitativity conditions, subjects should treat each trait as a separate bit of information about the group and should not associate the traits with specific persons. The Rothbart et al (1978) paradigm can be utilized to evaluate entitativity's affect on group representations; highly entitative groups should reveal the same pattern of results as the high memory-load conditions whereas low entitative groups should replicate the low memory-load condition.

**Consequence of entitativity: Perceiver and situation effects on intergroup relations.** As suggested before, group entitativity is conceptualized as not solely the result of stable characteristics of the group. Factors such as perceiver motivation or situational constraints can also affect the perception of a group’s entitativity. For
example, the intergroup situation can not only be affected by perceived group entitativity but it can, in turn, affect the perceived entitativity of the group. Past research has found that when people interact with a group of people, they expect negative behaviors such as "competitiveness, deceit and distrust" (Schopler et al., 1993, p.420). As an aggregate of individuals is perceived as an entity, expectations about negative group behaviors are more likely to result. In addition, perceptions of a coherent group "motive" or "intention" may result as the group's entitativity increases; perceiving that "they" are attempting to deceive "us" can increase group tensions and lead to increased feelings of in-group collectivism (Abelson, 1994).

The relationship between entitativity and intergroup relations can be bidirectional. As discussed above, perceiving an out-group as a single entity might increase intergroup conflict. However, the intergroup context might also affect perceived entitativity. Research on the antecedents to perceived entitativity has focused primarily on the qualities of the group (or elements within the group) which may increase a group's perceived entitativity. A different approach for studying perceived entitativity is to focus on the effects of perceiver motivation or situational factors (such as competition situations) on perceptions of entitativity rather than focusing on the objective qualities of the group. Instead of conceptualizing entitativity as some invariant quality or "essence" of a group, perceived group entitativity can be seen as varying as the perceivers' goals and motivations change.

For example, not only can perceptions of out-group entitativity affect the level of competition between groups (as described above), but competition between two groups
may affect the perceptions of group entitativity. Several lines of research have shown that between-group competition leads to increased perceived out-group homogeneity (Judd & Park, 1988), recognition errors between members of the same group (Brewer et al., 1995), and perceived group cohesiveness (e.g., Schopler et al., 1993). Although it is intuitively obvious that competition would lead to negative impressions between groups, it is less clear why competition would lead to increased perceived similarity among group members. By reframing the competitive situation as one in which an out-group is treated as if it were a single entity (and is thought of as an entity: e.g., "that group is trying to cheat"), the perceived similarity of group members is potentially explained.

Intergroup competition might situationally induce an individual to perceive the out-group as highly entitative (see Brewer & Harasty, 1996). In other words, any time a person treats a group of people in an undifferentiated manner, motivation to perceive the group as an entity should be increased. To extend this reasoning, even if the behavior toward the whole group is positive, perceived group entitativity should increase. Whenever a perceiver’s own interests are linked to the outcomes of a group as a whole, the perceiver should be motivated to see the group as a social entity. Anything that requires acting toward the category as an undifferentiated whole should have similar motivational consequences whether the action is positive, negative, or neutral. Future research should focus on the situational and perceiver factors which can affect the entitativity of a group.

Finally, entitativity can have important implications for discrimination and intergroup conflict. As suggested early, perhaps the ultimate consequence of entitativity
is perceiving elements of the unit as interchangeable—not only for expected characteristics of individual elements (as focused on in Chapter 4), but also for responsibility for other element’s actions. If one group member transgresses, any other group member may be held accountable. Similarly, if one group member shows some intention, the group itself might be perceived as having the same intention; so any negative act towards a perceiver by a single group member may be taken as a sign of group antagonism toward the perceiver or the perceiver’s group.

This final suggestion provides important future directions for entitativity research. Not only can the entitativity concept help provide a framework from which to investigate stereotype formation and use, it also can bring together diverse research findings from person perception to intergroup conflict. Ultimately then, perceived group entitativity may provide a basis for understanding the relationships between stereotyping, prejudice and discrimination.
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APPENDIX A

Descriptive Statistics for Experimental Materials

Behaviors used in the Impression Integration studies (Chapter 3)

<table>
<thead>
<tr>
<th>intelligence-related behaviors (sorted by intelligence rating)</th>
<th>Ratings (1-10 scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failed her written driver's license test for the fourth time.</td>
<td>2.35 4.35</td>
</tr>
<tr>
<td>Ran out of gas for the second time in two weeks.</td>
<td>2.38 3.59</td>
</tr>
<tr>
<td>Received a D- on an open-book test.</td>
<td>2.44 4.00</td>
</tr>
<tr>
<td>Was laughed at when she asked her friend who the Vice President of the US was.</td>
<td>2.76 2.47</td>
</tr>
<tr>
<td>Was surprised when a friend told him that stories in the Weekly World News tabloid are not real</td>
<td>2.79 5.00</td>
</tr>
<tr>
<td>Was notified that she was placed on academic suspension from the University.</td>
<td>2.82 4.18</td>
</tr>
<tr>
<td>Had difficulty using the microwave oven.</td>
<td>2.94 4.35</td>
</tr>
<tr>
<td>Got fired because she was not able to work the cash register.</td>
<td>3.03 3.47</td>
</tr>
<tr>
<td>Needed to have his friend figure out the restaurant tip after he was unable to.</td>
<td>3.91 5.00</td>
</tr>
</tbody>
</table>

(to be continued)

Table A.1: Pilot subjects' ratings of behaviors used in stereotype formation stage and in typicality questionnaire of the Impression Integration studies.
<table>
<thead>
<tr>
<th>Event</th>
<th>Intelligence</th>
<th>Kindness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had difficulty understanding <em>Time Magazine</em>.</td>
<td>4.18</td>
<td>4.53</td>
</tr>
<tr>
<td>Found out he scored very low on an aptitude test.</td>
<td>4.24</td>
<td>4.35</td>
</tr>
<tr>
<td>Had difficulty spelling several words when writing a letter to a friend.</td>
<td>4.26</td>
<td>4.94</td>
</tr>
<tr>
<td>Was beaten several times in Backgammon by her 10 year old niece.</td>
<td>4.29</td>
<td>5.24</td>
</tr>
<tr>
<td>Got confused over the rules while playing board games with friends.</td>
<td>4.38</td>
<td>5.41</td>
</tr>
<tr>
<td>Read his morning <em>New York Times</em> and <em>Wall Street Journal</em>.</td>
<td>7.32</td>
<td>5.65</td>
</tr>
<tr>
<td>Set the curve on her history exam.</td>
<td>7.65</td>
<td>6.12</td>
</tr>
<tr>
<td>Received a profit on his own stock market investments for the 4th quarter in a row.</td>
<td>8.09</td>
<td>6.53</td>
</tr>
<tr>
<td>Solved the statistics problem that her friends could not.</td>
<td>8.26</td>
<td>6.71</td>
</tr>
<tr>
<td>Was told by her professor that her questions in class were very insightful.</td>
<td>8.26</td>
<td>7.06</td>
</tr>
<tr>
<td>Was named captain of the debate team.</td>
<td>8.35</td>
<td>7.18</td>
</tr>
<tr>
<td>Spotted a factual error in <em>Discover Magazine</em>.</td>
<td>8.41</td>
<td>6.12</td>
</tr>
<tr>
<td>Found out her short story won 1st prize in the competition.</td>
<td>8.44</td>
<td>7.47</td>
</tr>
<tr>
<td>Was consulted by a local company for her ideas on a project.</td>
<td>8.62</td>
<td>7.24</td>
</tr>
<tr>
<td>Studied for the advanced GRE test in <em>Biology</em>.</td>
<td>9.06</td>
<td>5.88</td>
</tr>
<tr>
<td>Was notified that she had won a scholarship from the <em>National Science Foundation</em>.</td>
<td>9.18</td>
<td>7.59</td>
</tr>
<tr>
<td>Successfully resolved a computer programming problem for her employer.</td>
<td>9.18</td>
<td>8.29</td>
</tr>
<tr>
<td>Knew all but one of the answers while watching <em>Jeopardy</em>.</td>
<td>9.35</td>
<td>6.18</td>
</tr>
<tr>
<td>Worked as a tutor in <em>Advanced Calculus</em>.</td>
<td>9.47</td>
<td>8.41</td>
</tr>
</tbody>
</table>

(to be continued)
Table A.1 (continued)

<table>
<thead>
<tr>
<th>Kindness-related behaviors (sorted by kindness rating)</th>
<th>Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sent a letter to his grandmother to remind her of his birthday.</td>
<td>4.41 2.41</td>
</tr>
<tr>
<td>Would not lend her class notes to another student who missed class.</td>
<td>4.16 2.47</td>
</tr>
<tr>
<td>Complimented a coworker on her clothing and appearance because she wanted a favor.</td>
<td>5.16 3.00</td>
</tr>
<tr>
<td>Sold concert tickets that he could not use to his roommate at a $20 profit.</td>
<td>6.71 3.71</td>
</tr>
<tr>
<td>Lent money to a friend in a financial crisis with 5% interest on the debt.</td>
<td>5.94 4.06</td>
</tr>
<tr>
<td>Grudgingly accepted the apology from a classmate whom she disliked.</td>
<td>4.47 4.12</td>
</tr>
<tr>
<td>Donated a few of his old clothes to charity in order to get a tax break.</td>
<td>5.68 4.24</td>
</tr>
<tr>
<td>Took a neighbor with a disability to the grocery store after the neighbor paid her $10.</td>
<td>5.97 4.35</td>
</tr>
<tr>
<td>Bought lunch for his friend before asking to borrow the friend’s car.</td>
<td>6.29 4.65</td>
</tr>
<tr>
<td>Only agreed to show a new student around campus once the professor asked her directly.</td>
<td>4.38 4.65</td>
</tr>
<tr>
<td>Reluctantly listened to a friend who wanted to discuss a problem.</td>
<td>4.12 4.71</td>
</tr>
<tr>
<td>Agreed to have the party at his house because everyone else had already hosted one or two.</td>
<td>6.31 6.65</td>
</tr>
<tr>
<td>Helped an old woman who dropped some packages only after she realized no one else was around to help.</td>
<td>5.71 7.18</td>
</tr>
<tr>
<td>Volunteered to have the party at his house for the second month is a row.</td>
<td>4.74 7.35</td>
</tr>
<tr>
<td>Graciously accepted the apology from a classmate whom she disliked.</td>
<td>7.85 8.00</td>
</tr>
<tr>
<td>Gave her friend a ride to school even though it was ten minutes out of her way.</td>
<td>7.35 8.82</td>
</tr>
<tr>
<td>Listened attentively to a friend who wanted to discuss a problem.</td>
<td>8.88 8.94</td>
</tr>
</tbody>
</table>

(to be continued)
Table A.1 (continued)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Intelligence</th>
<th>Kindness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Made a special effort to visit a friend in the hospital.</td>
<td>8.72</td>
<td>9.00</td>
</tr>
<tr>
<td>Gave concert tickets that he could not use to his roommate at no charge.</td>
<td>6.50</td>
<td>9.06</td>
</tr>
<tr>
<td>Complimented an insecure coworker on her clothing and appearance.</td>
<td>8.38</td>
<td>9.12</td>
</tr>
<tr>
<td>Lent money to a friend in a financial crisis.</td>
<td>7.97</td>
<td>9.18</td>
</tr>
<tr>
<td>Donated his old clothes to charity in hopes of helping the less fortunate.</td>
<td>8.87</td>
<td>9.47</td>
</tr>
<tr>
<td>Volunteered to show a new student around campus as soon as the professor asked the class.</td>
<td>7.74</td>
<td>9.47</td>
</tr>
<tr>
<td>Bought lunch for his friend to celebrate his friend's promotion.</td>
<td>8.47</td>
<td>9.59</td>
</tr>
<tr>
<td>Sent a letter to his Grandmother just to let her know he was thinking of her.</td>
<td>9.03</td>
<td>9.65</td>
</tr>
<tr>
<td>Saw an old woman drop some packages and immediately went over to help her.</td>
<td>8.74</td>
<td>9.71</td>
</tr>
</tbody>
</table>

Neutral Behaviors

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Intelligence</th>
<th>Kindness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Went to the zoo but left early.</td>
<td>5.59</td>
<td>5.24</td>
</tr>
<tr>
<td>Swan 20 laps during lunch hour.</td>
<td>5.94</td>
<td>5.76</td>
</tr>
<tr>
<td>Made a list of things she had to do during the day</td>
<td>6.73</td>
<td>6.35</td>
</tr>
<tr>
<td>Mailed a letter at the post office.</td>
<td>5.79</td>
<td>5.35</td>
</tr>
<tr>
<td>Watched television after dinner.</td>
<td>5.38</td>
<td>5.35</td>
</tr>
<tr>
<td>Bought a new watch at the mall.</td>
<td>5.74</td>
<td>5.18</td>
</tr>
<tr>
<td>Hit the ball at a softball game.</td>
<td>6.15</td>
<td>5.71</td>
</tr>
</tbody>
</table>
Behaviors used in prototype-use study

<table>
<thead>
<tr>
<th>Ambiguous Behaviors</th>
<th>Intelligence Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spent many hours trying to finish math homework</td>
<td>6.24</td>
</tr>
<tr>
<td>Was beaten by her boss in Scrabble several times</td>
<td>4.94</td>
</tr>
<tr>
<td>Had to visit the library many times while completing a paper for class</td>
<td>6.12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Discrepant Behaviors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Received a B- on the Sociology midterm.</td>
<td>5.59</td>
</tr>
<tr>
<td>Scored in the 60th percentile on the ACT exam.</td>
<td>4.35</td>
</tr>
<tr>
<td>Graduated 48th in her High School class of 104 students.</td>
<td>5.06</td>
</tr>
</tbody>
</table>

Table A.2: Pilot subjects' ratings of behaviors used in prototype use study.
Figure A.1: Scatterplots of individual entitativity ratings for the 18 groups by participant.
APPENDIX B

Experimental materials
Correlates of Entitativity Study: Instructions to participants

In this questionnaire, you will be presented with a series of groups. For each group, you will be asked several questions about your opinions of the group and its members. Each question will be answered on a scale from 1 to 10.

For example, if the group is "Professional Football Players," you might be asked:

How rich are the members of this group?

1  2  3  4  5  6  7  8  9  10
Extremely poor

You would respond by circling the number which best expresses your opinion about this group.

A different group will be presented on each page: the groups range from specific groups (e.g., the cast of Friends) to general groups (e.g., Actors). The group you are to focus on is listed at the top of each page.

For each page, think about the given group for a few moments and then answer the questions about the group. PLEASE ANSWER EACH QUESTION ASKED ABOUT EACH GROUP OF PEOPLE.
Correlates of Entitativity Study: Sample response page

Group: A typical SORORITY

1) How much choice do you think group members have in being members of this type of group?

1 2 3 4 5 6 7 8 9 10
No choice Completely at all free choice

2) How much interaction do you think all members of this type of group have with each other?

1 2 3 4 5 6 7 8 9 10
Do not interact at all Interact all the time

3) How much does the behavior of one group member reflect upon the group as a whole?

1 2 3 4 5 6 7 8 9 10
Not at all Extremely

4) How similar are the daily life events and goals of members of this group?

1 2 3 4 5 6 7 8 9 10
Very different Exactly alike

5) How important is the group membership to each of this group's members?

1 2 3 4 5 6 7 8 9 10
Not at all important Extremely important

6) If the members of this group were together in a room, would you think of them as a collection of separate individuals or as a single group, or something between the two (like as several subgroups)?

1 2 3 4 5 6 7 8 9 10
Separate, Independent people A single group

7) How similar do you think members of this group are to each other?

1 2 3 4 5 6 7 8 9 10
Very All alike Different
Correlates of Entitativity Study: Entitativity rating page

Some groups are meaningful objects in their own right. People often don't think of these groups as a collection of separate individuals but instead as a single, real object. For these meaningful groups, people are usually able to point out one or two characteristics of the group, and people expect that individual group members will have each of these characteristics. In addition, people can imagine acting toward these meaningful groups as a whole (you might say something like, "I'm going to turn that group in to the authorities" if you perceive group members doing something wrong. Or you might say "I like that group" rather than saying "I like people in that group").

Based upon this brief description, please rate the following groups in terms of how much each group is a real, single object. Rate the groups from 1 (not a real, single object at all) to 10 (a very real single object).

<table>
<thead>
<tr>
<th>Group</th>
<th>Rating (1 to 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholics</td>
<td></td>
</tr>
<tr>
<td>A group of Office coworkers</td>
<td></td>
</tr>
<tr>
<td>A typical Sorority</td>
<td></td>
</tr>
<tr>
<td>People whose first names start with &quot;K&quot;</td>
<td></td>
</tr>
<tr>
<td>An Intramural Softball Team</td>
<td></td>
</tr>
<tr>
<td>Students in the same Psych 100 class</td>
<td></td>
</tr>
<tr>
<td>African-Americans</td>
<td></td>
</tr>
<tr>
<td>People participating in an experiment during the same month</td>
<td></td>
</tr>
<tr>
<td>A typical Fraternity</td>
<td></td>
</tr>
<tr>
<td>OSU students</td>
<td></td>
</tr>
<tr>
<td>Doctors</td>
<td></td>
</tr>
<tr>
<td>Psychology majors</td>
<td></td>
</tr>
<tr>
<td>Democrats</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td></td>
</tr>
<tr>
<td>A typical Family</td>
<td></td>
</tr>
<tr>
<td>White people</td>
<td></td>
</tr>
<tr>
<td>People waiting for the same airplane</td>
<td></td>
</tr>
<tr>
<td>Plumbers</td>
<td></td>
</tr>
<tr>
<td>Your Group 1</td>
<td></td>
</tr>
<tr>
<td>Your Group 2</td>
<td></td>
</tr>
</tbody>
</table>
Impression Integration Studies: Oral instructions to subjects

In this study, we are interested in examining the relationship between social interaction style and personality. However, performance in an artificial experimental session provides only limited information. We are specifically interested in how individuals act in daily life, how they interact with people they know, the kinds of activities they take part in, etc. Thus, we would like you to sign up to receive additional experimental credit by completing a activity report from a week in your life.

In this activity report, participants record certain activities and social interactions they have over the course of a week. Subjects completing the activity report are asked to list all the behaviors and interactions (a) that they were proud of or ashamed of, (b) that made them feel happy or sad, and (c) that inspired them or aggravated them. Thus, some of these behaviors and interactions describe important events or accomplishments and some of these describe every day activities or hassles.

Before you decide whether or not to participate in this activity report study, it is important that you understand what kinds of behaviors and social interactions should be written in the report. So, we are providing you with examples of the behaviors given from previous participants who have already completed the activity report. It is very important that you record the appropriate types of behaviors in your activity report--so important that we want you to attempt to remember as many of these example behaviors as possible. We have rewritten these behavior descriptions to protect the individuals'
privacy and to clarify unclear statements. When you receive these statements, try to read them carefully."

To provide you with a better understanding of where the behavioral examples you'll receive came from, you will first be given a brief description of the sample of participants from which we took the behavioral examples. You will then receive the behavioral examples.
Impression Integration Studies: Group Entitativity Manipulation (Month)

Activity-Report Study

Description of subject sample:

The behavior examples you will receive were obtained in an activity-report study conducted last Winter & Spring Quarters (1995). In this study, participants provided listings of their social interactions and personal behaviors over the course of a week. This study was conducted over a six month period; during any extended time period, conditions which affect individuals' lives vary over time. In other words, over the course of a year, different events occur which can have different impacts on people's lives. Thus, we recorded in which months the subjects completed their activity reports. Subjects who participated in January are labelled "Month A" participants, subjects who participated in February are "Month B" participants, and so on. The behaviors are also labelled with the participants' initials (e.g., "A. H.").

The behaviors you receive will be from subjects who participated in the same month (labelled with a letter). As you receive these statements, try to read them carefully and remember them.

When you have finished reading this description, please raise your hand. When everyone is ready, the behavioral examples will be given out.
Impression Integration Studies: Group Entitativity Manipulation (Sorority)

Activity-Report Study

Description of subject sample:

The behavior examples you will receive were obtained in a Sorority activity-report study conducted at a different university last year. This study was designed to evaluate the social interactions and personal behaviors among groups of people who differed on certain personality traits. Because sororities are often close-knit groups with a great deal of interpersonal contact, we chose to evaluate members of two different sororities. To determine which sororities to evaluate, we first administered personality tests to ten different sororities. Through these personality inventories, we calculated the average personality type for each sorority.

When we found two sororities showing clear differences in the personalities of their group members, we then asked these two sororities to have members who live in the sorority house complete the week-long activity report. To protect the privacy of the two groups, subjects from the first sorority are labelled "Sorority A", subjects from the other sorority are labelled "Sorority B" participants. The behaviors are also labelled with the participants' initials (e.g., "A. H.").

The behaviors you receive will be from participants in the same sorority (labelled as Sorority A). As you receive these statements, try to read them carefully and remember them.

When you have finished reading this description, please raise your hand. When everyone is ready, the behavioral examples will be given out.
Impression Integration Studies: Group Entitativity Manipulation (Family)

Activity-Report Study

Description of subject sample:

The behavior examples you will receive were obtained in a Family activity-report study conducted at a different university last year. This study was designed to evaluate the social interactions and personal behaviors among groups of people who differed on certain personality traits. Because extended families are often close-knit groups with a great deal of interpersonal contact, we chose to evaluate members of two different extended families. To determine which families to evaluate, we first administered personality tests to members of several volunteer families. Through these personality inventories, we calculated the average personality type for each extended family.

When we found two families showing clear differences in the personality types of their members, we then asked these two families to complete the week-long activity report. To protect the privacy of the two families, subjects from the first family are labelled "Family A", subjects from the other family are labelled "Family B" participants. The behaviors are also labelled with the participants' initials (e.g., A. H.).

The behaviors you receive will be from participants in the same extended family chosen because this family differed from the other family on certain personality types. As you receive these statements, try to read them carefully and to form an impression about what the family is like (e.g., what personality traits do family members have?).

When you have finished reading this description, please raise your hand. When everyone is ready, the behavioral examples will be given out.
Impression Integration Studies: Group Entitativity Manipulation (G-Category)

Activity-Report Study

Description of subject sample:

The behavior examples you will receive were obtained in an activity-report study conducted at a different university last year. This study was designed to evaluate the social interaction patterns for individuals who fall into two distinct perceptual processing styles: called F-processors and G-processors.

In general, about half of the population fall into the F-processor category and half of the population fall into the G-processor category. People with these two perceptual styles differ in their response patterns on a task called the Perceptual Matrices Test. This perceptual difference is thought to created other important differences in the way people approach day-to-day life. However, very little research has been conducted to investigate possible differences in personality and social interaction style between F-processors and G-processors. This is why we had F-processors and G-processors complete activity reports.

To protect the privacy of the individual group members, participants are identified only with their perceptual processing category (labelled Category F or Category G) and their behaviors are also labelled with the participants’ initials (e.g., A. H.).

The behaviors you receive will be from participants from the same perceptual processing category. As you receive these statements, try to read them carefully and remember them.

When you have finished reading this description, please raise your hand. When everyone is ready, the behavioral examples will be given out.
Impression Integration Studies

Oral instructions after entitativity manipulation

Before passing out the behavioral booklets, say:

"Because it is important in experiments to keep everything constant between participants, you will be timed through your reading of these behaviors. You will have 8 secs to read each behavior. I will say "Next" when it is time to read the next behavior. Each behavior is on a separate page, turn the page after I say "next." Do not start until I say Begin."
Intelligent version. Order 1

2. solved the statistics problem that her friends could not.
3. reluctantly listened to a friend who wanted to discuss a problem.
4. went to the zoo but left early.
5. was told by her professor that her questions in class were very insightful.
6. sent a letter to his grandmother to remind her of his birthday.
7. studied for the advanced GRE test in Biology.
8. sold concert tickets that he could not use to his roommate at a $20 profit.
9. found out her short story won 1st prize in the competition.
10. bought lunch for his friend before asking to borrow the friend’s car.
11. swam 20 laps during lunch hour.
12. was named captain of the debate team.
13. successfully resolved a computer programming problem for her employer.
14. donated a few of his old clothes to charity in order to get a tax break.
15. received a profit on his own stock market investments for the 4th quarter in a row.
16. made a list of things she had to do during the day.
17. was notified that she had won a scholarship from the National Science Foundation.
18. only agreed to show a new student around campus once the professor asked her directly.
19. knew all but one of the answers while watching Jeopardy.
20. complimented a coworker on her clothing and appearance because she wanted a favor.
21. worked as a tutor in Advanced Calculus.
22. mailed a letter at the post office.
23. was consulted by a local company for her ideas on a project.
24. helped an old woman who dropped some packages only after she realized no one else was around to help.

Additional behaviors for Study 2:
25. watched television after dinner.
26. graciously accepted the apology from a classmate whom she disliked.
27. bought a new watch at the mall.
28. lent money to a friend in a financial crisis.
29. hit the ball at a softball game.
30. volunteered to have the party at his house for the second month in a row.

(to be continued)

Table B.1: Order of behavior presentation for Impression Integration studies.

132
Table B.1 (continued)

Intelligent version, Order 2

1 solved the statistics problem that her friends could not.
2 reluctantly listened to a friend who wanted to discuss a problem.
3 went to the zoo but left early.
5 sent a letter to his grandmother to remind her of his birthday.
6 was told by her professor that her questions in class were very insightful.
7 studied for the advanced GRE test in Biology.
8 sold concert tickets that he could not use to his roommate at a $20 profit.
9 was named captain of the debate team.
10 found out her short story won 1st prize in the competition.
11 swan 20 laps during lunch hour.
12 bought lunch for his friend before asking to borrow the friend's car.
13 received a profit on his own stock market investments for the 4th quarter in a row.
14 donated a few of his old clothes to charity in order to get a tax break.
15 successfully resolved a computer programming problem for her employer.
16 made a list of things she had to do during the day.
17 knew all but one of the answers while watching Jeopardy.
18 complimented a coworker on her clothing and appearance because she wanted a favor.
19 was notified that she had won a scholarship from the National Science Foundation.
20 only agreed to show a new student around campus once the professor asked her directly.
21 was consulted by a local company for her ideas on a project.
22 helped an old woman who dropped some packages only after she realized no one else was around to help.
23 mailed a letter at the post office.
24 worked as a tutor in Advanced Calculus.

Additional behaviors for Study 2:
25 watched television after dinner.
26 graciously accepted the apology from a classmate whom she disliked.
27 bought a new watch at the mall.
28 lent money to a friend in a financial crisis.
29 hit the ball at a softball game.
30 volunteered to have the party at his house for the second month is a row.

(to be continued)
Table B.1 (continued)

**Unintelligent version, Order 1**

1. had difficulty using the microwave oven.
2. failed her written driver's license test for the fourth time.
3. listened attentively to a friend who wanted to discuss a problem.
4. went to the zoo but left early.
5. found out he scored very low on an aptitude test.
6. sent a letter to his Grandmother just to let her know he was thinking of her.
7. ran out of gas for the second time in two weeks.
8. bought lunch for his friend to celebrate his friend's promotion.
9. got confused over the rules while playing board games with friends.
10. gave concert tickets that he could not use to his roommate at no charge.
11. swam 20 laps during lunch hour.
12. was surprised when a friend told him that stories in the Weekly World News tabloid are not real.
13. received a D- on an open-book test.
14. donated his old clothes to charity in hopes of helping the less fortunate.
15. was laughed at when she asked her friend who the Vice President of the US was.
16. made a list of things she needed to do that day.
17. was notified that she was placed on academic suspension from the University.
18. volunteered to show a new student around campus as soon as the professor asked the class.
19. had difficulty spelling several words when writing a letter to a friend.
20. complimented an insecure coworker on her clothing and appearance.
21. needed to have his friend figure out the restaurant tip after he was unable to.
22. mailed a letter at the post office.
23. was beaten several times in Backgammon by her 10 year old niece.
24. saw an old woman drop some packages and immediately went over to help her.

**Additional behaviors for Study 2:**
25. watched television after dinner.
26. grudgingly accepted the apology from a classmate whom she disliked.
27. bought a new watch at the mall.
28. lent money to a friend in a financial crisis with 5% interest on the debt.
29. hit the ball at a softball game.
30. agreed to have the party at his house because everyone else had already hosted one or two.

(to be continued)
Table B.1 (continued)

Unintelligent version, Order 2

1. failed her written driver's license test for the fourth time.
2. went to the zoo but left early.
3. listened attentively to a friend who wanted to discuss a problem.
4. had difficulty using the microwave oven.
5. bought lunch for his friend to celebrate his friend's promotion.
6. found out he scored very low on an aptitude test.
7. ran out of gas for the second time in two weeks.
8. sent a letter to his Grandmother just to let her know he was thinking of her.
9. gave concert tickets that he could not use to his roommate at no charge.
10. got confused over the rules while playing board games with friends.
11. was surprised when a friend told him that stories in the Weekly World News tabloid are not real.
12. swam 20 laps during lunch hour.
13. was laughed at when she asked her friend who the Vice President of the US was.
14. received a D- on an open-book test.
15. donated his old clothes to charity in hopes of helping the less fortunate.
16. made a list of things she needed to do that day.
17. volunteered to show a new student around campus as soon as the professor asked the class.
18. was notified that she was placed on academic suspension from the University.
19. had difficulty spelling several words when writing a letter to a friend.
20. complimented an insecure coworker on her clothing and appearance.
21. needed to have his friend figure out the restaurant tip after he was unable to.
22. saw an old woman drop some packages and immediately went over to help her.
23. mailed a letter at the post office.
24. was beaten several times in Backgammon by her 10 year old niece.

Additional behaviors for Study 2

25. watched television after dinner.
26. grudgingly accepted the apology from a classmate whom she disliked.
27. bought a new watch at the mall.
28. lent money to a friend in a financial crisis with 5% interest on the debt.
29. hit the ball at a softball game.
30. agreed to have the party at his house because everyone else had already hosted one or two.
Impression Integration Studies

Oral instructions after behavior presentation

We'd now like you to try to remember as many behaviors as you can. Please write down as many of the behaviors as you can remember. If you cannot recall the behavior exactly, please write down as much of the behavior as you can remember. Write down the behaviors on separate sheets. Please do not go back in the booklet once you've written down a behavior. You'll have 5 mins for this.

[Once finished, say:] "Please turn your booklets over and push your booklets off to the side."

As I've mentioned before, we are very interested in learning about social interaction style and personality. Because the information you just received is the first exposure you have had to the people described and because you had no prior expectations about these people, we'd like your impressions of the groups presented. Please answer the following questions based upon your impressions of the groups.
Impression Integration Studies: Typicality Questionnaire

(Intelligent behavior version)

Perception Questionnaire

Please answer the following questions based upon your impressions and knowledge of the behavioral examples you just read.
Based upon the information you received about the group members, we are interested in your estimates of how typical of the "Month A" participants the following individuals are. Please circle the number which best expresses your opinion.

1) S. T. ("Month A" participant)

Shared his umbrella with someone in the rain
Helped a lost child find his parents in a store

1  2  3  4  5  6  7  8  9  10
Very atypical
of "Month A"

2) D. W. ("Month A" participant)

Would not lend her class notes to another student who missed class.
Set the curve on her history exam.

1  2  3  4  5  6  7  8  9  10
Very atypical
of "Month A"

3) M. D. ("Month A" participant)

Got corrected twice for using poor grammar.
Could not remember her social security when asked for it.

1  2  3  4  5  6  7  8  9  10
Very atypical
of "Month A"
4) J. F. ("Month A" participant)

Gave his friend a ride to school even though it was ten minutes out of his way.
Spotted a factual error in a story in Discover Magazine.

Very atypical of "Month A"

5) P. D. ("Month A" participant)

Took a neighbor with a disability to the grocery store after the neighbor paid him $10.
Had difficulty understanding Time Magazine.

Very atypical of "Month A"

6) T. E. ("Month A" participant)

Was nominated for an undergraduate award by her academic advisor.
Swayed her father (a doctor) to her position on the health care policy issue.

Very atypical of "Month A"

7) L. L. ("Month A" participant)

Crowded someone off the sidewalk in his hurry to cross the street.
Got into a fight with an acquaintance in a bar.

Very atypical of "Month A"
Based upon the behavioral statements you previously read, please rate your impressions of "Month A" participants. Circle the number which best expresses your opinion.

How kind do you think "Month A" participants are?

1  2  3  4  5  6  7  8  9  10
Not at all Kind
Very

How intelligent do you think "Month A" participants are?

1  2  3  4  5  6  7  8  9  10
Not at all Intelligent
Very

How much do you like "Month A" participants?

1  2  3  4  5  6  7  8  9  10
Not at all Very much

How similar do you think "Month A" participants are to one another?

1  2  3  4  5  6  7  8  9  10
Very Different
All alike
Impression Integration Studies: Typicality Questionnaire
(Unintelligent behavior version)

Perception Questionnaire

Please answer the following questions based upon your impressions and knowledge of the behavioral examples you just read.
Based upon the information you received about the group members, we are interested in your estimates of how typical of Category G participants following individuals are. Please circle the number which best expresses your opinion.

1) S. T. (Category G)
   
   Shared his umbrella with someone in the rain
   Helped a lost child find his parents in a store

   1  2  3  4  5  6  7  8  9  10
   Very atypical of Category G
   Very typical of Category G

2) A. S. (Category G)
   
   Gave her friend a ride to school even though it was ten minutes out of her way.
   Got fired because she was not able to work the cash register.

   1  2  3  4  5  6  7  8  9  10
   Very atypical of Category G
   Very typical of Category G

3) M. D. (Category G)
   
   Got corrected twice for using poor grammar.
   Could not remember her social security when asked for it.

   1  2  3  4  5  6  7  8  9  10
   Very atypical of Category G
   Very typical of Category G

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4) P. D. (Category G)

Would not lend his class notes to another student who missed class.  
Had difficulty understanding Time Magazine.

\[
\begin{array}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\
\text{Very atypical} & & & & & & & & & \text{Very typical} \\
of \text{Category G} & & & & & & & & & \text{of Category G}
\end{array}
\]

5) J. F. (Category G)

Made a special effort to visit a friend in the hospital.  
Set the curve on his history exam.

\[
\begin{array}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\
\text{Very atypical} & & & & & & & & & \text{Very typical} \\
of \text{Category G} & & & & & & & & & \text{of Category G}
\end{array}
\]

6) T. E. (Category G)

Was nominated for an undergraduate award by her academic advisor.  
Swayed her father (a doctor) to her position on the health care policy issue.

\[
\begin{array}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\
\text{Very atypical} & & & & & & & & & \text{Very typical} \\
of \text{Category G} & & & & & & & & & \text{of Category G}
\end{array}
\]

7) L. L. (Category G)

Crowded someone off the sidewalk in his hurry to cross the street.  
Got into a fight with an acquaintance in a bar.

\[
\begin{array}{cccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\
\text{Very atypical} & & & & & & & & & \text{Very typical} \\
of \text{Category G} & & & & & & & & & \text{of Category G}
\end{array}
\]