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THE ROLE OF ASSIMILATION AND DIFFERENTIATION NEEDS IN THE PERCEPTION AND CATEGORIZATION OF INGROUP AND OUTGROUP MEMBERS

DISSERTATION

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

By

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ABSTRACT

According to optimal distinctiveness theory (ODT; Brewer, 1991, 1993), individuals have both the desire for assimilation (inclusion within a group) and also the desire for differentiation (distinctiveness from others). In order to reconcile these two competing needs, optimal distinctiveness theory states that individuals will seek social identities that are at the equilibrium point between the two needs. In other words, individuals will identify with groups that allow for both assimilation and differentiation. Although the needs for assimilation and differentiation can lead to differences in the groups with which individuals identify, these needs may also have an effect on the process of categorizing others as ingroup and outgroup members. According to ODT, the inclusiveness of a particular group membership is inversely related to the amount of differentiation the group provides and directly related to the amount of assimilation provided by the group. Thus, one way in which individuals may attempt to satisfy their assimilation and differentiation needs is by being either more restrictive or more lenient in terms of defining who belongs to the ingroup and outgroup.

Three studies were conducted in order to explore the role of assimilation and differentiation needs in the process of social categorization. Recent research on the ingroup overexclusion effect—the tendency to be stringent in one’s criteria for ingroup
membership—and an older body of literature on ethnic identification indicates that social categorization may be influenced by the goals and motivations that perceivers possess. Although research on the ingroup overexclusion effect and research on racial categorizations suggest that individuals have a general default towards stringency when categorizing others as ingroup members, a different set of predictions was derived from Brewer's (1991) optimal distinctiveness model.

It was predicted in the studies presented here that activating the needs for assimilation and differentiation would result in a relaxation or tightening of group boundaries leading to greater inclusion or exclusion of group members. More specifically, when the need for assimilation was aroused, participants were expected to be more lenient in their criteria for group membership, and when the need for differentiation was aroused, participants were expected to be more stringent. In addition, perceptions of ingroup and outgroup homogeneity were predicted to be affected by assimilation and differentiation needs such that greater perceived homogeneity would occur when participants’ need for differentiation was aroused. Contrary to predictions, both the arousal of the need for assimilation and the arousal of the need for differentiation led to greater stringency in defining group membership compared to control participants. In addition, perceptions of ingroup homogeneity increased when either the need for assimilation or differentiation was aroused.

The results presented in this dissertation suggest that a bounded and homogeneous ingroup may be important for the satisfaction of both assimilation and differentiation
needs. The implications of these results for the ways in which assimilation and differentiation needs may be satisfied are discussed.
Dedicated to my parents
ACKNOWLEDGMENTS

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CHAPTER 1

INTRODUCTION

The process of social categorization—perceiving others as belonging to social groups—is one that occurs quite often and with apparent ease. In fact, certain social categories (e.g., race and gender) are used so often in categorizing others that these categorizations can be made automatically without conscious thought or effort (Brewer, 1988; Stangor, Lynch, Duan, & Glas, 1992). Using a Stroop-like interference task (Stroop, 1935), Brewer (1988) presented subjects with pictures of face pairs and asked subjects to indicate whether the pictures were the same or different in terms of either gender or occupation. Brewer (1988) predicted that the automatic categorization of the faces in terms of gender would interfere with the categorization of the faces in terms of occupation. As predicted, when the faces were of the same gender it took longer for subjects to recognize that the faces belonged to different occupations. Thus, it appears that social categorizations, especially well-rehearsed categorizations such as race and gender, take place quite readily when perceivers encounter other individuals.
Models of Categorization

The question of how these categorizations are made has received sustained research attention by psychologists. With the cognitive revolution in psychology in the early 1970s came an interest in applying the principles of natural-object categorization (see Mervis & Rosch, 1981; Rosch, 1978; Rosch & Mervis, 1975; Rosch, Mervis, Gray, Johnson, Boyes-Braem, 1976) to the process of categorizing individuals. In one of the earliest attempts to link the literatures on object perception and person perception, Cantor and Mischel (1979) noted that, similar to other physical objects, individuals can be considered to belong to “fuzzy sets” (McCloskey & Glucksberg, 1978). Fuzzy sets are categories where the category members vary in terms of their fit (prototypicality) such that borderline cases exist which create overlapping and “fuzzy” boundaries between categories.

To clarify what they meant by “fuzzy sets”, Cantor and Mischel (1979) used the example of “extraverts” and indicated that for a category such as extraverts, a continuum of category membership exists. Some individuals are better examples of extraverts than others. In addition, some extraverts may display a certain set of traits associated with extraversion (talkative and domineering), while others will display a different set of traits (e.g., warm and sociable). Thus, category membership according to Cantor and Mischel (1979) is likely to be probabilistic in nature. Membership is not likely to be determined by the possession of all of a group’s features. Rather membership will be based on some configuration of “critical signs” which indicate that the category label is appropriate.
A question that Cantor and Mischel (1979) pose in their chapter is, "Faced with the task of labeling or typing a new person or object, how does one decide whether a particular stimulus fits a particular category?" (p. 28). Three different approaches have developed in order to account for how categorizations are made. According to the classical model of categorization (Bruner, Goodnow, & Austin, 1956; Vygotsky, 1965), categories consist of a set of necessary and sufficient attributes which define the category and which make all members of the category equally representative. For example, if a table is defined by the presence of four legs attached to a flat surface, then all objects with those properties would be considered to be equally good representatives of the category -- "table." However, research by Rosch and her colleagues (1976) has shown that certain members of categories are considered to be better instances of the category than others. Thus, a robin is considered to be a better bird than a penguin, and people are able to categorize a robin as a bird faster than they are able to categorize a penguin as a bird (Rips, Shoben, & Smith, 1973).

Because of these findings regarding the "nonequivalence of category members" (Mervis & Rosch, 1981) and other problems with the classical model (see Medin & Smith, 1984 for a review), the classical approach to categorization has largely been discarded as a model of categorization. In its place, researchers have developed prototype and exemplar models (and mixtures of the two) in order to describe the process of categorization. Prototype models (Posner & Keele, 1968; Rosch & Mervis, 1975) generally hold that abstracted representations of categories exist which are based on multiple experiences with category members. Thus, a person's representation of the category "bird" will be an
abstracted prototype based on all the birds the person has encountered. The prototype may contain features such as "brightly colored", "sings in the morning", and "able to fly" even though the person may not have encountered a single bird which possessed all of these features. Thus, the category prototype is more of a summary representation of instances of the category than a representation of single instances of the category.

According to prototype models, an object will be judged against the category prototype during the categorization process, and "an instance is included in the category when its similarity to the category prototype exceeds some threshold or when it is more similar to the prototype of this category than to the prototype of any competing category" (Smith & Zarate, 1990, p. 245).

In contrast to prototype models, exemplar models of categorization (Brooks, 1978; Jacoby & Brooks, 1984; Medin & Schaffer, 1978; Walker, 1975) propose that individual instances of a category are stored either in addition to or instead of category-level information. In this case, categorization of new instances is based on the similarity of the new instance to specific known category exemplars. For example, a person might categorize an unfamiliar piece of furniture as a stool because he or she saw a similar stool in a magazine once. Thus, categorization of the piece of furniture is based on the similarity to a stored example and not based on its similarity to an abstract representation of the category "stools." Medin and Schaffer (1978) developed a specific exemplar model which takes into account the different weights of stimulus dimensions such that the product of the similarities of the new instance and the exemplars across all of the dimensions determines the categorization of the stimulus. More recently, Medin,
& Murphy (1984) developed a mixture model which suggests that both the category prototype and specific instances of the category may be used to determine categorization.

Both prototype and exemplar models rely on the concept of similarity (to a prototype or known exemplar) as the mechanism through which new instances are assigned to categories. However, researchers have begun to look at the role of theories in categorization and conceptual structure (Medin, 1989; Murphy & Medin, 1985). In regard to the role of similarity in categorization, Murphy and Medin (1985) wrote the following:

The main thesis of this article is that current ideas, maxims, and theories concerning the structure of concepts are insufficient to provide an account of conceptual coherence. . . . [W]e argue that the notion of similarity relationships is not sufficiently constraining to determine which concepts will be coherent or meaningful. These approaches are inadequate, in part, because they fail to represent intra and inter-concept relations and more general world knowledge. We propose a different approach in which attention is focused on people’s theories about the world. (p. 289).

In other words, part of the “glue” that holds categories together are the theories that people hold regarding the relationship between category members. As an example of this, Murphy and Medin (1985) point out the biblical categories of clean and unclean animals. In the categorization scheme, camels, mice, and sheep are all part of the category unclean animals and gazelles, frogs, and grasshoppers are part of the category clean animals. These categories are coherent not because of the similarity of category members, but because of the theories that people hold about what makes animals clean and unclean. The work of researchers such as Medin and Murphy shows that the process of
categorization cannot be sufficiently explained by the notion of similarity alone. Rather, the theories and explanations that people hold regarding the interrelationships among concepts will help determine how categories are structured.

The literature on categorization models has provided substantial insights into how social categorizations are made, and researchers have begun, more recently, to acknowledge that individuals bring theories and knowledge to the categorization process. Thus, it is not always the case that the categories are simply out in the world to be noticed and observed by perceivers, but rather categories are constructed by individuals. What is argued in the present thesis is that not only do perceivers bring knowledge to the categorization process, but they also possess motivations and needs which may impact how judgments of category membership are made.

The role of motivation in the categorization process may be most apparent when social categories are involved. The process of classifying people into categories has added meaning because the categorization of other people necessarily involves decisions regarding whether those people belong to categories to which one also belongs. In the classification of objects, one knows at the outset that these objects are separate from the self. With social categories, the classification of others can have repercussions for the self and thus there may be motivational reasons behind the types of categories that people possess and the way they go about classifying others into those categories.

Both prototype and exemplar models of categorization indicate that some threshold needs to be met (in terms of perceived similarity to either the category prototype or category exemplars) in order for a new instance to be classified as a category member.
However, what remains largely unspecified is where this threshold is and whether it is a stable or malleable threshold. An interesting body of literature on race and ethnic identification (Dorfman, Keeve, & Saslow, 1971; Elliott & Wittenberg, 1955; Himmelfarb, 1966; Lindzey & Rogolsky, 1950; Scodel & Austrin, 1957; Secord & Saumer, 1960), sparked by Allport and Kramer’s (1946) paper on the relationship between anti-Semitism and ethnic categorization, suggests that the process of social categorization may be influenced by the motivations and values of the perceiver. Allport and Kramer (1946) found a positive relationship between anti-Semitism and the ability to accurately identify Jewish and non-Jewish photographs. Although some disagreement existed regarding the validity of Allport and Kramer’s (1946) results, research using a signal-detection paradigm (Dorfman, Keeve, & Saslow, 1971) provided evidence of greater sensitivity as a function of anti-Semitism. In addition, evidence was found which suggested that high-prejudiced individuals were also more confident of their ethnic categorizations than low-prejudiced individuals.

More recently, research by Knowles and Peng (1999) demonstrated that Whites’ level of anti-Black prejudice (as measured by the Implicit Associations Task) correlated positively with their precision and speed in making ambiguous Black-White categorizations. Knowles and Peng (1999) account for their findings by suggesting that racially-prejudiced individuals are motivated to be accurate and thus develop expertise in making racial categorizations. Blascovich, Wyer, Swart, & Kibler (1997) also found evidence that racially prejudiced individuals are motivated to maintain racial boundaries and are more concerned than low-prejudiced individuals with the accurate identification of
group members. The work of Knowles and Peng (1999) and Blascovich and his colleagues (1997) demonstrates how the process of social categorization can be susceptible to perceiver motivations. Although the process of categorization may not necessarily change as a result of perceiver motivations—i.e., new instances will still be compared to the prototype or exemplars—the thresholds involved and the desire for accuracy may change depending on the goals and motivations that perceivers possess.

**The Ingroup Overexclusion Effect**

Another body of literature which suggests that the social categorization process may be influenced by perceiver motivations is the research on the ingroup overexclusion effect. The ingroup overexclusion effect (Leyens & Yzerbyt, 1992; Yzerbyt, Leyens, & Bellour, 1995) refers to the tendency for group members to require relatively higher criteria for accepting a person as an ingroup member than they require for identifying a person as an outgroup member. According to research by Yzerbyt and his colleagues (Leyens & Yzerbyt, 1992; Yzerbyt et al., 1995; Yzerbyt & Castano, 1998) this difference in criteria is a result of the greater importance and value placed on the ingroup. When faced with ambiguous instances of the ingroup, group members will tend to exclude these individuals in order to preserve the integrity of the ingroup. By being especially cautious when accepting individuals as members of the ingroup, group members can be sure that the ingroup includes only “true” members of the group. This work suggests that the motivation to maintain clear ingroup/outgroup boundaries can influence the categorization process.
In a demonstration of the ingroup overexclusion effect, Leyens and Yzerbyt (1992) used two linguistic groups (Flemish and Walloon) to show that in judging the potential ingroup membership of targets, individuals require more confirmatory evidence than disconfirmatory evidence in order to reach a decision. Leyens and Yzerbyt (1992) brought Walloon participants into the laboratory and had the participants attempt to tell whether a target (a supposed job candidate) was Walloon based on a series of personality characteristics. Participants were told that up to 10 traits would be displayed on a computer screen, but that they were not required to use all 10 traits in order to decide whether the person being described is Walloon. Rather, they were to read the first trait and then either make a decision regarding the person’s status as a Walloon, or request additional information (i.e., another trait). Thus, participants could use as few as one trait in making their decision or up to 10 traits. This process was repeated for 15 different job candidates. Based on prior testing, Leyens and Yzerbyt (1992) were able to construct different types of trait profiles for the various job candidates. These trait profiles either contained confirming (Walloon-typical) traits or disconfirming (Flemish-typical) traits, and were either positively or negatively valenced. These researchers predicted that positive traits and confirming traits would lead to categorization of the target as a Walloon (ingroup member). And, more importantly, it was also predicted that a greater number of positive and confirming traits would be needed in order to judge a person to be a Walloon than negative and disconfirming traits would be needed to categorize the person as Flemish. Leyens and Yzerbyt’s (1992) findings supported these predictions and indicated
that participants were more stringent when judging a target as an ingroup member than when deciding that the target was an outgroup member.

In the most recent test of the ingroup overexclusion effect, Yzerbyt and Castano (1998) showed that the ingroup overexclusion effect is more pronounced for those individuals who identify highly with the ingroup. Because high identifiers are presumably more motivated than low identifiers to maintain the integrity of the ingroup, high identifiers should be especially stringent when deciding whether to accept an individual as an ingroup member. To test this, Yzerbyt and Castano (1998) presented Walloon participants with a list of ingroup (Walloon) and outgroup (Flemish) traits and asked participants to select the traits that they felt were necessary for a person to be a member of the ingroup or a member of the outgroup. As predicted, across high and low identifiers, more traits were selected for the ingroup than the outgroup, and high identifiers selected the greatest number of typical traits for the ingroup target.

This research on the ingroup overexclusion effect indicates that when ingroup/outgroup categorizations exist a specific social motivation—the desire to preserve the integrity of one's ingroup memberships—can influence the social categorization process. However, it is possible that other motivations exist which can also impact this process. According to optimal distinctiveness theory (Brewer, 1991), individuals have the desire for both assimilation and differentiation, and individuals use their social identities as a means of satisfying these needs. Because the ability of social groups to satisfy an individual's needs for assimilation and differentiation may depend in part on the boundaries that exist between the ingroup and outgroups, it is hypothesized that the
criteria used for determining group membership may be more lenient or stringent depending on which need (assimilation or differentiation) is currently activated.

**Optimal Distinctiveness Theory**

As a way of reintroducing motivation to social identity research, Brewer (1991, 1993) proposed a model of social identification in which social identity is conceptualized as deriving “from a fundamental tension between human needs for validation and similarity to others (on the one hand) and a countervailing need for uniqueness and individuation (on the other)” (1991, p. 477). The need for individuals to feel similar to others has been documented at the personal level (Snyder & Fromkin, 1980) and also in the realm of interpersonal relationships (Baumeister & Leary, 1995). In a recent review of the interpersonal attachment literature, Baumeister and Leary (1995) concluded by stating that “[e]xisting evidence supports the hypothesis that the need to belong is a powerful, fundamental, and extremely pervasive motivation” (p. 497). At the group level, researchers looking at the effects of tokenism and solo status have generally found that individuals are uncomfortable in situations where they feel too dissimilar from others (Frable, Blackstone, & Scherbaum, 1990; Lord & Saenz, 1985; Saenz, 1994). Based on this, Brewer (1991) proposed that individuals seek social assimilation in order to alleviate or ward off the isolation or stigmatization that may result from being highly individuated.

For example, individuals will often seek out support groups after events in their lives make them feel different from other people that they know (e.g., loss of a child, cancer, alcoholism in the family). One of the primary functions of these support groups is to provide an environment in which individuals do not feel as if they are unusual or
deviant. By sharing their experiences, group members discover their similarities and in this way are able to satisfy their need for validation and similarity. Seeking assimilation can occur even when the event or condition that makes an individual different is positive. The student who outperforms his classmates and is continually singled out for praise by the teacher may find himself isolated and ostracized by the rest of the class. One way for this student to avoid this type of rejection is to join an honors class. By joining a class full of similar others, the student is not so obviously different and is less vulnerable to negative social attention.

While individuals do not like feeling too different, they also do not like feeling that they are identical to everybody else especially when “everybody else” is a large number of people or a highly inclusive category. Thus, in the example above, the student is able to satisfy his need for assimilation by joining a class of honor students. However, if this student were to join an entire school full of bright students similar to himself, he might begin to feel deindividuated. As Brewer (1991) states, “... total deindividuation provides no basis for comparative appraisal or self-definition” (p. 478) and as a consequence, individuals are uncomfortable in situations where they lack distinctiveness. This lack of distinctiveness motivates individuals to differentiate themselves from other group members. Thus, the student in a school full of similar students may decide to join a school sports team so that he is not just an “honor student” like everybody else at the school but a “soccer player” like only some of the students at the school.

It is important to note that the need for differentiation can be satisfied not only by making intragroup distinctions—i.e., dividing an overly inclusive group into more
distinctive subgroups with which to identify, but also by making *intergroup* comparisons between one’s group and an outgroup. In the previous example we saw that the honor student who felt deindividuated chose to select a less inclusive group identity with which to identify in order to meet his need for differentiation. However, when individuals are highly identified with a particular group, they may choose to restore the distinctiveness of the original group as opposed to seeking distinctiveness elsewhere. For example, a university student who is highly identified as a student at that university may respond to threats to the distinctiveness of her university by making attempts to show how different her university really is compared to other universities. For highly identified group members, abandoning the group is not a very attractive option and thus, high identifiers will be more likely than low identifiers to attempt to restore the optimality of the ingroup. Low identifiers, on the other hand, are more likely to meet their need for differentiation by turning to other social groups because their commitment to the original group was not very high in the first place. In general, high and low identifiers may use different strategies in coping with threats to the distinctiveness of their group memberships.

The above example illustrates a second point, which is that groups serve the dual purpose of satisfying both our need for assimilation and our need for differentiation; “[g]roup identities allow us to be the same and different at the same time” (Brewer, 1991, p. 477). However, in order to satisfy these needs simultaneously, it is necessary to select group identities that are inclusive enough that one has a sense of being part of a larger collective but exclusive enough that some basis for distinctiveness still exists. Within the optimal distinctiveness framework, the point at which a social identity satisfies the need
for assimilation and the need for differentiation equally is considered to be an equilibrium point, and similar to equilibrium points in the physical world, the optimal distinctiveness equilibrium point is maintained by correcting for deviations from optimality. Thus, a situation in which a person is overly individuated will excite the need for assimilation motivating the person to adopt a more inclusive social identity. Conversely, situations that leave one feeling deindividuated will activate the need for differentiation resulting in the adoption of a more exclusive identity.

Review of ODT Studies

Since the original formulation of optimal distinctiveness theory, several studies have been conducted in order to illustrate the motivational properties of assimilation and differentiation needs. In most of these studies either the need for assimilation or the need for differentiation is experimentally aroused, and the effects of this arousal are measured on the particular dimension of interest. In one of the earliest studies to demonstrate the effects of distinctiveness motives on ingroup identification and bias, Brewer, Manzi, and Shaw (1993) created a condition where participants felt depersonalized (which was predicted to excite participants' need for differentiation) and then examined the influence of this depersonalization on levels of ingroup bias. Brewer et al. (1993) found that when participants were depersonalized, those assigned to a minority category exhibited significantly greater levels of ingroup valuation than participants assigned to a majority category. This difference held regardless of the relative status of the majority and minority groups. These results indicate that when individuals seek differentiation, minority groups will seem relatively more attractive than majority groups because of the greater
distinctiveness of minority groups. Thus, individuals will tend to identify more with minority groups and exhibit greater ingroup bias in reference to these groups when they are in a state of depersonalization.

In a study of intergroup comparisons, Brewer and Weber (1994) manipulated ingroup size and examined its effect on participants' reactions to ingroup and outgroup comparison targets. Based on the predictions of optimal distinctiveness theory, Brewer and Weber (1994) hypothesized that being a member of a large majority group would arouse participants' need for differentiation from other ingroup members making the relevant target of comparison other members of their group. By contrast, membership in a small minority group would satisfy the need for differentiation such that intergroup comparisons become more relevant than intragroup comparisons. The design of the experiment was a 2 (majority or minority ingroup size) x 2 (upward or downward comparison) x 2 (ingroup or outgroup target) between-subjects factorial design.

Participants were categorized into majority or minority groups based on a bogus perceptual test and were then presented with a videotaped interview of either an ingroup or outgroup member who was portrayed as either being highly competent (upward comparison) or incompetent and unsuccessful (downward comparison).

What these researchers found was that majority group members exhibited interpersonal (i.e., within group) comparison effects: exposure to an ingroup upward comparison target resulted in lower self-ratings while an outgroup upward comparison target had no effect on participants' self-evaluations. By contrast, participants in the minority ingroup showed the opposite pattern: exposure to an ingroup upward
comparison target resulted in assimilation such that participants' self-ratings were higher after exposure to the ingroup upward comparison target than after exposure to an ingroup downward comparison. Furthermore, minority group members showed contrast effects in response to outgroup members. Participants' self-ratings were lower after exposure to an outgroup upward comparison target than they were after exposure to an outgroup downward comparison target. Brewer and Weber (1994) conclude from these findings that individuals' response to ingroup and outgroup social comparison targets may vary as a function of the strength of differentiation needs.

In a recent set of studies, Brewer and Pickett (1999) demonstrated that assimilation and differentiation needs can result in differences in self-stereotyping (i.e., attributing ingroup traits to the self). Using a reaction-time paradigm, Brewer and Pickett (1999) presented participants with a list of traits and embedded within this list were traits that had been pretested to be typical of the ingroup. Participants were asked to respond as quickly and accurately as possible to each trait and indicate whether the trait describes them or not by hitting a "me" or "not-me" button on their keyboard. Results of these studies revealed that response times were facilitated for trait matches between the self and the ingroup when the need for assimilation had been recently activated. And, importantly this facilitation effect was eliminated when the need for differentiation had been activated. The desire to assimilate within the ingroup presumably increased the accessibility of traits which the individual shared with the ingroup thus resulting in facilitated response times, whereas a heightened need for differentiation eliminated this facilitation effect.
The Influence of Assimilation and Differentiation Needs on Judgments of Others

While the results of the preceding studies demonstrate that assimilation and differentiation needs can affect self-evaluations and self-stereotyping, predictions can also be made regarding the effects of assimilation and differentiation needs on judgments of others. For example, in a study examining perceived consensus and uniqueness effects, Simon, Greenberg, Arndt, Pyszczynski, Clement, & Solomon (1997) predicted that under conditions of mortality salience, exciting participants’ need for assimilation would lead to overestimation of the existing social consensus for participants’ attitudes and that exciting the need for differentiation would lead to underestimation of social consensus. In this study, participants underwent either an assimilation need or differentiation need induction (or a neutral induction) and then were asked to indicate their personal positions on a variety of attitudinal statements. They were also asked to provide estimates of what they perceive the rates of agreement with these statements to be by the “general population.” As predicted, Simon et al. (1997) found that when participants’ need for assimilation was aroused, they significantly overestimated the amount of social consensus for their beliefs. By contrast, when participants’ need for differentiation was aroused, participants significantly underestimated social consensus for their beliefs.

The results of Simon et al.’s (1997) study indicate that, in addition to assimilation and differentiation needs influencing judgments of the self, these needs may also impact perceptions of the group. By overestimating or underestimating social consensus for their beliefs, individuals are able to change, in a very general sense, the number of people in their “group” (i.e., people who hold the same beliefs as they do). According to ODT, the
inclusiveness or exclusiveness of a particular social group determines in large part the ability of the group to satisfy an individual’s needs for assimilation or differentiation. Thus, individuals may attempt to satisfy their assimilation and differentiation needs by being either more restrictive or more lenient in terms of defining who belongs to the ingroup. Given a particular social identity, one possible way to satisfy the need for differentiation is to make sharper distinctions between the ingroup and outgroups. By contrast, one may satisfy the need for assimilation by relaxing the distinctions or boundaries between the ingroup and outgroups. The criteria for what defines a social group is not necessarily static, and may change as a function of assimilation and differentiation needs. For example, what it means to be a Californian may differ across individuals or within a single individuals across different times. At one point, a person may consider a Californian to be anyone who has lived within the state over 5 years. However, at a different point, this same person may consider a Californian to only be those people who were actually born and raised within the state.

The notion that individuals may use different sets of criteria when motivated to reach a particular conclusion is well-supported by the literature on motivated reasoning (Ditto & Lopez, 1992; Ditto, Scepansky, Munro, Apanovitch, Lockhart, 1998; Kunda, 1987; Kunda, 1990). For example, in an inventive study Ditto and Lopez (1992) told participants that a particular enzyme deficiency may render one susceptible to pancreatic disease. Participants were then told that they would be testing out a new method for detecting the enzyme deficiency—i.e., licking a yellow strip of paper which supposedly had been chemically treated to react with the enzyme. Participants were then told that they
should proceed to lick the paper and that the test should take anywhere from 10 seconds
to one minute to complete. When participants were led to believe that no color reaction
indicates a lack of the enzyme (and thus greater susceptibility to pancreatic disorders),
participants took on average 30 seconds longer to decide that their test was complete than
participants who were led to believe that no color reaction indicates the presence of the
enzyme. In addition to taking longer to judge the completion of their test, Ditto and
Lopez (1992) also demonstrated that participants were generally less critical of the test
when the test results were preference-consistent.

In a study which is more closely related methodologically to the studies proposed
in this paper, Ditto and Lopez (1992) told participants that they would be inspecting exam
questions of two fellow psychology students and that they would be asked to judge which
of these students is more intelligent. Participants were instructed to look at the exam
questions one at a time and then make a decision regarding the person’s intelligence as
soon as they felt that they had seen enough items to make a decision. Ditto and Lopez
(1992) found that when participants were judging a likable target and the performance of
the target was negative, they inspected significantly more items (an average of 9.9) before
deciding that the person was less intelligent than the other target. By contrast, when the
target was dislikable, participants asked to see an average of only 6.6 items before
deciding that the person was the less intelligent of the two. Thus, participants in Ditto and
Lopez’s (1992) studies appeared to show a pattern of invoking different decision criteria
for preferred and nonpreferred conclusions.
Summary

Previous research on optimal distinctiveness theory has demonstrated that individuals appear to respond to heightened assimilation and differentiation needs in ways that would presumably result in satisfaction of these needs. As a result of heightened assimilation and differentiation needs, participants have demonstrated increased self-stereotyping (Brewer & Pickett, 1999; Pickett & Brewer, 1999), underestimation and overestimation of belief consensus (Simon et al., 1997), and greater identification with distinctive or sub-group identities (Brewer, Manzi, & Shaw, 1993; Hornsey & Hogg, 1999). These findings support the idea that individuals will find ways to restore optimality when the need for assimilation and the need for differentiation fall out of balance. Based on work by Kunda (Kunda, 1987; Kunda, 1990) and Ditto and Lopez (1992), it is argued here that one way that individuals may seek to restore optimality (i.e., satisfy the heightened need) is to invoke different criteria and thresholds for categorizing others as ingroup and outgroup members.

Overview of Dissertation Studies

In the studies described in this dissertation, it was predicted that activating the need for assimilation or the need for differentiation would result in differences in how participants determine who should be categorized as ingroup and outgroup members. Activating the needs for assimilation and differentiation should result in a shift in group boundaries that will lead to greater exclusion or greater inclusion. In the first study (Chapter 2), it was expected that this shift in boundaries would be evidenced in two ways: (1) an increase or decrease in the number of group traits a potential target needs to
possess in order to be considered an ingroup member and (2) an expansion or restriction of acceptable behavior along a single dimension (e.g., intelligence). Thus, in order to decrease the inclusiveness of a group an individual may decide that more is required for group membership in terms of number of traits, and also within a single trait dimension, a narrower range of behaviors may be deemed acceptable. The opposite should hold when the need for assimilation is aroused and an individual presumably wishes to expand the size of the group. It was also predicted that perceptions of ingroup variability and similarity would be affected by assimilation and differentiation needs.

Study 2 was designed to replicate the findings of the first study and also explore the impact of assimilation and differentiation needs on ingroup and outgroup categorization. The particular question that this second study attempted to answer is whether assimilation and differentiation needs influence participants' decision criteria for outgroup membership. When participants' need for differentiation is aroused they may be especially stringent when accepting ingroup members, and also stringent when judging outgroup membership. The goal of these individuals should be to clearly differentiate their ingroup from an outgroup, and one way of accomplishing this goal is to take pains to ensure that people are placed in their proper categories thus reducing potential overlap between the ingroup and outgroup. Participants whose need for assimilation has been aroused should be relatively less concerned with how outgroup members are categorized. Instead, they should be primarily focused on the ingroup.

The third and final study (Chapter 4) of this thesis examined the type of information that group members request when judging ingroup and outgroup membership.
This study was patterned after the work conducted by Leyens and Yzerbyt (1992) and Ditto and Lopez (1992; Study 1). The rationale behind studies 1 and 2 is that individuals will set up different decision criteria when judging ingroup and outgroup members as a way of satisfying their needs for assimilation or differentiation. Thus, differences should exist in terms of the number of traits that participants decide are necessary for determining group membership and also in terms of participants' latitudes of acceptance within single trait dimensions. The third study took a slightly different approach by looking at participants' information-gathering strategies when asked to judge potential ingroup and outgroup members. It was predicted that the needs for assimilation and differentiation would motivate different information-gathering patterns.

When the need for assimilation is aroused, participants should require relatively little confirming information before deciding that an unknown target is an ingroup member. The opposite should hold when the need for differentiation has been aroused. Conversely, need for assimilation participants should require more disconfirming evidence before excluding a target as an ingroup member than need for differentiation participants. In addition, individuals may actively seek (through the types of questions that they choose to ask potential ingroup and outgroup members) information that supports their preferred conclusions. If individuals are being stringent about accepting targets as ingroup members, they should be more likely to ask questions of a target that would help confirm that the person is an outgroup member. However, if individuals are being lenient and accepting of potential ingroup members, then they should be more likely to ask questions of the target that would help confirm that the person is an ingroup member. Thus, what
was of interest in Study 3 was the amount and type of information that individuals sought in order to reach conclusions regarding ingroup and outgroup membership.

The Role of Ingroup Identification

An assumption underlying the design of the studies presented is that arousal of the needs for assimilation and differentiation occurs when individuals feel that an important or valued group lacks distinctiveness or that they do not fit in to a valued and important group. Groups that are irrelevant or meaningless to individuals should not yield the same reaction as groups with which individuals are highly identified. In order for an individual to feel a real need for assimilation or differentiation in relation to a particular group, that individual must in some way care about that group membership. For this reason, in all three studies presented here, ingroup identification measures were taken in order to assess participants’ level of identification with the particular ingroup used in the study. It was predicted that ingroup identification would act as a moderator of the effects of the needs for assimilation and differentiation. In general, those participants who are highly identified with the ingroup should exhibit the predicted set of responses to the need state manipulations. Low identifiers were predicted to be less consistent and predictable in their responses and less likely to exhibit optimality-restoring responses.

Conclusion

The three studies described in this dissertation focus on one central question: Do the needs for assimilation and differentiation influence the decision criteria that individuals use when deciding who belongs to the ingroup and outgroup? To date, relatively little research has explored motivational influences on the social categorization process, and the
research that does exist suggests that individuals are generally less accepting of ingroup members and that this is especially true if the ingroup members are highly identified with their group (Yzerbyt & Castano, 1998) or racially prejudiced (Blascovich, et al. 1997; Knowles & Peng, 1999). The predictions of this dissertation are unique in that both stringency and leniency when categorizing ingroup members were predicted under different conditions. Thus, the research presented here should not only add to the literature on optimal distinctiveness theory, but can also contribute to the existing literature on social categorization.
CHAPTER 2

STUDY 1: CATEGORIZATION OF INGROUP MEMBERS
AS A FUNCTION OF ASSIMILATION AND DIFFERENTIATION NEEDS

Research by Yzerbyt and his colleagues (Leyens & Yzerbyt, 1992; Yzerbyt & Castano, 1998; Yzerbyt et al., 1995) on the ingroup overexclusion effect demonstrates that individuals tend to be more stringent when judging a target to be an ingroup member than when judging a target to be an outgroup member. However, instead of exploring differences in ingroup and outgroup categorization, the present study focused on relative differences in stringency in ingroup categorization when the needs for assimilation and differentiation have been aroused. The general prediction was that, compared to a control condition (where no needs have been activated), participants in the need for differentiation condition should be more stringent in their criteria for judging individuals as ingroup members while participants in the need for assimilation condition should be less stringent.

The rationale behind this prediction stems from optimal distinctiveness theory (Brewer, 1991). Central to the optimal distinctiveness model is the relationship between a group’s level of inclusiveness and the group’s ability to satisfy a person’s assimilation and differentiation needs. Research by Simon et al. (1997) demonstrated that one response to
heightened assimilation and differentiation needs is to overestimate or underestimate social consensus for one's beliefs. In one sense, overestimating and underestimating social consensus are ways in which individuals can increase or decrease the number of people that can be considered to be like themselves (e.g., part of their ingroup). Thus, in response to heightened assimilation and differentiation needs individuals may choose to cognitively expand or contract the size of their ingroup. Two ways in which individuals may achieve this expansion or contraction are to (1) increase or decrease the number of criteria that individuals need to meet in order to be considered an ingroup member or (2) be willing to consider a narrower or broader range of variation within a single dimension as acceptable for group membership.

For example, a sorority member who is judging whether an unknown target is a sorority member may decide that the person needs to be intelligent, friendly, and assertive in order for her to confidently accept the target person as a fellow sorority member. In this case, three traits are needed for a determination of ingroup membership. However, it is predicted that this number may go up or down as a function of assimilation or differentiation needs. Another strategy that a sorority member may adopt in judging ingroup membership is to require that the target conform to a certain range of intelligence, friendliness, or assertiveness in order to be accepted as part of the ingroup. If the prototypical ingroup member is moderately talkative (e.g., a 7 on 10-point scale), then a sorority member may decide that only targets who are between 8 and 6 in terms of talkativeness are qualified to be ingroup members. Or, alternatively, a sorority member may decide that anywhere between a 10 and a 5 is an acceptable range for group
membership. One predictor of individuals' latitudes of acceptance should be whether participants are seeking group assimilation or differentiation.

In the present study, it was predicted that arousal of the need for differentiation would lead to greater stringency in judging the group membership others and also greater perceiving ingroup homogeneity. By contrast, arousal of the need for assimilation should lead leniency in categorization and also less perceived ingroup homogeneity.

In order to test these predictions, three between-subjects conditions were created in this study: a need for assimilation condition, a need for differentiation condition, and a control (no need activation) condition. The particular ingroup for this study was honors students at Ohio State University (OSU) and the outgroup was other non-honors OSU students. \(^1\) Through false feedback on a personality test, participants (all honors students) were told, in the control condition, that they are similar to other OSU honors students and that honors students are different from other OSU students. \(^2\) In the other two conditions,

\(^1\) Although "OSU students" and "OSU honors students" may thought of as subordinate and superordinate groups in relation to each other, in the present study it was made clear to participants that the ingroup was made up of only those OSU students who were honors students and that the outgroup was all other OSU students (i.e., those who were not honors students). Thus, the group "other non-honors OSU students" was an outgroup in the sense that the groups "OSU honors students" and "non-honors OSU students" are mutually exclusive groups. In addition, on the Ohio State University campus, demarcations exist between honors and non-honors students. For example, honors students can enroll in classes for just honors students, they can opt to live in honors student-only housing, and certain campus activities are geared solely towards honors students.

\(^2\) This condition is referred to as a "control condition" because participants are given information designed to arouse neither assimilation nor differentiation needs. Because of the distinctiveness of the group "OSU honors students" it was presumed that telling participants that they were similar to other honors students and that honors are different from other OSU students would leave participants feeling neither the need for assimilation nor the need for differentiation.
participants were told that they are either very different from other OSU honors students (need for assimilation condition) or that they are similar to other OSU honors students but that honors students are also very similar to all other students at OSU (need for differentiation condition). It is important to note that the need for differentiation was aroused by creating a situation in which the ingroup is said to be very similar to an outgroup. This is somewhat different from the way in which the need for differentiation has been aroused in previous studies (e.g., Brewer, et al., 1993; Brewer & Pickett, 1999; Brewer & Weber, 1994). In these earlier studies, the goal was to make the ingroup seem overly inclusive such that individuals will make intragroup distinctions and identify with subgroup identities in order to satisfy their need for differentiation.

However, as stated in the introduction, an alternative way of satisfying the need for differentiation is to make sharper distinctions between the ingroup and outgroups. By telling participants that their ingroup is very similar to an outgroup, the boundaries between the ingroup and outgroup should become less defined. It was predicted that participants would react to this loss of differentiation by reasserting the distinctiveness of the ingroup and that they would attempt to achieve this by being especially stringent in defining the ingroup and the criteria needed for ingroup membership. Participants in the need for assimilation condition should exhibit the opposite pattern of effects. Being told that they are different from other OSU honors students should motivate these participants to relax their criteria for ingroup membership and be more accepting of potential ingroup members.
Method

Participants

Participants were 87 male and female introductory psychology honors students who volunteered to participate in exchange for partial course credit. Participants were randomly assigned to one of three between-subjects conditions (need for assimilation condition, need for differentiation condition, or control condition).

Procedure

On the sign-up sheet for the study, potential participants were told that the experiment was designed to study honors students at Ohio State University and that during the study they would be asked to fill out some questionnaires about themselves and honors students in general. Participants were run in groups of up to 8 people and were led to believe that the primary goal of the study was to survey OSU honors students in order to gather information regarding their attitudes and opinions. Participants were told they would fill out some questionnaires during the first half of the session and that during the second half of the session they would engage in a discussion with the other honors students in the session. The first questionnaire that participants completed was a “self-attributes questionnaire” or SAQ. Participants were told that in order to facilitate the later group discussion their responses on the SAQ would be scored, and the results made available for the other students in the session to read. The purpose of telling participants that their scores on the SAQ would be made public and used in a later discussion was to increase the relevance and importance of the feedback to participants. Although the group
discussion did not actually take place, it was presumed that the anticipation of the discussion would heighten the relevance of participants’ feedback on the SAQ.

The SAQ consisted of several attributes on which participants were asked to rate themselves (e.g., sense of humor, emotional stability, common sense). Participants were also asked to rate how confident they were in their ratings of these attributes. (A copy of the SAQ is included in Appendix A.) In order to provide feedback on the SAQ, participants were told the following about how the SAQ is scored:

All of the ratings are converted into numerical scores and then your ratings on the first part are multiplied by your certainty ratings and then averaged across the ten traits. These scores are then standardized into a single percentile ranking which ranges from 0 to 75. (Standardizing scores allows for easier comparisons across groups of people.)

While you complete the next part of the study, the experimenter will enter the results of this questionnaire into a computer program which will automatically score your questionnaire. As mentioned earlier, the results of this questionnaire will be made available to you and your discussion partner as a means of facilitating the discussion.

When you are finished reading, please hand this questionnaire to the experimenter.

The goal of these instructions was to make it difficult for participants to predict their score on the SAQ so that any score that participants received would seem plausible. In addition, in order to make it seem as if their responses were actually scored, the experimenter stood at a computer placed at the front of the lab room and actually entered participants’ SAQ responses into a spreadsheet in full view of the participants.
While the experimenter pretended to enter participants’ SAQ responses, participants were asked to complete a group identification measure which was specifically tailored to the group “OSU honors students” (see Appendix A). Because Yzerbyt and Castano (1998) found differences in the degree of ingroup exclusion exhibited as a function of levels of ingroup identification, this group identification measure was included in this study to examine possible identification effects.

After entering participants’ responses on the SAQ, the experimenter wrote in a bogus score on a pre-written SAQ response sheet (see Appendix A) for each participant. Participants’ scores on the SAQ and the information provided on the response sheet constituted the primary experimental manipulations. After completing the group identification measures, participants were given their feedback and were allowed ample time to review the response sheet. The experimenter then collected the feedback forms and informed participants they will be moving on to the next set of questionnaires.

The first of these questionnaires was a mood scale (a version of Watson, Clark, & Tellegen’s (1988) PANAS) which was followed by a questionnaire designed to assess participants’ satisfaction with the feedback they received. These questionnaires were included in order to get an immediate check of whether the experimental manipulations had their desired effects. Following these two questionnaires, participants completed the primary dependent measures. The first of these was the trait selection task where participants were asked to select the “personal characteristics” that they believe are necessary for an individual to be judged to be an OSU honors students. Following this task was a behavior judgment task where participants were asked to review a series of
behaviors related to a single trait dimension (intelligence). Participants were asked to
determine for each behavior how likely it is that the person who performed the behavior is
an OSU honors student.

The final task in this study was an ingroup variability measure. It is plausible that
exciting the needs for assimilation and differentiation may influence both the decision
criteria that participants invoke when categorizing ingroup members and also the
perceived variability of the group itself. Being more lenient in terms of who qualifies as an
ingroup member, should result in greater perceived ingroup variability—i.e., many different
people will be considered to be ingroup members. However, a person who is more
restrictive in terms of group boundaries should see the ingroup as having less variability.
In order to test this prediction, participants were asked to complete a percentage estimates
task (Park & Judd, 1990) and also a simple Likert-scale measure of variability similar to
the one used by Yzerbyt and Castano (1998).

After completing all the dependent measures, participants were asked to complete
a simple demographic questionnaire and a manipulation check and suspicion measure.
Finally, participants were told that the group discussion will not be taking place and were
debriefed, thanked, and dismissed.

Need State Manipulations

As stated above, the needs for assimilation and differentiation were manipulated by
providing participants with false feedback regarding their score on the SAQ. Each
participant received a feedback form as shown in Appendix A. The first half of the form
provided a verbal description of the range of scores that OSU honors students and non-
honors OSU students typically exhibit on the SAQ. The form also had a space where the participant’s own score was written in by the experimenter. At the bottom of this form was a pictorial representation of this same information. This information was represented by two normal curves which were said to represent the range of scores for honors students and OSU (non-honors) students.

Need for assimilation condition. For participants assigned to the need for assimilation condition, the following information appeared at the top of their feedback form:

Your Score: _______ /48/

Breakdown of scores:

Students in the honors program here at OSU typically score around 60 on the self-attributes questionnaire. The range for honors students is generally between 53 and 66.

Studies of past and current honors students has consistently demonstrated that one of the areas in which honors students and other non-honors differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Honors students is 62 while the average for other non-honors OSU students is 34. The range for non-honors OSU students is generally between 30 and 43.

Honor’s Student Average: 62
OSU (non-honors) Student Average: 34

In this condition, the participant’s score was written in as 48. Thus, this score indicated to participants that they fall outside of the typical range for OSU honors students. Scoring outside the typical range was predicted to arouse participants’ need for assimilation. Importantly, in the need for assimilation condition, the ingroup (OSU honors students)
and the outgroup (non-honors OSU students) were described as being distinct from each other. The two ranges for the groups had very little overlap and thus, participants in the need for assimilation condition should have been predominantly concerned with seeking intragroup assimilation (as opposed to intergroup distinctiveness).

Need for differentiation condition. For participants assigned to the need for differentiation condition, the following information appeared at the top of their feedback form:

Your Score: ________ /61/

Breakdown of scores:

Students in the honors program here at OSU typically score around 60 on the self-attributes questionnaire. The range for honors students is generally between 53 and 66.

Studies of past and current honors students has consistently demonstrated that one of the areas in which honors students and other non-honors students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Honors students is 62 while the average for other non-honors OSU students is 58. The range for non-honors OSU students is generally between 51 and 64

Honor’s Student Average: 62
OSU (non-honors) Student Average: 58

In this condition, the score provided for participants (61) indicated that they are typical of other honors students at OSU. However, the range of scores on the SAQ for honors students and OSU (non-honors) students contained considerable overlap. It was predicted that this overlap would excite participants’ need for differentiation. Participants should
want to maintain the distinctiveness of the ingroup (honors students) and thus feedback on
the SAQ which undermines this distinctiveness should result in the arousal of the need for
differentiation.

**Control condition.** The control condition was designed to balance the differences
between the need for differentiation and need for assimilation conditions. In this
condition, participants were given a score which indicated that they are typical of honors
students and were told that honors students typically differ from other OSU students on
the SAQ. Thus, the need for assimilation and need for differentiation conditions differed
from the control condition in only one respect: either in terms of participants' score (i.e.,
typical or atypical) or in terms of the difference between the ingroup and outgroup (little
overlap or considerable overlap). Table 2.1 provides a summary of the three conditions.
The information that participants in the control condition received is as follows:

Your Score: ______ [61]

Breakdown of scores:

Students in the honors program here at OSU typically score around
60 on the self-attributes questionnaire. The range for honors
students is generally between 53 and 66.

*Studies of past and current honors students has consistently
demonstrated that one of the areas in which honors students and
other non-honors differ is in their scores on the self-attributes
questionnaire. As shown on the following graph, the average for
Honors students is 62 while the average for other non-honors OSU
students is 34. The range for non-honors OSU students is generally
between 30 and 43.*

Honor's Student Average: 62
OSU (non-honors) Student Average: 34
Thus, participants in this condition should have felt fairly satisfied and non-threatened by this feedback. Knowing that they are typical of other honors students and that a clear intergroup distinction exists between honors students and other OSU students should result in no arousal of assimilation and differentiation needs.

<table>
<thead>
<tr>
<th>Need for Assimilation</th>
<th>Control</th>
<th>Need for Differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant's score indicates that he or she is different from other OSU honors students.</td>
<td>Participant's score indicates that he or she is similar to other OSU honors students.</td>
<td>Participant's score indicates that he or she is similar to other OSU honors students.</td>
</tr>
<tr>
<td>Honors student distribution is described as being characteristic of Honors students and not OSU students in general.</td>
<td>Honors student distribution is described as being characteristic of Honors students and not OSU students in general.</td>
<td>Honors student distribution is described as being characteristic of Honors students and of OSU students in general.</td>
</tr>
</tbody>
</table>

Table 2.1 Experimental manipulations for Study 1

Counterbalancing. A concern regarding the experimental manipulations is that in the above set of manipulations, the range for honors students is always higher than the range for non-honors OSU students. Since these range differences may create implied status differentials between the two groups, a second set of manipulations was included (see Appendix A) where the range for honors students was placed lower than the range for other OSU students across the three need conditions. Thus, the present study
contained six between-subjects conditions: 3 (need state: need for assimilation, need for
differentiation, control) X 2 (position: higher or lower ingroup distribution). Including
position (or status) as a factor in the study thus allowed for analyses of the influence of
ingroup status on the dependent measures.

Research by Branscombe and her colleagues (Branscombe, Ellemers, Spears, &
Doosje, 1999; Branscombe & Wann, 1994) suggests that an ingroup’s poor performance,
status, or standing may be seen as threatening to ingroup members. In response to this
type of threat, ingroup members have been shown to exhibit heightened ingroup
identification (Branscombe & Wann, 1994; Ellemers, Wilke, and Van Knippenberg, 1993)
and outgroup derogation (Bourhis, Giles, Leyens, & Tajfel, 1979; Branscombe & Wann,
1994; Ellemers et al., 1993). In addition, threats to the value of one’s ingroup have also
been shown to lead to increases in the perception of ingroup cohesiveness and
homogeneity (Doosje, Ellemers, & Spears, 1995; Ellemers, Spears, & Doosje, 1997).
Thus, one prediction in the present study is that the status of honors students compared to
other OSU students may influence how participants view the ingroup on the measures of
interest.

Pretesting

In order to develop the materials for the trait selection task, it was necessary to
conduct some initial pretesting. The trait selection task described in the following section
involved presenting participants with a list of ingroup-stereotypical traits. In order to
determine which traits were considered to be typical of OSU honors students, a sample of
honors students and non-honors OSU students were asked to review a 100-item list of
traits and check off those traits that they believed were typical of OSU honors students.

(See Appendix A for a copy of this checklist.) The traits which were cited most frequently by both groups as being typical of OSU honors students are listed in Table 2.2.

<table>
<thead>
<tr>
<th>Stereotypical Traits of OSU Honors Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligent</td>
</tr>
<tr>
<td>Analytical</td>
</tr>
<tr>
<td>Smart</td>
</tr>
<tr>
<td>Creative</td>
</tr>
<tr>
<td>Opinionated</td>
</tr>
<tr>
<td>Disciplined</td>
</tr>
<tr>
<td>Confident</td>
</tr>
<tr>
<td>Hard-working</td>
</tr>
<tr>
<td>Determined</td>
</tr>
<tr>
<td>Mature</td>
</tr>
<tr>
<td>Serious</td>
</tr>
</tbody>
</table>

Table 2.2 Stereotypical traits of OSU honors students

In addition to pretesting for these stereotypical traits, the behavior judgment task required that a variety of behaviors be pretested in order to determine the degree of intelligence the behaviors were perceived to convey. A list of behaviors were compiled using items from a previous research study (Harasty, 1996) and also new items culled from a free-response questionnaire which required participants to list several intelligent, moderately intelligent, and unintelligent behaviors. Once this list of behaviors was compiled, a group of Ohio State honors students (N = 19) were asked to read each
behavior and rate on a 1-10 Likert scale how intelligent they considered the behavior to be. An intelligence rating was calculated for each of the behaviors by averaging across all the responses for each behavior. The goal of this pretesting was to develop a continuum of behaviors which ranged from unintelligent (e.g., received a D- on an open book test) to very intelligent (e.g., worked as a tutor in Advanced Calculus). It was also important that a variety of moderately intelligent behaviors be represented in this continuum. Once this pretesting was completed, the behaviors were included as part of the behavior judgment task described below.

**Dependent Measures**

**Group identification.** The group identification scale consisted of 16 questions designed to tap the extent to which participants see themselves as being a member of the group “OSU honors students” and also how important that group membership is to them. Examples of questionnaire items are, “When I talk about honors students at OSU, I usually say ‘we’ rather than ‘they’”, and “I like being an honors student at OSU.” Participants were asked to indicate how much they agree with each identification question on a 1-6 response scale anchored by (1) strongly disagree and (6) strongly agree.

**Mood scale.** The mood scale that participants were asked to complete was a version of Watson, Clark, & Tellegen’s (1988) positive and negative affect scale (PANAS). Twenty-eight items were included in order to measure the valence of participants’ mood (positive or negative) and also the level of arousal produced by the manipulations (high or low). Some examples of items are: happy, uneasy, jittery, worried,
and excited. Participants were asked to rate to what extent they feel each of these emotions by using a 1 to 10 scale ranging from (1) do not feel this way at all to (10) feel this way extremely. See Appendix A for a copy of this scale.

Satisfaction items. A set of items were included in order to see whether the manipulations had their intended effects. It was predicted that participants in the need for assimilation and need for differentiation conditions would be relatively less satisfied with their results on the SAQ than participants in the control condition. The specific items that will be included in this study are: “I feel bad (good) about my score on the self-attributes questionnaire”, “I feel bad (good) about how Honors students have scored on the self-attributes questionnaire”, and “I am satisfied with my score on the self-attributes questionnaire.” Participants were asked to respond to each of these items using a 7-point scale ranging from (1) strongly disagree to (7) strongly agree.

Trait selection task. In the trait selection task participants were presented with the list of traits that had been pretested to be typical of OSU honors students (see Table 2.2) and were asked to indicate which traits or personality characteristics they felt were needed in order for someone to be considered an honors student at OSU. The specific instructions were as follows:

On this page is a list of personality characteristics. What we would like for you to do is review these traits and then indicate which traits you believe are necessary in order for a person to be considered an OSU honors student. In other words, if you were to meet a unknown person and wanted to be confident that that person is an OSU honors student, which of the following traits must that person possess? It is important that you answer efficiently—in other words, please select the minimum number of traits that you believe are necessary in order to make an accurate judgment of whether the person is an honors student. Please indicate which
trait(s) you have selected by writing them in on the blank lines at the bottom of the page.

These instructions were patterned closely after those used by Yzerbyt and Castano (1998) and were designed to motivate participants to be accurate and efficient in their selection of traits. In addition, the questionnaire was set up so that participants had to actively select traits that they felt were necessary in order for a person to be considered an honors student.

**Behavior judgment task.** In the behavior judgment task, participants were presented with a list of behaviors (e.g., B. A. made the dean’s list 3 quarters in a row; G.W. finds the questions on the game show “Jeopardy” difficult to answer), and for each behavior participants were asked to judge whether the person referred to in the sentence is likely to be an honors student at OSU. Thus, after reading that “B. A. made the dean’s list three quarters in a row”, the following question was posed, “How likely is it that B. A. is an honors student?”. Participants were asked to respond to each question on the following 4-point Likert scale:

1 2 3 4
Very unlikely Somewhat unlikely Somewhat likely Very likely

The behaviors within the list presented to participants were pretested to span the entire range from intelligent to unintelligent. A total of 39 behaviors were presented to participants and the behaviors were randomly ordered within the list. What was of primary interest in this task was the range of behaviors that was categorized as likely or
unlikely to have been performed by honors students and the overall number of people within the list of 39 that were categorized as ingroup members. “Intelligence” was selected as the dimension of interest because this trait is stereotypical of honors students and is thought to differentiate honors students from other OSU students. It was predicted that the expansion and contraction of participants’ latitudes of acceptance would appear primarily on stereotype-relevant dimensions.

Ingroup stereotypicality and similarity measures. Two measures of perceived ingroup variability were included in this study. The first measure is what Park and Judd (1990) term a “percentage estimates task”. In this task, participants were presented with ten traits considered to be stereotypic of honors students (e.g., hard-working, organized, motivated) and were asked to estimate the percentage (from 0% to 100%) of honors students at OSU that possess that trait. Participants were asked to write in their estimates next to each trait in the list. The second measure of ingroup variability was a similarity judgment task where participants were presented with four dimensions (personality, academics, social life, and general) and for each dimension participants were asked to indicate on a 1 (all alike) to 10 (large differences) scale how similar honors are to each in terms of that dimension. The wording of the question was similar to the following: “In terms of personality, how similar are honors students to each other?”, “In general, how similar are honors students to each other?”.

Manipulation check items. To determine whether participants paid attention to the feedback that they received on the self-attributes questionnaire, participants were asked a series of questions regarding their score on the SAQ and the range of scores for OSU and
honors students. Participants were also asked questions regarding the purpose of the study in order to detect any suspicion regarding the feedback received or detection of the experimental hypotheses.

In general, it was predicted that participants in the need for assimilation condition would be more lenient in their decision criteria for accepting ingroup members compared to control and need for differentiation participants and that participants in the need for differentiation condition would be more stringent than participants in the other two conditions.

Results

Preliminary Measures

The first set of analyses were designed to test for condition differences on the peripheral measures—the manipulation check questionnaire, the satisfaction questionnaire, and the mood measure. These analyses were conducted in order to see whether participants paid attention to the information that they received about their standing in the group and the standing of the ingroup, honors students, relative to other OSU students. In addition, it was predicted that participants' satisfaction with their categorization and their mood would be influenced by their need state and the relative position of the ingroup.

Manipulation check items. Analysis of the manipulation check items revealed that participants in the need for assimilation condition felt that they were less similar ($M =$ __________).

3 Due to missing data, the number of participants included in each of the analyses varies. Participants with missing data were excluded only from analyses of the particular measure.
3.18) to other honors students compared to participants in both the control (M = 5.21) and need for differentiation conditions (M = 5.29), F (2, 74) = 27.19, p < .0001. In addition, participants in the need for differentiation condition perceived honors students as being more similar (M = 4.97) to other OSU students than did need for assimilation (M = 2.41) and control (M = 3.11) participants, F (2, 74) = 35.00, p < .0001.

On the manipulation check questionnaire, participants were asked to recall their own score on the self-attributes questionnaire. Most participants (95.3%) were able to recall their score within 3 points of the correct score. Participants were also asked to recall the average score for honors students and the average score for other OSU students on the SAQ. Overall, 94.2% of participants were able to recall the average honors student score within 3 points of the correct score and 88.2% of participants were able to recall the average OSU student score within 3 points of the correct score. Finally, 91.8% of participants correctly answered the question, “How did your score on the SAQ compare to the average score of other honors students?” and 92.9% of participants correctly answered the question “How did the average score of honors students on the SAQ compare to the score of other non-honors OSU students?” These results suggest that participants generally paid attention to and encoded the information provided to them on their SAQ feedback form.

Group identification. In order to classify participants as being high or low in identification with the group “OSU honors students”, a median split was performed on participants’ average score on the 16-item group identification measure (Cronbach’s alpha for which there was missing data. This variation in number of participants is reflected in
Appropriate items were reverse-scored prior to computation of the average. The median for the sample on the group identification measure was 4.16 on the 6-point scale, and the sample mean was 4.14 (SD = 0.53). The mean group identification score for participants classified as high identifiers was 4.56, and the mean group identification score for low identifiers was 3.72. A one-way analysis of variance confirmed that the high identifiers and low identifiers differed significantly in their level of group identification, F (1, 82) = 129.66, p < .0001.

Mood scale. The PANAS was included in the study to detect overall mood and arousal differences as a function of the experimental conditions. The 28 mood items were categorized into one of four dimensions—positive, high arousal (e.g., excited), negative, high arousal (e.g., nervous), positive, low arousal (e.g., content), and negative, low arousal (e.g., worried). The average for each of the four dimensions was calculated for each participant. The mood dimensions were then analyzed using a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (mood valence: positive vs. negative) X 2

the denominator degrees of freedom for the various ANOVAs.  

Although use of a median split may underestimate the strength of predictors and reduce statistical power (see Cohen, 1983, 1990; Humphreys, 1978), a dichotomy was created on the continuous variable of identification level for the purpose of including identification level as a factor in the analyses of variance. Because the sample mean and median were close to each other and also close to the midpoint of the rating scale of identification, a median split was used as the point of dichotomization in order to reflect the relatively higher and lower ends of the continuum. Identification level is the only continuous variable subjected to dichotomization in Studies 1, 2, and 3, and so the problems that arise from the dichotomization of multiple predictor variables (see Maxwell & Delaney, 1993) should be less relevant in the studies presented here.
(arousal: high vs. low) ANOVA with repeated measures on the last two factors (valence and arousal).

Results of this ANOVA revealed a significant main effect of valence, $F(1, 75) = 54.97, p < .001$, indicating that participants endorsed the positively-valenced mood items to a greater extent than the negatively-valenced mood items. A significant main effect of arousal also emerged, $F(1, 75) = 18.07, p < .001$, indicating that participants experienced more low-arousal emotions than high-arousal emotions. These main effects were qualified by a valence X arousal interaction, $F(2, 75) = 45.12, p < .001$. Participants tended to experience equal levels of negative emotion regardless of the arousal level of the emotion, $M_{\text{negative-low arousal}} = 1.92, M_{\text{negative-high arousal}} = 2.19$. However, for positive emotions, participants reported experiencing the low arousal emotions to a greater extent than the high arousal emotions, $M_{\text{positive-low arousal}} = 5.50, M_{\text{positive-high arousal}} = 4.12$.

Of primary interest in this analysis was whether participants' reported affect would differ depending on experimental condition. Although no main effects of need state or position were obtained, a marginally significant need state x arousal interaction did emerge, $F(2, 75) = 2.52, p < .09$. This interaction indicated a tendency for participants in the need for differentiation condition to report feeling more high arousal emotions and less low-arousal emotions than participants in the need for assimilation condition (see Table 2.3 below). No other significant main effects or interactions were observed.
Table 2.3: PANAS data from Study 1 broken down by need state and emotion dimension.

Satisfaction items. The five satisfaction questions were designed to assess participants’ reactions to the information that they received about themselves and OSU honors students as a group on the SAQ feedback form. The three items that asked about participants’ personal scores on the SAQ— “I feel good about my score on the SAQ”, “I feel bad about my score on the SAQ” and “I am satisfied with how I scored on the SAQ”—were averaged together to form a single index (Cronbach’s alpha = .94) after reverse scoring of the one negative item. This index was subjected to a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) ANOVA. Results of this ANOVA revealed a significant main effect of need state, F (2, 74) = 5.78, p < .01 indicating that need for assimilation participants were generally less happy and satisfied with their SAQ scores (M = 4.27) than participants in the control (M = 4.83) and need for differentiation (M = 5.39) conditions.
This main effect was qualified by a marginally significant need state X position interaction, $F(2, 74) = 3.00, p < .06$ (see Appendix B), indicating that participants in the need for assimilation condition felt worse about their personal score when the ingroup scored higher than the outgroup.

The two other satisfaction items dealt with how participants felt about how honors students performed on the SAQ. Participants were asked to respond to the following statements, "I feel good about how honors students scored on the SAQ" and "I feel bad about how honors students scored on the SAQ". The second item was reverse scored and the two items were averaged into a single index (Cronbach's alpha = .93). This index was then submitted to a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) ANOVA. Results of this analysis revealed a significant main effect of position, $F(1, 75) = 9.99, p < .01$, and a significant main effect of identification, $F(1, 75) = 9.22, p < .01$. Participants felt better about how honors students scored on the SAQ when honors students were positioned higher ($M = 4.86$) than other OSU students than when the honors student position was lower ($M = 4.05$). In addition, high identifiers felt significantly better about how honors scored on the SAQ ($M = 4.84$) than did low identifiers ($M = 4.07$). Finally, the significant position X identification interaction, $F(1,$

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5 Although a significant need state X position interaction did not emerge on this measure, need for differentiation participants were relatively less influenced by the position of the ingroup than participants in the other two conditions. The extent to which these participants felt worse when the ingroup position was lower than the outgroup was smaller than the difference in the other conditions. This was likely due to the fact that in the need for differentiation condition the distance between the ingroup and outgroup on the SAQ was always much smaller than in the other two conditions.
75) = 4.22, p < .05, indicated that high identifiers felt significantly better when the ingroup was positioned higher than the outgroup. Low identifiers tended to be relatively unaffected by the position of the ingroup (see Table 2.4 below).

<table>
<thead>
<tr>
<th>Identification Level</th>
<th>Ingroup Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Higher</td>
</tr>
<tr>
<td>Low Identifiers</td>
<td>4.21</td>
</tr>
<tr>
<td>High Identifiers</td>
<td>5.51</td>
</tr>
</tbody>
</table>

Table 2.4: Mean item endorsement on the index measuring satisfaction with ingroup's performance on SAQ.

Overall, the five satisfaction items suggest that participants were generally sensitive to the information that they received regarding their score and the score of other honors students on the self-attributes questionnaire.

Primary Dependent Measures

The primary dependent measures for this study were two measures designed to look at participants' stringency and leniency in terms of group boundaries—the trait selection task and the behavior judgment task—and two measures designed to look perceptions of the ingroup—the intragroup stereotypicality measure and the intragroup similarity measure.
Trait selection task. On the trait selection task participants were presented with 22 trait words. Many of these words were synonymous with each other (e.g., smart and intelligent; and ambitious and motivated), and thus, the list of 22 traits more accurately reflects only 8 distinct trait dimensions. (See Table 2.5 below for a list of these dimensions.) Because what was of primary interest in this study was the number of different traits that participants felt that an individual must possess in order to be an honors student, the analyses were conducted on the number of trait dimensions selected as opposed to the number of single traits.

---

6 Analysis of the raw number of traits selected by participants on the trait selection task revealed no significant main effects or interactions. The overall number of traits selected by participants ranged from 0 to 12, and the mean was 5.21.
Table 2.5: Trait dimensions from the trait selection task

The main prediction for this measure was that participants in the need for differentiation condition would select more traits as being necessary for an individual to be an OSU honors student compared to control participants. By contrast, need for assimilation participants were predicted to select fewer traits as being necessary for group membership than controls. Results of a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) ANOVA on the number of trait dimensions selected revealed only a significant need state X identification interaction, $F(2, 74) = 3.48, p < .05$ (see Figure 2.1 below).
Figure 2.1: Results from the trait selection task.

Inspection of the means from the need state by identification interaction shows that the interaction is driven mainly by the difference between high and low identifiers in the control condition. In this condition, contrary to the findings of Castano and Yzerbyt (1998), low identifiers indicated that significantly more trait dimensions were required in order for a person to be considered an honors student than did high identifiers. The differences between high and low identifiers in the need for assimilation and need for differentiation conditions were non-significant, and there was no difference between the two need state conditions. Thus, the results for the trait selection task failed to yield
strong support for the prediction that need for differentiation participants would select more traits than need for assimilation and control participants on the trait selection task.

**Behavior judgment task.** On the behavior judgment task, it was predicted that participants in the need for differentiation condition would be more restrictive than control and need for assimilation participants in judging who belongs to the ingroup (honors students) based on behaviors supposedly performed by potential ingroup members. These behaviors were designed to reflect the dimension of intelligence—a defining attribute of OSU honors students. It was predicted that need for differentiation participants would view a narrower range of behaviors as likely to have been performed by an OSU honors student compared to control and need for assimilation participants. In other words, if need for differentiation participants are being restrictive in the categorization of ingroup members, then they should see only a narrowly defined range of intelligent behaviors as being indicative of a person who is likely to be an OSU honors student. By contrast, need for assimilation participants should perceive a wider range of intelligent behaviors as likely to have been performed by an ingroup member. Because of this prediction, it was expected that differences among need state conditions would emerge on the overall number of behaviors judged to be performed by an OSU honors student and on the standard deviation of the rated intelligence of the behaviors judged to be performed by an OSU honors student.

The first analysis that was conducted was an analysis of variance looking at the overall number of people that participants judged as being honors students based on the behaviors that they read about the target individuals. The scale on which participants
were asked to make their judgments ranged from 1 to 4 with scale points 3 and 4 indicating that the target person was "somewhat likely" and "very likely" to be an OSU honors students. Thus, circling either of these points was coded as an ingroup categorization judgment. The 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) ANOVA on the number of ingroup categorizations made failed to reveal any significant main effects or interactions. Hence, the raw number of target people that were judged to be either somewhat likely or very likely to be ingroup members was not affected by any of the experimental conditions or group identification levels.

The second analysis that was conducted was designed to see if the four response options (very unlikely, somewhat unlikely, somewhat likely, very likely) tended to be used differentially by participants in the study. More specifically, some participants may have leaned towards making more clear-cut judgments--i.e., use of "very likely" and "very unlikely"--than others. Preference for these endpoints may indicate a preference for clearer ingroup/outgroup categorizations. Thus, a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 4 response option (very unlikely, somewhat unlikely, somewhat likely, very likely) ANOVA with repeated measures on the last factor was conducted. Results of this ANOVA revealed a significant main effect of response option, $F(3, 225) = 90.60$, $p < .0001$, which was qualified by a response option X identification interaction, $F(3, 225) = 4.68$, $p < .01$ (see Table 2.6). The pattern of means indicates that although "somewhat unlikely" and "somewhat likely" tended to be used most often across
all participants, high identifiers tended to use the "very likely" and "very unlikely" response options more and the "somewhat likely" and "somewhat unlikely" options less than low identifiers.

<table>
<thead>
<tr>
<th>Identification Level</th>
<th>Very Unlikely</th>
<th>Somewhat Unlikely</th>
<th>Somewhat Likely</th>
<th>Very Likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Identifiers</td>
<td>3.02</td>
<td>8.41</td>
<td>16.04</td>
<td>8.93</td>
</tr>
<tr>
<td>Low Identifiers</td>
<td>2.46</td>
<td>11.40</td>
<td>18.84</td>
<td>6.16</td>
</tr>
</tbody>
</table>

Table 2.6: Number of times each response option was used by identification level.

In addition to examining the number of target individuals that were judged to be honors students, it was also of interest to look at the mean and standard deviation of the intelligence of the behaviors that participants judged as being performed by ingroup members. This standard deviation is a measure of how dispersed the behaviors were relative to the average intelligence rating of all the behaviors within the range. The mean and standard deviation were calculated by using the average intelligence rating (from pretesting) of each of the behaviors judged as being performed by ingroup members. Thus, each statement that participants responded to had a corresponding intelligence rating which was determined from pretesting. The statements that participants judged to
likely have been performed by an ingroup member (i.e., those statements that received a 3 or 4 on the rating scale) were selected out and ordered along the pretested intelligence continuum. The numerical intelligence values of these behaviors were then averaged and a standard deviation of the intelligence values was calculated.

A 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) ANOVA was conducted separately for the mean and standard deviation of the accepted behaviors. There were no significant effects on the mean value of the rated intelligence of the selected behaviors (M = 7.60). And, results revealed only a significant position main effect, F (1, 72) = 5.38, p < .05 on the standard deviation of the behaviors. The average standard deviation was larger (M = 1.21) when OSU honors students were positioned lower than other OSU students and smaller (M = 1.07) when honors students were positioned higher.

Ingroup stereotypicality measure. The percentages reported by participants for the 10 traits contained in the percentages estimates task were averaged for each participant to arrive at a general stereotypicality index. A higher average percentage indicates greater perceived stereotypicality of ingroup members while a lower percentage indicates less perceived stereotypicality. The average stereotypicality rating across the 10 traits for all participants was 75.59% meaning that across all 10 stereotype traits, participants felt that on average 75.59% of honors students possessed those traits. On the ingroup stereotypicality and similarity measures, it was predicted that compared to control and need for assimilation participants, need for differentiation participants would perceive a greater percentage of honors students as possessing stereotypical traits (i.e., would view
the group more stereotypically) and that they would view the ingroup as being more homogeneous (i.e., see ingroup members as being more similar to each other). A 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) ANOVA was performed on the average stereotypicality ratings. However, no significant main effects or interactions were obtained, and the need state x identification level interaction failed to reach significance, F (2, 75) = .20.

It is worth noting (for comparisons across studies in this thesis) that there was a non-significant tendency for both need for assimilation (M = 76.09%) and need for differentiation (M = 76.10%) participants to see honors students as conforming more to the group stereotype than control participants (M = 73.09%). Finally, looking at the 10 traits separately within a repeated-measures design ANOVA did show that the perceived stereotypicality of some traits was much higher than others (trait main effect, F (9, 75) = 13.24, p < .001). In particular, on average participants felt that 85.11% of honors students possessed the trait "intelligence", while only 64.13% of honors students were seen as possessing the trait "organized." (See Appendix B, Table B.X, for a complete list of the averages for each of the 10 stereotype traits.)

**Similarity measure.** On the similarity measures, participants' responses to the four dimensions of similarity (personality, academic, social, and general) were analyzed within a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 4 (similarity dimension) ANOVA with repeated measures on the last factor. From this analysis emerged a
significant main effect of similarity dimension, F (3, 73) = 71.59, p < .001. The greatest perceived similarity among OSU honors students was for the dimension of academic ability (M = 6.14) followed by general similarity (M = 4.32), personality (M = 3.76), and social life (M = 3.11). This main effect was qualified by a similarity dimension X need state interaction, F (6, 225) = 2.33, p < .05 (see Table 2.7 below). No other main effects or interactions were obtained, and the overall need state x identification level interaction was non-significant, F (2, 75) = 1.67, p < .20.

<table>
<thead>
<tr>
<th>Similarity Dimension</th>
<th>Need State</th>
<th>Social Life</th>
<th>Personality</th>
<th>In General</th>
<th>Academic Ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>2.64</td>
<td>2.97</td>
<td>3.70</td>
<td>6.21</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>3.45</td>
<td>3.96</td>
<td>4.66</td>
<td>5.64</td>
<td></td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>3.23</td>
<td>4.20</td>
<td>4.49</td>
<td>6.27</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.7: Means from the similarity task by need state and similarity dimension

The pattern of means from the similarity dimension X need state interaction was generally in line with study predictions. For the dimensions of social life, personality, and general similarity, need for assimilation participants tended to see less similarity among
OSU honors students compared to control participants and need for differentiation participants. Interestingly, for the domain of academic ability (the only domain relevant to the stereotype of OSU honors students), this pattern was not obtained. Instead, both need for assimilation and need for differentiation participants tended to perceived greater ingroup similarity on this dimension than did control participants.

Because participants appeared to respond differently to the different similarity dimension—the academic ability dimension in particular—analyses were conducted within each of the similarity dimensions. Results of these analyses revealed non-significant need state and need state X identification interactions within the three dimensions of personality, social life, and in general, and a marginally-significant need state X identification level interaction within the domain of academic ability, $F(2, 75) = 2.78, p < .07$ (see Table 2.8 below). Inspection of the means from this interaction reveals that among control participants, considerably less ingroup similarity was perceived among low identifiers than high identifiers. By contrast, among need for assimilation and need for differentiation participants, high levels of ingroup similarity within the academic ability dimension was perceived regardless of identification level.
<table>
<thead>
<tr>
<th></th>
<th>Low Identifiers</th>
<th>High Identifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>6.07</td>
<td>6.35</td>
</tr>
<tr>
<td>Control</td>
<td>4.56</td>
<td>6.72</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>6.47</td>
<td>6.07</td>
</tr>
</tbody>
</table>

Table 2.8. Need state x identification interaction within the academic ability domain of the perceived ingroup similarity measure.

**Intercorrelations.** One purpose of including the ingroup variability and similarity measures in this study was to examine whether being more stringent in one's criteria for group membership (as evidenced by the number of traits selected on the trait selection task and the width of one's acceptance range on the behavior judgment task) is related to subsequent perceptions of ingroup similarity and variability. In order to examine these relationships, correlations were calculated for all participants between the number of trait dimensions selected, the range and standard deviation of the behaviors of the target individuals that were classified as likely to be honors students, the average stereotypicality rating across the 10 stereotype traits in the percentage estimates task, and the average perceived similarity of honors students for the four similarity dimensions (personality, social life, in general, and academic ability).
Results of this correlational analysis revealed a significant positive correlation between the number of trait dimensions selected and the perceived stereotypicality of OSU honors students ($r = .22, p < .05$). This correlation indicates that those participants who selected more trait dimensions as being necessary for group membership, also viewed a greater percentage of honors students as possessing stereotype-relevant traits (e.g., intelligent, hard-working, motivated). In addition, a relatively unsurprising correlation was obtained between participants' average stereotypicality rating and perceived similarity along the academic ability dimension of the similarity judgment task ($r = .31, p < .01$). Those participants who tended to see OSU honors students as being very similar in their academic ability also saw a greater percentage of OSU students as possessing stereotype-relevant traits. In addition, a significant negative correlation was found between perceived academic similarity and the standard deviation of intelligent behaviors seen as likely to have been performed by OSU honors students ($r = -.22, p < .05$). The greater the standard deviation of the behaviors judged as being performed by ingroup members, the less similarity was perceived among honors students in terms of academic ability.

Finally, identification level was significantly correlated with perceived similarity along the academic ability and general similarity dimensions ($r = .24, p < .05$ and $r = .26, p < .05$, respectively). Participants who were more highly identified with the group "OSU honors students" tended to see honors students as being more similar to each other both in general and in terms of academic ability. See Table 2.8 below for the complete correlation matrix between all variables.
Table 2.9: Correlation matrix from Study 1.
Note: * = p < .05; ** = p < .01, * = p < .001

Discussion

The goal of this first study was to test the prediction that arousal of the needs for assimilation and differentiation would influence the stringency and leniency with which individuals judge others as belonging to the ingroup. The two primary measures designed to tap how stringent or lenient participants were in making their judgments were the trait selection task and the behavior judgment task. In general, there was little evidence in this study that participants in the different need state conditions differed in their thresholds for judging targets as ingroup members. The overall number of trait dimensions selected on
the trait selection task did not vary by need state, and on the behavior judgment task, participants in the different need state conditions tended to have similar means and standard deviations in the behaviors judged as likely to have been performed by other honors students.

However, some important effects of need state were found on the ingroup variability measures—specifically, the ingroup similarity measure. It was predicted that the perceived stereotypicality of ingroup members and the perceived similarity of ingroup members to each other would differ depending on whether assimilation or differentiation needs have been aroused. The results revealed that although participants did not judge honors students as more or less stereotypical (i.e., conforming to the stereotype of the typical honors student) in the different need state conditions, differences were found in terms of how similar to each other honors students were judged to be. Participants in the need for assimilation condition saw honors students as being less similar to each other in terms of social life, personality, and in general than did control and need for differentiation participants. And both need for assimilation and need for differentiation participants saw honors students as being more similar to each than controls on the dimension of academic ability. In addition, the need state X identification level interaction within the domain of academic ability indicated that while high identifiers across all three need state conditions perceived the ingroup as being homogeneous, only low identifiers in the need for assimilation and need for differentiation conditions perceived greater ingroup homogeneity in academic ability.
In the present study, the one dependent measure on which ingroup position had an effect was the behavior judgment task. Surprisingly, however, the results were in the opposite direction that one would expect given Branscombe's predictions. The standard deviation of the rated intelligence of the behaviors within participants' acceptance range was higher when the ingroup was positioned lower than the outgroup than and lower when the ingroup was positioned higher than the outgroup. In other words, participants tended to be less constrained in the level of intelligence needed for a person to be judged likely to be an honors student when the ingroup position was threatened. This suggests that participants did not respond to their threatened ingroup position by perceiving the ingroup as more homogeneous. It could have been the case that participants in the condition where honors students were positioned lower than the other OSU students on the SAQ simply took that information to mean that since honors students were not as good as other OSU students in terms of the dimensions rated on the SAQ then may also not be as consistently "good" in their intelligence. Thus, it is unclear at this point whether the position effect on the behavior judgment task reflects a motivated response or simply a non-motivated reaction to the information presented on participants' SAQ feedback forms.

It should be noted that the identification level of participants had an influence not only on how participants' felt about the position of the ingroup relative to the outgroup, but also on their perception of how similar ingroup members are to each other. High identifiers tended to care more about the how the ingroup was positioned in relation to the outgroup. High identifiers compared to low identifiers felt better when the ingroup was
positioned higher than the outgroup and felt worse when the ingroup was positioned lower. In addition, high identifiers tended to see honors students as being more similar to each other in general and in terms of academic ability than did low identifiers. Another finding in this study was that high identifiers tended to be more sure about who was likely to be an ingroup member on the behavior judgment task than low identifiers. High identifiers were able to say that unknown target people were “very likely” or “very unlikely” to be honors students more than low identifiers who used the “somewhat likely” and “somewhat unlikely” response options more than high identifiers. Perhaps because high identifiers have a more homogeneous representation of the ingroup (as evidenced on the similarity rating task), they are able to judge with greater certainty who is likely to be an ingroup member.

It was argued in the introduction of this thesis that the motivation to restore the optimality of the ingroup and the security of one’s position in the group should be strongest among those who are highly identified with the ingroup. There is some evidence in this study that identification level played a role in participants’ judgments. However, the role of identification level as a moderator should be more apparent in Study 2 where there is greater potential for assimilation and differentiation needs to influence participants’ judgment criteria for ingroup and outgroup membership.

Finally, it is clear from the satisfaction questionnaire that participants in this study felt threatened when the ingroup was positioned lower than the outgroup on the SAQ feedback form. Branscombe (Branscombe et al., 1999) conceptualizes this as a “threat to the value of social identity”. People feel positive about their own group to the extent that
favorable comparisons with other groups can be achieved. When favorable comparisons do not exist or are undermined (as was the case when the honors students were positioned lower than other OSU students), Branscombe predicts that individuals will engage in group-level defensive strategies in order to restore the value of the ingroup. For high identifiers, these defensive strategies may take the form of outgroup derogation and greater perceived ingroup homogeneity and further dis-identification for low identifiers.

An interesting finding here was that on the dimension of academic ability, both need for assimilation and need for differentiation participants saw honors students as being more similar to each other than did control participants. Before concluding that the assimilation and differentiation needs have negligible impact on the stringency with which individuals judge others as being ingroup members, it is important to consider the particular ingroup under study and the stereotype dimensions that were used in the study. One potential problem with having used OSU honors students as the ingroup in this study is that what it means to be an OSU honors student is very constrained. The most important determinant of who actually may be an honors students is a person's intelligence as evidenced by GPA, test scores, etc. Thus, given the objective (and fairly stringent) criteria that already exist for group membership, it may have been asking too much to expect participants in this study to vary in their judgments of how intelligent or smart a person must be in order to be considered an honors student.

For example, on the behavior judgment task, although participants did vary somewhat in the number of behaviors they judged to have been performed by other OSU honors student, there was remarkable consistency among participants in terms of seeing
the upper range of intelligent behaviors as all likely to have been performed by honors students. It was rare that a participant would read a behavior rated as being indicative of intelligence and not say that an honors student was likely to have performed the behavior. In addition, on the trait selection task, there seems to be clear necessary and sufficient conditions for determining whether a person in an honors student or not—namely, the person must be intelligent and smart and possibly ambitious and motivated. Thus, most participants selected intelligence as a trait that a person must possess in order to be judged as being an honors student, and then perhaps selected one or two other trait dimensions. Because intelligence is such a defining feature of the ingroup, it is questionable whether participants would need to indicate that many more traits are needed for group membership other than intelligence even when their need for differentiation is aroused. By the same token, although participants in the need for assimilation condition may have been motivated to be lenient in judging ingroup membership, the objective criteria for group membership may have constrained these participants to selecting a minimum number of traits as being needed in order to judge as a person as being an ingroup member.

Lending support to this interpretation are the results from the ingroup similarity measure. This was the only measure in this study which examined dimensions other than intelligence. The trait selection task, the behavior judgment task, and the stereotypicality measure all centered around intelligence (and other stereotype-related traits) as the dimension under study. The pattern of means for the ingroup similarity measure demonstrated the predicted effects for need state on the dimensions not explicitly related to being an honors student (i.e., social life, personality, and in general). What this
suggests is that when there is more room for participants to vary in their judgments, then assimilation and differentiation needs may have an influence on how these judgments are made. However, when a strong stereotype exists which clearly prescribes a set of criteria for group membership, then it may be much harder to observe the influence of assimilation and differentiation needs on judgments of group memberships.

In Study 2, a group other than OSU honors students was used as the ingroup to which participants belong. This group was Arts and Humanities majors at Ohio State University. An important distinction between honors students and Arts and Humanities majors is that there really are not objective rules or standards that individuals must meet in order to be an Arts and Humanities major. With limited exceptions, anyone who chooses to do so may decide to major within the college of Arts or college of Humanities. Thus, the stereotype that exists about students who major in the Arts or Humanities (e.g., bohemian, free-spirited types) can be more loosely applied to group members than was the case for honors students. The only criteria for group membership are the criteria that individuals themselves perceive and choose to invoke. Because of this, it was expected that in Study 2, the influence of assimilation and differentiation needs on participants’ judgments would be more readily detected than in Study 1.
CHAPTER 3

STUDY 2: INGROUP AND OUTGROUP CATEGORIZATION AS A FUNCTION OF ASSIMILATION AND DIFFERENTIATION NEEDS

As in Study 1, one of the goals of this second study was to test the prediction that assimilation and differentiation needs would influence the stringency and leniency with which participants judge the group membership of others. Study 2 extends the experimental design of Study 1 by looking not only at judgments of ingroup membership, but also judgments of outgroup membership. Research by Yzerbyt and his colleagues (Yzerbyt & Castano, 1998; Yzerbyt et al., 1995) indicates that individuals tend to be fairly lenient in terms of their decision criteria for categorizing people as members of the outgroup. However, it was predicted that individuals will not always be more lenient in their decision criteria for categorizing others as outgroup (versus ingroup) members. Rather, leniency and stringency in one’s decision criteria for judging ingroup and outgroup membership should be determined by the preferred and nonpreferred conclusions (Ditto & Lopez, 1992) that individuals wish to reach and avoid. The needs for assimilation and differentiation should motivate participants to seek different conclusions regarding ingroup and outgroup membership.
When the need for assimilation is activated, individuals should be more motivated and likely to conclude that an unknown target is an ingroup member. However, they may also be motivated to conclude that an unknown target is not an outgroup member. As stated in the introduction of this dissertation, if a defined pool of potential ingroup and outgroup targets are available, then every target that is categorized as an outgroup member means that one less potential ingroup member exists. Thus, to the extent that the number of outgroup members is perceived to influence the number of available ingroup members, individuals should be motivated to use different decision criteria for judging the membership of outgroup members when the needs for assimilation and differentiation have been activated.

The primary difference between the study presented in this chapter and the study presented in Chapter 2 is that participants were asked to provide judgments for both the ingroup and an outgroup. In addition, instead of honors students being used as the ingroup, Arts and Humanities majors at OSU constituted the ingroup in Study 2. The factors manipulated in Study 2 were need state (need for assimilation, need for differentiation, and control) and position of the ingroup on the SAQ (ingroup higher vs. ingroup lower). Identification level was measured and used as third between-subjects factor in the design.

An additional manipulated between-subjects factor that was included in Study 2, but which was not in the design of Study 1, was the type of outgroup listed on participants' SAQ feedback form. In Study 1, the outgroup was always written in as "other OSU students". Although honors students and other OSU students constitute an
ingroup and outgroup, the outgroup "other OSU students" is not a very well-defined or specific contrasting group. In the present study, it was hypothesized that having a specific contrasting group named on participants' SAQ feedback form (Natural Sciences students vs. other OSU students) would influence how participants make subsequent categorization decisions. More specifically, because the groups "Arts and Humanities majors" and "Natural Sciences majors" tend to be mutually-defining groups (i.e., what it means to be an Arts and Humanities student is defined by what Natural Sciences students are not), traits that are counter-stereotypical of the outgroup would tend to be considered typical of the ingroup. It was predicted that when "Natural Sciences" students was listed on participants' SAQ feedback form, participants would be more sensitive to counter-stereotypical outgroup information. When the outgroup is listed as "other OSU students" on participants SAQ form, information about counter-stereotypical Natural Sciences traits (e.g., non-methodical) should not have the same meaning (indicating an ingroup classification) than when "Natural Sciences students" in listed as the contrasting outgroup on the SAQ feedback form.

Method

Participants

Participants were recruited from the introductory psychology participant pool. In order to sign-up for the experiment, participants were told that they had to major or intend to major within the College of Arts or the College of Humanities at the Ohio State University. (Examples of specific majors within these colleges are English, History, Humanities, Languages, Fine Arts, Art History, and Art Design.) A total of 105 male and
female participants volunteered to take part in the study in exchange for partial course credit.

Procedure

The procedure for this study was similar to the procedure used in Study 1. Participants (in this study, all Arts and Humanities students) were run in groups of up to 8 people. Participants were told that they would be filling out some questionnaires during the first half of the session and that during the second half of the session they would engage in a group discussion with the other students in the session. As in Study 1, participants were led to believe that one of the items that they would be talking about in the discussion was the SAQ. It was expected that this anticipated discussion would increase the attention paid to and the relevance of the feedback that participants received regarding their score and their group's score on the SAQ.

The first questionnaire that participants completed during the session was the self-attributes questionnaire. After completing the SAQ, participants were instructed to hand the questionnaire to the experimenter so that the experimenter could enter participants responses into the computer positioned at the front of the lab room. While the experimenter entered participants SAQ responses, participants were asked to complete a group identification questionnaire designed to assess their level of identification with the group "Arts and Humanities students at OSU."

After all participants completed the group identification measure and after the SAQ responses were entered, the experimenter distributed the feedback forms to participants. Through these feedback forms, participants were randomly assigned to the
various experimental conditions. After allowing participants to read over the results of the SAQ, the experimenter collected the feedback forms and told participants that they would be moving on to the next set of questionnaires. The first of these questionnaires was the PANAS followed by the trait selection task where participants were asked to select the personal characteristics that they believed are necessary for a person to be considered an Arts or Humanities major at OSU. Immediately following the trait selection task was a group categorization task. In this task, participants read sets of traits associated with a series of target individuals. Based on these traits, participants were asked to judge whether the target person is an ingroup or outgroup (in this study, Natural Sciences students) member.⁷

After completing the trait selection and categorization tasks, participants completed the percentage estimates task twice, once in reference to the ingroup--Arts and Humanities students--and again for the specific outgroup--Natural Sciences students. Following the percentage estimates task, participants were asked to complete similarity ratings for Arts and Humanities students and again for Natural Sciences students. The last set of questionnaires that participants completed consisted of the satisfaction questionnaire which was designed to assess participants' reaction to their feedback on the SAQ and a

⁷ For participants who had “other OSU students” listed as the outgroup on their SAQ feedback form, the categorization task was the first time that they saw the group “Natural Sciences students”. Thus, the categorization task was where the presence of a specific vs. non-specific outgroup on the SAQ form was predicted to have the strongest influence. Participants who had seen the group “Natural Sciences students” earlier on their SAQ feedback form should be more sensitive to the meta-contrast between the two groups than participants who saw “other OSU students” on their SAQ feedback form.
manipulation check and suspicion measure. Finally, participants were told that the group discussion would not be taking place and were then debriefed, thanked, and dismissed.

**Need State Manipulations**

The manipulations used to create the need for assimilation, need for differentiation, and control conditions were almost identical to the manipulations used in Study 1. However, the ingroup in this study was OSU Arts and Humanities students, and feedback was provided that either compared the ingroup to a specific outgroup (Natural Sciences students) or to a non-specific outgroup (other OSU students). Thus, six different combinations of feedback were created: 3 (need for assimilation, need for differentiation, control) X 2 (non-specific outgroup vs. specific outgroup). In addition, as in Study 1, the position of the ingroup and outgroup was counterbalanced across the different combinations. Thus, for half the participants, the ingroup distribution was higher than the outgroup and for the other half of the participants, the ingroup position was lower than the outgroup. This resulted in a total of 12 different combinations of feedback.

**Need for assimilation condition.** For participants assigned to the need for assimilation condition, the following information appeared at the top of their feedback form:
Your Score: _______ /48

Breakdown of scores:

Arts and Humanities students at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students have consistently demonstrated that one of the areas in which Arts and Humanities students and other OSU students (Natural Sciences students) differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for other OSU (Natural Sciences) students is 34. The range for other OSU (Natural Sciences) students is generally between 30 and 43.

Arts and Humanities Student Average: 62
OSU Student (Natural Sciences) Average: 34

In this condition, the participant’s score was written in as 48. This score indicated to participants that they fall outside of the typical range for Arts and Humanities students.

Scoring outside the typical range was predicted to arouse participants’ need for assimilation. In this condition, the ingroup (Arts and Humanities students) and the outgroup (OSU/Natural Sciences students) were described as being distinct from each other. The ranges for the two groups had very little overlap and thus, participants in the need for assimilation condition should have been predominantly concerned with seeking intragroup assimilation (as opposed to intergroup distinctiveness).

Need for differentiation condition. For participants assigned to the need for differentiation condition, the following information appeared at the top of their feedback form:
Your Score: __________ [61]

Breakdown of scores:

Arts and Humanities students at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and other OSU (Natural Sciences) students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for other OSU (Natural Sciences) students is 58. The range for other OSU (Natural Sciences) students is generally between 51 and 64.

Arts and Humanities Average: 62
OSU Student (Natural Sciences) Average: 58

In this condition, the score provided for participants indicated that they are typical of other Arts and Humanities students. However, the range of scores on the SAQ for Arts and Humanities students and other OSU (Natural Sciences) students contained considerable overlap. It was predicted that this overlap would excite participants' need for differentiation. Participants would want to maintain the distinctiveness of the ingroup (Arts and Humanities students) and thus feedback on the SAQ which undermines this distinctiveness should result in the arousal of participants' need for differentiation.

Control condition. The control condition was designed to balance the differences between the need for differentiation and need for assimilation conditions. In this condition, participants were given a score which indicated that they are typical of Arts and Humanities students and were told that Arts and Humanities students differ from other
OSU (Natural Sciences) students on the SAQ. The information that participants in the control condition received was as follows:

Your Score: _______ [61]

Breakdown of scores:

Arts and Humanities students at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and other OSU students (Natural Sciences students) differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for other OSU (Natural Sciences) students is 34. The range for other OSU (Natural Sciences) students is generally between 30 and 43.

Arts and Humanities Student Average: 62
OSU Student (Natural Sciences) Average: 34

Thus, participants in this condition should have felt fairly satisfied and non-threatened by this feedback. Their need for assimilation would be met by knowing that they are typical of other Arts and Humanities students and their need for differentiation would be met by the clear intergroup distinction between Arts and Humanities students and other OSU (Natural Sciences) students. Table 3.1 provides a summary of the need state conditions and Appendix C contains the full experimental manipulations.
## Table 3.1 Experimental manipulations for Study 2

<table>
<thead>
<tr>
<th>Need for Assimilation</th>
<th>Control</th>
<th>Need for Differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant’s score indicates that he or she is different from other Arts and Humanities students.</td>
<td>Participant’s score indicates that he or she is similar to other Arts and Humanities students.</td>
<td>Participant’s score indicates that he or she is similar to other Arts and Humanities students.</td>
</tr>
<tr>
<td>Arts and Humanities student distribution is described as being characteristic of Arts and Humanities students and not of other OSU (Natural Sciences) students.</td>
<td>Arts and Humanities student distribution is described as being characteristic of Arts and Humanities students and not of other OSU (Natural Sciences) students.</td>
<td>Arts and Humanities student distribution is described as being characteristic of Arts and Humanities students and of other OSU (Natural Sciences) students.</td>
</tr>
</tbody>
</table>

**Pretesting**

In order to determine the traits that are considered to be typical of Arts and Humanities students and of Natural Sciences students, a questionnaire was administered to approximately 75 Ohio State undergraduates (see Appendix C). On this questionnaire, participants were asked to list typical traits of Arts and Humanities students at OSU and also typical traits of Natural Sciences students at OSU. The traits that appeared on participants' lists most often were used in the present study for the trait selection task, the ingroup variability measure, and the categorization task. Table 3.2 contains a list of the stereotype traits.
<table>
<thead>
<tr>
<th>Stereotype Traits of Arts and Humanities Students</th>
<th>Stereotype Traits of Natural Sciences Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>creative*</td>
<td>analytic</td>
</tr>
<tr>
<td>artistic*</td>
<td>methodical</td>
</tr>
<tr>
<td>philosophical*</td>
<td>scientific</td>
</tr>
<tr>
<td>talkative</td>
<td>introverted</td>
</tr>
<tr>
<td>social</td>
<td>conservative</td>
</tr>
<tr>
<td>passionate</td>
<td>logical</td>
</tr>
<tr>
<td>emotional</td>
<td>brainy</td>
</tr>
<tr>
<td>thoughtful*</td>
<td>serious</td>
</tr>
<tr>
<td>talented*</td>
<td>hard-working</td>
</tr>
<tr>
<td>imaginative*</td>
<td>mathematical</td>
</tr>
<tr>
<td>open-minded*</td>
<td></td>
</tr>
<tr>
<td>easy-going*</td>
<td></td>
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<tr>
<td>liberal*</td>
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<tr>
<td>intuitive</td>
<td></td>
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<tr>
<td>expressive*</td>
<td></td>
</tr>
<tr>
<td>fun-spirited</td>
<td></td>
</tr>
<tr>
<td>dramatic</td>
<td></td>
</tr>
<tr>
<td>eloquent</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.2: Stereotype traits of Arts and Humanities and Natural Sciences students. Note: The list of traits is longer for Arts and Humanities students because of the greater number of traits need for the ingroup trait selection task. The * denotes the subset of traits that were used in the ingroup stereotypicality measure.
Dependent Measures

**Mood scale.** The mood scale that participants were asked to complete was a version of Watson, Clark, & Tellegen's (1988) positive and negative affect scale (PANAS). This scale was identical to the one used in Study 1 (see Appendix C).

**Trait selection task.** In the trait selection task participants were presented with a list of stereotypical traits of Arts and Humanities students (see Table 3.2) and were asked to indicate which of the traits they felt were needed in order for someone to be considered an Arts and Humanities student at OSU. The specific instructions were as follows:

On this page is a list of personality characteristics. What we would like for you to do is review these traits and then indicate which traits you believe are necessary in order for a person to be considered an Arts and Humanities student at OSU. In other words, if you were to meet a unknown person and wanted to be confident that that person is an Arts and Humanities student, which of the following traits must that person possess? It is important that you answer efficiently—in other words, please select the minimum number of traits that you believe are necessary in order to make an accurate judgment of whether the person is an Arts and Humanities student. Please indicate which trait(s) you have selected by writing them in on the blank lines at the bottom of the page.

The questionnaire was set up so that participants had to actively select traits which they feel are necessary in order for a person to be considered an Arts and Humanities student. The trait selection task was completed only for the ingroup—Arts and Humanities students.

**Categorization task.** The goal of the categorization task was to examine how the needs for assimilation and differentiation influence the categorization decisions that participants make when presented with trait information about potential ingroup and
outgroup members. Based on the pretested stereotype traits of Arts and Humanities and Natural Sciences students, sets of traits were created to describe fictitious target individuals (e.g., J.W. is methodical, analytical, and generous). There were always three traits within each set and a five different types of traits sets were created from the stereotype traits. These types of trait sets were as follows: ingroup stereotype set, outgroup stereotype set, mixed stereotype set, stereotype-irrelevant set, and counter-outgroup stereotype set. Table 3.3 below outlines the composition of each to these trait-set types.

<table>
<thead>
<tr>
<th>Trait Set</th>
<th>Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingroup Stereotype</td>
<td>2 stereotypical Arts and Humanities traits, 1 stereotype-irrelevant trait</td>
</tr>
<tr>
<td>Outgroup Stereotype</td>
<td>2 stereotypical Natural Sciences traits, 1 stereotype-irrelevant trait</td>
</tr>
<tr>
<td>Mixed Stereotype</td>
<td>1 stereotypical Arts and Humanities traits, 1 stereotypical Natural Sciences trait, 1 stereotype-irrelevant trait</td>
</tr>
<tr>
<td>Counter-outgroup Stereotype</td>
<td>2 antonyms of stereotypical Natural Sciences traits, 1 stereotype-irrelevant trait</td>
</tr>
<tr>
<td>Stereotype Irrelevant</td>
<td>3 stereotype-irrelevant traits</td>
</tr>
</tbody>
</table>

Table 3.3: Composition of stereotype trait sets from the group categorization task.
Five different statements were composed for each of the traits set types resulting in 25 total statements to which participants were asked to respond. (See Appendix C for a list of these statements.) The instructions that participants were given were as follows:

Please read each of the statements below and indicate whether you believe that the person described in the statement is an Arts and Humanities (e.g., English, arts, design, humanities, languages) student or a Natural Sciences (e.g., physics, chemistry, biology, mathematics) student. You may also choose to indicate that you believe the person is either an Arts and Humanities students or a Natural Sciences student or that the person is neither an Arts and Humanities student or a Natural Sciences student. You may only choose one of these options.

Following these instructions were the 25 trait statements which were each followed by the following response scale:

<table>
<thead>
<tr>
<th>Circle One:</th>
<th>Arts and Humanities Student</th>
<th>Natural Sciences Student</th>
<th>Either</th>
<th>Neither</th>
</tr>
</thead>
</table>

It was predicted that arousing the needs for assimilation and differentiation would influence the categorization judgments made by participants. More specifically, participants in the need for differentiation condition should be inclined towards making more discrete categorizations of the targets (i.e., use of the “Arts and Humanities”, “Natural Sciences”, and “Neither” categories) than need for assimilation and control participants. In addition, highly identified participants should also lean towards making discrete categorizations of target individuals.

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8 For participants in the non-specific outgroup condition, these instructions were the first place that participants saw the specific outgroup “Natural Sciences students”. The
The purpose of having the different types of trait sets was to see if participants' categorization judgments would differ by trait set. More specifically, although most participants will likely categorize targets described by ingroup-stereotype trait sets as ingroup members and targets described by outgroup-stereotype trait sets as being outgroup members, it was predicted that participants in the various need state and outgroup conditions would differ in their judgments of targets described by the stereotype-irrelevant, mixed-stereotype, and counter-stereotypic traits sets. When presented with targets described by the stereotype-irrelevant and mixed-stereotype trait sets, a very likely option for participants to choose is categorizing the target as either an Arts and Humanities student or a Natural Sciences student. However, given that need for differentiation participants are hypothesized to prefer discrete categorizations, then they should be more likely than participants in the other two need state conditions to go ahead and pick an ingroup or outgroup category rather than allow the target to be ambiguously categorized. It was predicted that need for assimilation participants would make more ingroup categorizations and fewer outgroup categorizations than participants in the need for differentiation and control conditions especially when the target is described by the stereotype-irrelevant or mixed-stereotype trait sets.

In the case of the counter-stereotypic trait sets, it was predicted that having Natural Sciences students specified as the outgroup on the SAQ feedback form would lead participants to see descriptions of targets that are counter to the Natural Sciences stereotype as being indicative of ingroup membership. In other words, because Arts and preceding trait selection task referred only to the ingroup “Arts and Humanities students.”
Humanities students and Natural Sciences students are pitted against each other, the two groups can be mutually self-defining. What it means to be an Arts and Humanities student is that one is not a Natural Sciences student. Thus, when a target individual is described as being counter to the outgroup stereotype, the target should be categorized as an ingroup member especially if the outgroup “Natural Sciences students” was specified on participants’ SAQ feedback form.

**Group stereotypicality and similarity measures.** As in Study 1, two group variability measures were included in this study—a percentage estimates task and a similarity rating task. In the percentage estimates task, participants were asked to estimate the degree of stereotypicality that they perceived for both the ingroup (Arts and Humanities students) and the specific outgroup (Natural Sciences students). In this task, participants received a list of stereotypic traits of Arts and Humanities students followed by a list of stereotypic traits of Natural Sciences students and were asked to estimate the percentage (from 0% to 100%) of students within each of these groups that they believe possess each trait. Also, embedded within each list of stereotypic traits were several stereotype-irrelevant traits. Including the stereotype-irrelevant traits allowed for a comparison of the perceived variability of stereotype-relevant and stereotype-irrelevant traits.

In the similarity rating task, participants were asked to rate how similar they believed Arts and Humanities students were along four different dimensions—personality, academic ability, social life, and in general. Participants made these ratings on a 10-point scale which ranged from (1) large differences to (10) all alike. Participants repeated the
similarity rating task a second time for Natural Sciences students and had to rate how similar they believed Natural Sciences students were in terms the same four dimensions.

**Satisfaction items.** A set of items were included in the questionnaire in order to see whether the manipulations had their intended effects. These items were similar to the items used in Study 1 but with the wording changed to reflect the different groups used in the second study. (See Appendix C.)

**Manipulation check items.** To determine whether participants paid attention to the feedback that they received on the self-attributes questionnaire, participants were asked a series of questions regarding their score on the SAQ and the range of scores for Arts and Humanities and other OSU students. Participants were also asked questions regarding the purpose of the study in order to detect any suspicion regarding the feedback received.

**Results**

**Preliminary Measures**

The first set of analyses were designed to test for condition differences on the peripheral measures—the manipulation check questionnaire, the satisfaction questionnaire, and the mood measure. These analyses were conducted in order to see whether participants paid attention to the information that they received about their standing in the group and the standing of the ingroup, Arts and Humanities students, relative to the outgroup. In addition, it was predicted that participants' satisfaction with their categorization and their mood would be influenced by their need state and the relative position of the ingroup.
Manipulation check items. Analysis of the manipulation check items revealed that participants in the need for assimilation condition (M = 3.21) felt that they were less similar to other Arts and Humanities students compared to participants in both the control (M = 5.42) and need for differentiation conditions (M = 5.50), F (2, 103) = 45.96, p < .0001. In addition, participants in the need for differentiation condition perceived Arts and Humanities students as being more similar to other OSU students (M = 4.64) than did need for assimilation (M = 3.36) and control (M = 3.42) participants, F (2, 103) = 12.60, p < .0001.

On the manipulation check questionnaire, participants were asked to recall their own score on the self-attributes questionnaire. Most participants (98.1%) were able to recall their score within 3 points of the correct score. Participants were also asked to recall the average score for Arts and Humanities students and the average score for other OSU/Natural Sciences students on the SAQ. Overall, 93.3% of participants were able to recall the average student score for Arts and Humanities students within 3 points of the correct score and 79.4% of participants were able to recall the average OSU/Natural Sciences student score within 3 points of the correct score. Finally, 89.6% of participants correctly answered the question, “How did your score on the SAQ compare to the average score of other honors students?” and 84.9% of participants correctly answered the question “How did the average score of Arts and Humanities students on the SAQ compare to the score of other non-honors OSU students?” These results suggest that participants generally paid attention to and encoded the information provided to them on their SAQ feedback form.
Group identification. In order to classify participants as being high or low in identification with the group “Arts and Humanities students”, a median split was performed on participants’ average score on the 16-item group identification measure (Cronbach’s alpha = .82). Appropriate items were reverse-scored prior to computation of the average. The median for the sample on the group identification measure was 4.19, and the overall sample mean was 4.17 (SD = 0.62). The mean group identification score for participants classified as high identifiers by the median split was 4.66, and the mean group identification score for low identifiers was 3.65. A one-way analysis of variance confirmed that the high identifiers and low identifiers differed significantly in their level of group identification, F (1, 98) = 170.36, p < .0001.

Satisfaction items. The five satisfaction questions were designed to assess participants’ reactions to the information that they received about themselves and Arts and Humanities students as a group on the SAQ feedback form. The three items that asked about participants’ personal scores on the SAQ—“I feel good about my score on the SAQ”, “I feel bad about my score on the SAQ” and “I am satisfied with how I scored on the SAQ”—were averaged together to form a single index (Cronbach’s alpha = .90) after reverse scoring of the one negative item. This index was subjected to a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (outgroup: non-specific vs. specific)

A dichotomy was created on the continuous variable of identification level for the purpose of including identification level as a factor in the analyses of variance. Because the sample mean and median were close to each other and also close to the midpoint of the rating scale of identification, a median split was used as the point of dichotomization in order to reflect the relatively higher and lower ends of the continuum.
ANOVA. Results of this ANOVA revealed a significant main effect of need state, $F (2, 75) = 7.48$, $p < .01$, indicating that need for assimilation participants felt worse about their performance on the SAQ ($M = 4.36$) than did control ($M = 5.36$) and need for differentiation participants ($M = 5.28$). A main effect of identification was also obtained, $F (1, 75) = 6.00$, $p < .05$. High identifiers felt better about their performance on the SAQ ($M = 5.28$) than did low identifiers ($M = 4.72$).

Finally, a position X identification interaction, $F (1, 75) = 7.55$, $p < .01$, demonstrated that when the position of the ingroup was threatened, low identifiers felt significantly worse about how they personally performed (see Table 3.4 below). This was not the case for high identifiers.

<table>
<thead>
<tr>
<th>Identification Level</th>
<th>Ingroup Higher</th>
<th>Ingroup Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Identifiers</td>
<td>5.12</td>
<td>4.31</td>
</tr>
<tr>
<td>High Identifiers</td>
<td>5.05</td>
<td>5.51</td>
</tr>
</tbody>
</table>

Table 3.4: Satisfaction with personal score on SAQ by identification level and ingroup position.

The two other satisfaction items dealt with how participants felt about how Arts and Humanities students performed on the SAQ. Participants were asked to respond to
the following statements, "I feel good about how Arts and Humanities students scored on the SAQ" and "I feel bad about how Arts and Humanities students scored on the SAQ". The second item was reverse-scored and the two items were averaged into single index (Cronbach’s alpha = .77). This index was then submitted to a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (outgroup: non-specific vs. specific) ANOVA. Results of this analysis revealed significant main effects of need state, F (2, 75) = 4.64, p < .05, identification level, F (1, 75) = 18.46, p < .0001, and ingroup position, F (1, 75) = 13.08, p < .001.

Need for assimilation participants felt significantly worse about how the ingroup performed on the SAQ (M = 4.21) compared to control (M = 4.67) and need for differentiation (M = 5.00) participants. In addition, high identifiers tended to feel better about the performance of their group (M = 5.08), than did low identifiers (M = 4.18). And finally, the position of the ingroup in relation to the outgroup had a large effect on how participants felt about the ingroup’s performance on the SAQ. Participants felt better about the performance when the ingroup position was higher (M = 5.01), than when the ingroup position was lower (M = 4.25). Overall, the five satisfaction items suggest that participants were generally sensitive to the information that they received regarding their score and the score of other honors students on the self-attributes questionnaire.

Mood scale. As in Study 1, the 28 mood items from the PANAS were categorized into one of four dimensions—positive, high arousal (e.g., excited), negative, high arousal (e.g., nervous), positive, low arousal (e.g., content), and negative, low arousal (e.g.,
worried). The average for each of the four dimensions was calculated for each participant. The mood dimensions were then analyzed using a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (outgroup: non-specific vs. specific) X 2 (mood valence: positive vs. negative) X 2 (arousal: high vs. low) ANOVA with repeated measures on the last two factors (valence and arousal).

Results of this analysis revealed a significant main effect of valence, \(F(1, 75) = 64.34, p < .0001\) and a significant main effect of arousal, \(F(1, 75) = 4.44, p < .05\). In addition, a significant main effect of identification emerged, \(F(1, 75) = 8.27, p < .01\), indicating that across the different mood dimensions, highly identified participants tended to make more extreme ratings of their mood. These main effects were qualified by a valence X arousal interaction, \(F(1, 75) = 33.90, p < .0001\), and a valence X arousal X position interaction, \(F(1, 75) = 4.46, p < .05\). These interactions indicate that participants’ affect was influenced by the position of the ingroup on the SAQ feedback form. When the ingroup was described as having lower scores on the SAQ than the outgroup (other OSU student or Natural Sciences students), participants tended to experience less positive high and low arousal emotions, and higher negative-low arousal emotions, but did not show a difference on the negative-high arousal emotions. Table 3.5 below contains the means for this interaction.
### Mood Dimension

<table>
<thead>
<tr>
<th>Position</th>
<th>Positive High Arousal</th>
<th>Positive Low Arousal</th>
<th>Negative High Arousal</th>
<th>Negative Low Arousal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingroup Higher</td>
<td>4.55</td>
<td>5.70</td>
<td>2.29</td>
<td>1.78</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td>4.42</td>
<td>5.05</td>
<td>2.31</td>
<td>2.17</td>
</tr>
</tbody>
</table>

Table 3.5: Positive and negative affect and arousal by ingroup position.

The identification X outgroup interaction reflected that the presence of a specific outgroup on the SAQ feedback form resulted in less extreme scores across the different mood dimensions for highly identified participants, but this was not the case for low identifiers. No significant main effects or interactions of need state were obtained on this mood measure.

**Primary Dependent Measures**

The primary dependent measures for this study were two measures designed to look at participants' stringency and leniency in terms of group boundaries—the trait selection task and the categorization task—and two measures designed to look perceptions of the ingroup—the ingroup and outgroup stereotypicality measures and the ingroup and outgroup similarity measures.
Trait selection task. The raw number of traits that participants selected as being necessary for judging a person as an ingroup member was used as a measure of how stringent participants were in their decision criteria for judging ingroup membership. It was predicted that need for differentiation participants would select more traits as being necessary for an individual to be considered to be an Arts and Humanities student compared to need for assimilation participants. The raw number of traits selected by each participant was subjected to a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (outgroup: non-specific vs. specific) ANOVA. Contrary to predictions, results of this ANOVA revealed a marginally significant need state main effect, $F(2, 76) = 2.85, p = .06$, such that participants in both the need for assimilation and need for differentiation conditions tended to select more traits ($M = 5.55$ and $M = 5.11$, respectively) as necessary for judging a target as an ingroup member than control participants ($M = 4.22$).

In addition to this main effect, significant interactions emerged between identification level and outgroup type and between identification level, outgroup type, and ingroup position (see Appendix D for a full description of these interactions). Generally, these interactions revealed that high identifiers tended to be more affected than low identifiers by outgroup type and ingroup position on the trait selection measure.

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10 In general, the stereotype traits of Arts and Humanities students tended to be less synonymous with each other than the stereotype traits of OSU honors students. For this reason, the raw number of traits was used as the unit of analysis in Study 2.
Categorization task. The primary analysis of participants' responses on the group categorization task involved the number of each type of categorization (ingroup/outgroup/either/neither) that participants made across all 25 trait statements broken down by trait set type (ingroup stereotypical, outgroup stereotypical, stereotype-irrelevant, counter-stereotypic, and mixed stereotype). A 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (outgroup: non-specific vs. specific) X 5 (trait set type) X 4 (categorization choice: ingroup, outgroup, either, neither) ANOVA with repeated measures on the last two factors was conducted.\(^{11}\)

The main predictions for this study were that when a target is described ambiguously (i.e., described by mixed-stereotype or stereotype-irrelevant traits), participants in the need for assimilation condition would be more likely than controls to categorize the target as an ingroup member. Need for differentiation participants were predicted to the opposite pattern and exclude these individuals from the ingroup and classify them as "neither" an ingroup or outgroup member. In addition, it was predicted that overall need for differentiation participants would use the "neither" category to a greater extent than need for assimilation and control participants and use the "either"

\(^{11}\) Although the categorization task is an ipsative measure, a repeated measures ANOVA of the data is an appropriate analysis method (Greer & Dunlap, 1997). In a recent Monte Carlo study, Greer and Dunlap examined the extent to which ANOVA is affected by ipsative data. Greer and Dunlap concluded that “with few exceptions, ANOVA worked quite well with ipsative data.” (p. 200). The authors do note, however, that Type I error rates may be slightly inflated with ipsative data especially if rank order data are used (e.g., actual ps of .06 rather than .05), but that Box’s (1954) epsilon correction for degrees of freedom may be used to retain the stated alpha level. In the present analyses, a correction factor similar to Box’s was used—Huynh-Feldt’s epsilon.
category less. In general, need for differentiation participants were expected to show their preference for a clearly demarcated ingroup and outgroup by placing a greater proportion of targets in the “Arts and Humanities” and “Natural Sciences” or “Neither” categories to a greater extent than control and need for assimilation participants.

Results of this ANOVA revealed a significant main effect of categorization choice, $F(3, 231) = 41.57, p < .0001$, indicating that participants tended to use the “either” category most often when judging the group membership of targets ($M = 1.88$), followed by the ingroup category ($M = 1.28$), the outgroup category ($M = 0.72$), and the “neither” category ($M = 0.31$). This main effect was qualified by the expected categorization type X trait set interaction, $F(12, 924) = 54.67, p < .0001$ (see Table 3.6 below). Participants in the study generally categorized targets in line with the trait set description provided for the target. When the target was described by ingroup stereotypical traits, the target was most likely to be categorized as an ingroup member, and likewise for outgroup stereotypical traits. When the description of the target contained both ingroup and outgroup traits and when the description contained all stereotype irrelevant traits, participants tended to say that the target could be either an ingroup or outgroup member. Finally, when targets were described by counter-stereotypic traits (of the outgroup), participants tended to categorize the target as an ingroup member.
<table>
<thead>
<tr>
<th>Trait Set Type</th>
<th>Ingroup</th>
<th>Outgroup</th>
<th>Either</th>
<th>Neither</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingroup Stereotypical</td>
<td>2.11</td>
<td>0.07</td>
<td>1.91</td>
<td>0.09</td>
</tr>
<tr>
<td>Outgroup Stereotypical</td>
<td>0.11</td>
<td>2.08</td>
<td>1.85</td>
<td>0.13</td>
</tr>
<tr>
<td>Mixed Stereotype</td>
<td>0.93</td>
<td>0.93</td>
<td>2.29</td>
<td>0.04</td>
</tr>
<tr>
<td>Stereotype Irrelevant</td>
<td>0.85</td>
<td>0.43</td>
<td>2.40</td>
<td>0.51</td>
</tr>
<tr>
<td>Counter-stereotypic (of outgroup)</td>
<td>2.39</td>
<td>0.08</td>
<td>0.94</td>
<td>0.78</td>
</tr>
</tbody>
</table>

Table 3.6: Distribution of categorization choices by trait set type.

Qualifying the categorization choice main effect were two marginally significant interactions (after the Huyhn-Feldt epsilon correction) involving categorization choice and identification level and categorization choice, need state, and position. Because these interactions were not relevant to the primary predictions for the categorization measure, discussion of these interactions is taken up in Appendix D.
The final analysis of the categorization data involved looking specifically at the mixed-stereotype and stereotype-irrelevant trait set types. As shown in Table 3.6, the predominant response to these trait sets was to categorize the target as being either an ingroup member or an outgroup member. However, on a proportion of their responses, participants did use the Arts and Humanities and Natural Sciences categories. Because there was not an obvious category to which the mixed-stereotype and stereotype-irrelevant targets belonged, it was hypothesized that the influence of assimilation and differentiation needs would most evident on the categorization of these targets. A 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (outgroup: non-specific vs. specific) X 2 (trait set type: mixed-stereotype and stereotype-irrelevant) X 4 (categorization choice: ingroup, outgroup, either, neither) ANOVA with repeated measures on the last two factors was conducted. Results of this ANOVA revealed only a significant main effect of categorization choice, $F(3, 231) = 56.16, p < .0001$, indicating that participants tended to use the “either” category most often when judging the group membership of these targets. There were no other significant main effects or interactions on participants’ judgments of targets described by the mixed-stereotype and stereotype-irrelevant trait sets.
In general the results from the categorization task failed to yield support for the study predictions. Participants in the need for assimilation and need for differentiation conditions tended to use the four categories (Arts and Humanities, Natural Sciences, either, and neither) in similar proportions, and there were no significant interactions between need state and identification level on this measure.

**Group stereotypicality measure.** The percentages reported by participants for the 10 stereotype traits contained in the percentages estimates task were averaged for each participant. The stereotype-irrelevant traits embedded within participants' trait lists were also averaged for each participant. This was done separately for the ingroup list and the outgroup list resulting in two averages (stereotype traits and stereotype-irrelevant traits) for the ingroup (Arts and Humanities students) and two averages for the outgroup (Natural Sciences students). A 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (outgroup: non-specific vs. specific) X 2 (relevance: stereotype-relevant vs. stereotype-irrelevant) ANOVA with repeated measures on the last factor was conducted first on the trait averages for Arts and Humanities students.

The main prediction for the stereotypicality measure was that need for differentiation participants would perceive the ingroup more stereotypically than need for assimilation and control participants. If need for differentiation participants believe that individuals must meet fairly high criteria (in terms of conforming to the group prototype) in order to be judged as ingroup members, then it follows that a greater percentage of the resulting group of ingroup members would be seen as possessing stereotypical ingroup
traits. This prediction was based on the earlier prediction that only need for differentiation participants would list more traits than controls as being necessary for group membership. Because need for differentiation and need for assimilation participants responded similarly on the trait selection task, then a plausible alternative prediction is that both need for assimilation and need for differentiation participants would perceive the ingroup more sterootypically than control participants.

Results of this ANOVA revealed a marginally significant main effect of need state, $F(2, 52) = 2.56, p < .09$, and a significant main effect of relevance, $F(1, 52) = 102.32, p < .0001$. These two main effects were qualified by a need state X relevance interaction, $F(1, 52) = 3.40, p < .05$ (see Table 3.7 below). Need for assimilation and need for differentiation participants judged a significantly higher percentage of Arts and Humanities students as possessing stereotype-relevant and stereotype-irrelevant traits than did control participants. The greatest degree of perceived ingroup similarity was by need for assimilation participants on the stereotype-relevant dimension. A need state X identification level interaction was not obtained on this measure nor were any other main effects or interactions were observed.
Table 3.7: Percentage of Arts and Humanities students judged as possessing stereotype-relevant and stereotype-irrelevant traits.

<table>
<thead>
<tr>
<th>Need State</th>
<th>Stereotype Relevant</th>
<th>Stereotype Irrelevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>78.23</td>
<td>65.22</td>
</tr>
<tr>
<td>Control</td>
<td>70.59</td>
<td>56.43</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>72.72</td>
<td>65.35</td>
</tr>
</tbody>
</table>

A second $3$ (need state: need for assimilation, need for differentiation, and control) $X 2$ (group position: higher vs. lower) $X 2$ (identification: high vs. low) $X 2$ (outgroup: non-specific vs. specific) $X 2$ (relevance: stereotype-relevant vs. stereotype-irrelevant) ANOVA with repeated measures on the last factor was first conducted on the trait averages for Natural Sciences students. Again, a significant main effect of relevance was obtained $F (1, 52) = 39.01, p < .0001$ such that higher percentages were reported on the relevant traits ($M = 73.58$) than the irrelevant traits ($M = 61.61$). Although the need state $X$ trait relevance interaction was non-significant for the analysis of stereotype relevant and irrelevant traits of Natural Sciences students, $F (1, 52) = 1.39, p = ns$, the means are reported below in Table 3.8 to illustrate the similarity of the pattern of means to the pattern observed for judgments of Arts and Humanities students. On stereotype-irrelevant traits of Natural Sciences students, a marginally significant effect of need state
was obtained, $F(2, 52) = 2.41, p < .10$, with both need for assimilation and need for
differentiation participants reporting higher stereotypicality percentages than control
participants. This need state main effect was not qualified by an interaction with
identification level.

<table>
<thead>
<tr>
<th>Need State</th>
<th>Stereotype Relevant</th>
<th>Stereotype Irrelevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>75.75</td>
<td>63.12</td>
</tr>
<tr>
<td>Control</td>
<td>71.37</td>
<td>55.76</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>72.57</td>
<td>64.74</td>
</tr>
</tbody>
</table>

Table 3.8: Percentage of Natural Sciences students judged as possessing stereotype-relevant and stereotype-irrelevant traits.

Group similarity measure. Participants were asked to judge the similarity of Arts
and Humanities students along four dimensions—social life, personality, academic ability,
and in general. Participants also made these judgments a second time for the outgroup--
Natural Sciences students. Separate 3 (need state: need for assimilation, need for
differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification:
high vs. low) X 2 (outgroup: non-specific vs. specific) X 4 (similarity dimension)
ANOVAs with repeated measures on the last factor were performed on the ingroup
similarity ratings and the outgroup similarity ratings. In general, participants’ perceptions of ingroup and outgroup similarity were influenced by all four predictor variables (need state, ingroup position, identification level, and outgroup type) as indicated by various two-way, three-way, and four-way interactions among these variables. Table D.5 in Appendix D, provides a complete table of the means from the five-way ANOVA for both ingroup and outgroup similarity judgments.

**Ingroup similarity ratings.** Results of the ANOVA on participants ratings of the intragroup similarity of Arts and Humanities students revealed a significant main effect of need state, $F(2, 77) = 3.87, p < .05$. Across all four similarity dimensions, need for assimilation and need for differentiation participants perceived greater ingroup similarity than did control participants (see Table 3.9 below).
### Table 3.9: Average similarity rating for Arts and Humanities students by need state and similarity dimension.

<table>
<thead>
<tr>
<th>Need State</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>5.26</td>
<td>4.38</td>
<td>5.02</td>
<td>5.17</td>
</tr>
<tr>
<td>Control</td>
<td>3.95</td>
<td>3.88</td>
<td>4.17</td>
<td>4.23</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>5.50</td>
<td>4.96</td>
<td>5.03</td>
<td>5.08</td>
</tr>
</tbody>
</table>

In addition to the need state main effect, there was a significant main effect of identification, $F (1, 77) = 10.32, p < .01$ (see Table 3.10). High identifiers perceived greater ingroup similarity than low identifiers across all of the similarity dimensions. A marginally significant main effect of similarity dimension, $F (3, 231) = 2.54, p < .06$, showed overall differences in perceived similarity across the dimensions. The greatest amount of similarity was found for the personality dimension ($M = 4.95$) followed by similarity in general ($M = 4.94$), academic ability ($M = 4.81$), and social life ($M = 4.48$).
A significant two-way position X outgroup interaction also emerged from this analysis, $F (1, 77) = 7.94, p < .01$. The general pattern of means from this interaction showed that in the case where a specific outgroup had not been named on participants' SAQ feedback form, participants tended to perceive less ingroup similarity when the ingroup was positioned lower than outgroup than when the ingroup was positioned higher than the outgroup. This pattern of means was reversed, however, when a specific outgroup (Natural Sciences students) was named on participants' SAQ feedback form. In this condition, participants perceived more ingroup similarity when the ingroup was positioned lower than the outgroup than when the ingroup was positioned higher (see Table 3.11). Finally, a marginally significant three-way similarity dimension X identification X outgroup type interaction, $F (3, 231) = 2.39, p < .07$, showed that the

<table>
<thead>
<tr>
<th>Identification Level</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low identifiers</td>
<td>4.37</td>
<td>3.75</td>
<td>4.45</td>
<td>4.11</td>
</tr>
<tr>
<td>High identifiers</td>
<td>5.44</td>
<td>5.06</td>
<td>5.03</td>
<td>5.54</td>
</tr>
</tbody>
</table>

Table 3.10: Average similarity rating for Arts and Humanities students by identification level and similarity dimension.
greatest amount of ingroup similarity was perceived by highly identified participants when a specific outgroup was named (see Table 3.12), and that this effect was greatest along the social life dimension.

<table>
<thead>
<tr>
<th>Outgroup Type</th>
<th>Similarity Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personality</td>
</tr>
<tr>
<td>Non-specific outgroup</td>
<td></td>
</tr>
<tr>
<td>Ingroup higher</td>
<td>5.38</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>4.11</td>
</tr>
<tr>
<td>Specific outgroup</td>
<td></td>
</tr>
<tr>
<td>Ingroup higher</td>
<td>4.23</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>5.90</td>
</tr>
</tbody>
</table>

Table 3.11: Average similarity rating for Arts and Humanities students by outgroup type, ingroup position, and similarity dimension.
<table>
<thead>
<tr>
<th>Outgroup Type</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-specific outgroup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low identifiers</td>
<td>4.15</td>
<td>3.99</td>
<td>4.54</td>
<td>4.21</td>
</tr>
<tr>
<td>High identifiers</td>
<td>5.34</td>
<td>4.53</td>
<td>4.36</td>
<td>5.28</td>
</tr>
<tr>
<td>Specific outgroup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low identifiers</td>
<td>4.59</td>
<td>3.51</td>
<td>4.36</td>
<td>4.01</td>
</tr>
<tr>
<td>High identifiers</td>
<td>5.53</td>
<td>5.59</td>
<td>5.71</td>
<td>5.81</td>
</tr>
</tbody>
</table>

Table 3.12: Average similarity rating for Arts and Humanities students by identification level, outgroup type, and similarity dimension.

Outgroup similarity ratings. Similarity ratings were also obtained for the specific outgroup Natural Sciences students. A 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (identification: high vs. low) X 2 (outgroup: non-specific vs. specific) X 4 (similarity dimension) ANOVA with repeated measures on the last factor was performed on participants' outgroup similarity ratings.
Results of this ANOVA revealed significant higher-order interactions on participants' ratings of outgroup similarity. There was a need state X identification level X outgroup X similarity dimension interaction, F (6, 162) = 2.42, p < .05, and a need state X identification level X position X outgroup interaction, F (2, 54) = 2.93, p < .06. The first four-way interaction indicates that the identification level X outgroup interaction showing that high identifiers perceived greater outgroup similarity when a specific outgroup was not named on the SAQ is more pronounced among need for differentiation participants and is evident across all the similarity dimensions except academic ability (see Appendix D for a table of means).

Interpretation of the second four-way interaction is necessarily tentative due to the large number of between-subjects conditions present in this interaction (N = 24) relative to the total number of participants in the study (N=106). But what this interaction points out is that across the different need states, highly identified participants responded to the lower position of their ingroup by perceiving greater outgroup homogeneity. By contrast, low identifiers responded to the lower position of the ingroup by perceiving more or less outgroup homogeneity depending on whether a specific outgroup was named on their SAQ and depending on their need state. The means suggested that low-identified need for assimilation participants perceived greater outgroup homogeneity when a specific outgroup was named on the SAQ and less outgroup homogeneity when a specific outgroup was not named. This was pattern was unique to need for assimilation participants. The means for this interaction are available in Appendix D. Below are the main effects and lower-order interactions that emerged within the overall analysis.
A significant main effect of identification level was obtained, $F(1, 54) = 8.26, p < .01$, revealing that high identifiers perceived greater outgroup similarity than low identifiers across the four similarity dimensions (see Table 3.13). There was also a significant main effect of similarity dimension, $F(3, 162) = 10.67, p < .0001$, such that the greatest perceived outgroup similarity was found along the academic ability dimension ($M = 6.22$), followed by personality ($M = 5.69$), in general ($M = 5.54$), and social life ($M = 5.26$).

<table>
<thead>
<tr>
<th>Similarity Dimension</th>
<th>Identification Level</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low identifiers</td>
<td>5.24</td>
<td>4.70</td>
<td>5.71</td>
<td>4.91</td>
<td></td>
</tr>
<tr>
<td>High identifiers</td>
<td>6.18</td>
<td>5.70</td>
<td>6.63</td>
<td>6.06</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.13: Average similarity rating for Natural Sciences students by identification level and similarity dimension.

In addition to these main effects, there were two significant two-way interactions with need state—a need state $X$ similarity dimension interaction, $F(6, 162) = 3.16, p < .01$, and a need state $X$ position interaction, $F(2, 54) = 6.31, p < .01$. The need state $X$ similarity dimension interaction shows that need for assimilation and need for
differentiation participants perceived greater outgroup similarity than control participants along all of the similarity dimensions except academic ability which tends to be a defining dimension of Natural Sciences students (see Table 3.14 below).

<table>
<thead>
<tr>
<th>Similarity Dimension</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>6.21</td>
<td>5.19</td>
<td>6.12</td>
<td>5.74</td>
</tr>
<tr>
<td>Control</td>
<td>5.03</td>
<td>4.59</td>
<td>6.32</td>
<td>5.16</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>5.90</td>
<td>5.83</td>
<td>6.08</td>
<td>5.56</td>
</tr>
</tbody>
</table>

Table 3.14: Average perceived similarity rating for Natural Sciences students by need state and similarity dimension.

The need state X position interaction indicates that participants in the different need state conditions reacted differently to the relative position of the ingroup on the outgroup similarity measure (see Table 3.15 below). Control participants perceived

---

12 Generally, it is believed by students that natural sciences courses tend to be very demanding and that anyone majoring in the natural sciences must have considerable academic ability in order to keep up with the rigor of the coursework. Thus, academic ability is an attribute that might be expected of all natural sciences students.
greater outgroup similarity when the ingroup was positioned lower than the outgroup.

Need for assimilation participants showed the opposite pattern—i.e., greater perceived similarity when the ingroup was positioned higher than the outgroup and less perceived similarity when the ingroup was positioned lower. Need for differentiation participants did not differ in their perception of outgroup similarity based on the position of the ingroup.

<table>
<thead>
<tr>
<th>Need State</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingroup higher</td>
<td>6.89</td>
<td>5.69</td>
<td>6.90</td>
<td>5.95</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>5.52</td>
<td>4.69</td>
<td>5.33</td>
<td>5.52</td>
</tr>
<tr>
<td>Control</td>
<td>4.05</td>
<td>3.46</td>
<td>5.79</td>
<td>3.93</td>
</tr>
<tr>
<td>Ingroup higher</td>
<td>6.00</td>
<td>5.71</td>
<td>6.85</td>
<td>6.40</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>5.70</td>
<td>5.73</td>
<td>6.21</td>
<td>5.53</td>
</tr>
<tr>
<td>Need for</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differentiation</td>
<td>5.70</td>
<td>5.92</td>
<td>5.96</td>
<td>5.58</td>
</tr>
</tbody>
</table>

Table 3.15: Average similarity rating for Natural Sciences students by need state, ingroup position, and similarity dimension.
Three other two-way interactions that emerged on the outgroup similarity measure were a marginal position X outgroup interaction, $F(2, 54) = 3.46, p < .07$, a position X similarity dimension interaction, $F(3, 162) = 2.59, p = .05$, and an identification level X outgroup interaction, $F(1, 54) = 3.64, p = .06$. As was the case with the ingroup similarity ratings, the position X outgroup interaction indicates that participants perceived the greatest degree of outgroup similarity when the ingroup was positioned lower than the outgroup (ingroup threat), and when a specific outgroup was named on the SAQ feedback form (see Table 3.16). Participants also tended to perceive greater outgroup similarity when the ingroup was positioned higher than the outgroup and a specific outgroup was not named.
Table 3.16: Average similarity rating for Natural Sciences students by outgroup type, ingroup position, and similarity dimension.

<table>
<thead>
<tr>
<th>Outgroup Type</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-specific outgroup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup higher</td>
<td>5.92</td>
<td>5.28</td>
<td>6.58</td>
<td>5.65</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>5.61</td>
<td>5.14</td>
<td>5.86</td>
<td>5.47</td>
</tr>
<tr>
<td>Specific outgroup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup higher</td>
<td>5.18</td>
<td>4.64</td>
<td>6.02</td>
<td>4.62</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>6.14</td>
<td>5.74</td>
<td>6.24</td>
<td>6.19</td>
</tr>
</tbody>
</table>

The position X similarity dimension interaction revealed that participants perceived greater outgroup similarity when the ingroup was positioned lower than the outgroup than when the ingroup was positioned higher and that this was the case for all the similarity dimensions except academic ability (see Table 3.17). And the identification level X outgroup interaction indicated that the greatest amount of outgroup similarity was perceived by highly identified participants when a specific outgroup was not named (see Table 3.18). Note that this is the opposite pattern that was found on the ingroup similarity ratings. On the ingroup ratings, high identifiers perceived greater ingroup similarity when
a specific outgroup was named (Natural Sciences students). On the outgroup similarity ratings (of Natural Sciences students) having “Other OSU students” as the outgroup on participants’ SAQ feedback form resulted in greater perceived similarity of Natural Sciences students among highly identified participants. This finding is somewhat surprising and will be discussed in greater detail in the discussion section to follow.

<table>
<thead>
<tr>
<th>Similarity Dimension</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingroup Position</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td>5.55</td>
<td>4.96</td>
<td>6.30</td>
<td>5.13</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td>5.88</td>
<td>5.44</td>
<td>6.05</td>
<td>5.83</td>
</tr>
</tbody>
</table>

Table 3.17: Average similarity rating for Natural Sciences students by ingroup position and similarity dimension.
Table 3.18: Average similarity rating for Natural Sciences students by identification level, outgroup type, and similarity dimension.

<table>
<thead>
<tr>
<th>Outgroup Type</th>
<th>Personality</th>
<th>Social Life</th>
<th>Academic Ability</th>
<th>In General</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-specific outgroup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low identifiers</td>
<td>4.78</td>
<td>4.56</td>
<td>5.43</td>
<td>4.65</td>
</tr>
<tr>
<td>High identifiers</td>
<td>6.75</td>
<td>5.86</td>
<td>7.01</td>
<td>6.47</td>
</tr>
<tr>
<td>Specific outgroup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low identifiers</td>
<td>5.71</td>
<td>4.83</td>
<td>6.00</td>
<td>5.17</td>
</tr>
<tr>
<td>High identifiers</td>
<td>5.61</td>
<td>5.54</td>
<td>6.26</td>
<td>5.65</td>
</tr>
</tbody>
</table>

Intercorrelations. In order to explore the relationship between the different dependent measures, the number of traits selected by participants on the trait selection task, the overall number of ingroup/outgroup/either/neither categorizations made on the categorization task, the perceived ingroup and outgroup stereotypicality ratings, the perceived ingroup and outgroup similarity ratings, and participants' identification level (as a continuous variable) were entered into a correlational analysis (see Table 3.x below).

One of the more interesting findings from this analysis is that the number of traits selected
by participants on the trait selection task was negatively correlated with the number of "either" categorizations made by participants on the group categorization task ($r = -.28, p < .01$) and positively correlated with the number of ingroup ($r = .22, p < .05$), and outgroup ($r = .19, p = .05$) categorizations made. Thus, the more traits that participants saw as being necessary in order to judge the likelihood of a person’s ingroup membership, the more they leaned towards making discrete (ingroup/outgroup) categorizations on the categorization task.

Looking specifically at the number of "either" categorizations that participants made, one observes significant negative correlations between the use of the "either" category and the perceived similarity of the ingroup ($r = -.22, p < .05$) and the perceived similarity of the outgroup, ($r = -.36, p < .01$). Thus, the more participants perceived the ingroup and outgroup as homogeneous, the less participants relied on the "either" category in judging possible ingroup and outgroup members. Similarly, the number of ingroup categorizations that participants made was significantly correlated with the perceived typicality (on stereotype-relevant and irrelevant traits) of ingroup and outgroup members and also the perceived similarity of ingroup and outgroup members (see Table 3.x). One interpretation of these correlations is that perceived ingroup and outgroup homogeneity makes it easier for individuals to judge that a person is an ingroup member. If one sees the ingroup and outgroup as being fairly heterogeneous then it may make more sense to say that an unknown person could be either an ingroup or outgroup member as opposed to judging the person as an ingroup member.
<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No. of Traits</td>
<td></td>
<td>.13</td>
<td>.14</td>
<td>.27*</td>
<td>.15</td>
<td>.20</td>
<td>.26*</td>
<td>.22*</td>
<td>.19*</td>
<td>.28**</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>2. Identification Level</td>
<td></td>
<td>.26**</td>
<td>.24*</td>
<td>.18</td>
<td>.21</td>
<td>.00</td>
<td>.13</td>
<td>.04</td>
<td>.04</td>
<td>.03</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>3. Ingroup Similarity (avg. all dimensions)</td>
<td></td>
<td>.65**</td>
<td>.33**</td>
<td>.06</td>
<td>.33**</td>
<td>.29**</td>
<td>.16</td>
<td>.22*</td>
<td>.19*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Outgroup Similarity (avg. all dimensions)</td>
<td></td>
<td>.19</td>
<td>.21</td>
<td>.16</td>
<td>.18</td>
<td>.42**</td>
<td>.14</td>
<td>.36**</td>
<td>.018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Ingroup Stereotypicality (Stereotype relevant)</td>
<td></td>
<td>.74**</td>
<td>.57**</td>
<td>.69**</td>
<td>.24*</td>
<td>.02</td>
<td>.13</td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Ingroup Stereotypicality (Stereotype irrelevant)</td>
<td></td>
<td>.45**</td>
<td>.89**</td>
<td>.20</td>
<td>.07</td>
<td>.07</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Outgroup Stereotypicality (Stereotype relevant)</td>
<td></td>
<td>.43**</td>
<td>.28**</td>
<td>.12</td>
<td>.15</td>
<td>.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Outgroup Stereotypicality (Stereotype irrelevant)</td>
<td></td>
<td>.19</td>
<td>.05</td>
<td>.06</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Number of Ingroup Categorizations</td>
<td></td>
<td>.77**</td>
<td>.26**</td>
<td>.25**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Number of Outgroup Categorizations</td>
<td></td>
<td>.32**</td>
<td>.36**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Number of &quot;Either&quot; Categorizations</td>
<td></td>
<td>.20*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Number of &quot;Neither&quot; Categorizations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.19: Correlation matrix from Study 2. * = p < .05; ** = p < .01

Discussion

Across the different dependent measures in Study 2, a pattern emerged which ran counter to the original predictions of this study. It was predicted that participants whose need for differentiation was aroused would respond by being more restrictive in their judgments of who belongs to the ingroup (as evidenced by more traits being selected on the trait selection task, more ingroup/outgroup categorizations on the categorization task, and greater perceived stereotypicality and similarity of the ingroup and the outgroup).
Indeed, this is the pattern that characterized the responses of need for differentiation participants, but interestingly this was also the pattern that characterized need for assimilation participants in this study. Instead of being more lenient in their judgments and perceiving the ingroup as more heterogeneous, need for assimilation participants did the opposite. Similar to need for differentiation participants, need for assimilation participants were more restrictive than control participants in their judgments and perceptions of ingroup and outgroup members.

The prediction that need for assimilation participants would be less restrictive in defining the ingroup and outgroup was based on the idea that participants' assimilation needs could be met by expanding the inclusiveness of the ingroup. One way for individuals to expand the inclusiveness of the ingroup is to be less restrictive in judging the type of person that belongs to the ingroup. Individuals can also change their perception of the homogeneity of the ingroup, i.e., see the group as more heterogeneous. While these methods would lead to a more inclusive ingroup, they would also break down the clarity of ingroup and outgroup boundaries. It appears, in the present study, that need for assimilation participants were not willing to break down the boundaries of the ingroup and outgroup in order to achieve greater group inclusiveness. In fact, need for assimilation participants reinforced the boundaries between the ingroup and outgroup by selecting more traits than control participants as being necessary for an individual to be considered an Arts and Humanities student, and by perceiving Arts and Humanities students and Natural Sciences students as being more stereotypical and homogeneous.
In past research (Brewer & Pickett, 1999; Pickett & Brewer, 1999), participants responded to a heightened need for assimilation by exhibiting greater self-stereotyping—i.e., perceiving themselves as being stereotypical group members. If this is a method of satisfying one's need for assimilation, it makes sense that individuals may not be willing to sacrifice the boundaries and meaning of a group in order to increase the group's level of inclusiveness. If a group loses its meaningfulness and definition, it then becomes less effective in satisfying a person's need for assimilation through means such as self-stereotyping. It may be more difficult to feel like a secure, typical group member when the definition of what it means to be a group member has been undermined.

Considering the specific feedback that participants in the need for assimilation condition received, one can look at the situation of those participants as being one where they felt as if they were marginalized and on the fringes of their ingroup, Arts and Humanities students. And the greater inclusiveness that these participants sought was inclusion within the group of Arts and Humanities students. In order to achieve this inclusion, part of what appeared to be involved was reinforcement of the boundaries and homogeneity of the ingroup. The results of Study 2 suggest that the earlier predictions regarding the influence of assimilation and differentiation needs on judgments and perceptions of ingroup and outgroup members warrant revision. Both assimilation and differentiation needs may produce greater stringency in defining what it means to belong to the ingroup and also greater perceived group stereotypicality and homogeneity.

The above line of reasoning is similar to the argument put forth by Branscombe, Ellemers, Spears, and Doosje (1999) regarding the predicted response of individuals who
feel threatened by the fact that they might not be “good” or “typical” group members. Branscombe et al. (1999) state that, “if the ingroup is of sufficient importance to the individuals who are threatened by being non-prototypical, they might even display a willingness to evaluate more positively someone who is prototypical of the group compared to someone who is personally similar to them (i.e., is also not prototypical of the group) (p. 68).” Thus, feeling threatened by one’s marginal standing in a group can lead individuals to want to protect the value of the group. It could be the case that individuals exhibit this response as a way of gaining favor/acceptance from other group members, or as is argued here, individuals exhibit this response as a way of seeking assimilation within the group by means such as self-stereotyping.
CHAPTER 4

STUDY 3: INFORMATION-GATHERING STRATEGIES AS A FUNCTION OF ASSIMILATION AND DIFFERENTIATION NEEDS

The first two studies of this proposal were designed to examine whether assimilation and differentiation needs affect people’s thresholds for judging targets as ingroup and outgroup members. However, the literature on information-gathering strategies (e.g., Snyder & Swan, 1978; Trope & Bassok, 1982) suggests that assimilation and differentiation needs may also affect how individuals gather information when making judgments regarding ingroup and outgroup membership. Research by Snyder and Swan (1978) indicates that one strategy that people use in making judgments is to ask questions that will confirm their hypotheses. Another strategy (called the diagnostic strategy; Trope & Bassok, 1982) is to ask questions that can clearly distinguish between the hypothesis and its alternative (e.g., a question that would distinguish between a person who possesses a trait and someone who does not). These two strategies may operate orthogonally so that it is possible to ask confirmatory or disconfirmatory questions which are either diagnostic or non-diagnostic.
For example, if a sorority member were trying to decide whether an unknown person is a fellow sorority member, the sorority member may ask, "Does this person like to talk occasionally" which is a low-diagnostic/confirmatory question. A "yes" response to this question would confirm that the individual is talkative (a trait of sorority members), but is low-diagnostic in the sense that almost everyone likes to talk occasionally and so a "yes" answer is not very helpful in terms of distinguishing between sorority and non-sorority members. An example of a high-diagnostic/confirmatory question might be "Does this person enjoy talking almost all the time?". A "yes" response to this question would again confirm that the target person is talkative, but would also be highly diagnostic if one believes that only certain people, like sorority members, enjoy talking all the time. What was of interest in the present study were the questions that individuals chose to ask (i.e., confirmatory or disconfirmatory, diagnostic or non-diagnostic) when determining the group membership of unknown targets.

Although this study was largely exploratory and, hence, the predictions were somewhat tentative, the general prediction for this study was that the arousal of the need for assimilation would lead to a preference for confirming questions while the need for differentiation will lead to a preference for disconfirming questions when judging potential ingroup targets. This prediction was based on the belief that individuals will engage in a general hypothesis-confirming strategy (Snyder & Swann, 1978) in determining a target's group membership. If participants adopt the hypothesis that an individual is an ingroup member then questions that would confirm that the individual possesses ingroup stereotype traits would support the hypothesis under investigation. By contrast, if one's
hypothesis is that the target person is not an ingroup member then a question that would disconfirm that the individual possesses ingroup stereotype traits would support that hypothesis. Thus, the type of question that participants chose to ask was presumed to be an indicator of whether participants were biased towards including or excluding people from the ingroup (i.e., hypothesizing a priori that the individual is or is not an ingroup member).

Qualifying the above predictions, however, was the diagnosticity level of the question. Although a highly diagnostic question (e.g., “Does this person like to talk all the time?”) would more clearly distinguish between talkative and non-talkative individuals, on average it is less likely that any one person would be able to answer affirmatively to this question. So, if one were interested in asking a confirmatory question regarding level of talkativeness in order to confirm one’s hypothesis that a target is indeed a sorority member, asking a highly diagnostic confirmatory question would not likely yield a response that would confirm the hypothesis (i.e., a “yes” answer). Thus, it was predicted that when the need for assimilation was aroused participants would be most likely to ask confirming-low diagnostic questions—questions that would easily confirm that the target is an ingroup member. By contrast, it was predicted that when the need for differentiation was aroused participants would prefer to ask disconfirming-low diagnostic questions—questions that could easily disconfirm that the target is an ingroup member. By this same logic, it was also predicted that need for assimilation participants would prefer to ask more high diagnostic-disconfirming questions than need for differentiation participants because a “yes” response to this question (which would disconfirm the person’s ingroup
membership) would not likely be obtained, and thus high diagnostic-disconfirming questions would presumably be "safe" for need for assimilation participants to ask. Finally, it was predicted that need for differentiation participants would show a preference over need for assimilation participants for high diagnostic-confirming questions. Because a "no" response is more likely to be obtained by this question than a "yes" response, need for assimilation participants were predicted to avoid this type of question (i.e., a question that would likely lead to the exclusion of potential ingroup members).

It should be noted here that need for differentiation participants were predicted to adopt the hypothesis that the target is not an ingroup member and ask questions in line with this hypothesis (i.e., low-diagnostic/disconfirming, high-diagnostic/confirming) not simply because they were interested in excluding individuals from the ingroup. Rather, need for differentiation participants were predicted to want to judge correctly who is part of the ingroup, and one way to go about this is to be suspicious and operate under the hypothesis that a target is not a group member until proven so, as opposed to the hypothesis that the target is a group member until proven otherwise (the predicted need for assimilation response).

The goal of this study was to look at how assimilation and differentiation needs affect individuals' information gathering strategies and their thresholds for deciding when they have received enough information to make a confident decision regarding whether a target is an ingroup or outgroup member. The procedure for this study was similar to that of Studies 1 and 2 in terms of the manipulation of assimilation and differentiation needs.
The participants in this study were all OSU undergraduates who had been pretested as being highly identified with the group “OSU students.”

Method

Participants

A total of 68 male and female introductory psychology students were recruited to participate in this study. In a mass pretesting session at the beginning of the quarter introductory psychology students completed a group identification questionnaire designed to measure their level of identification with the group “OSU students”. Those participants that scored above the median of the introductory psychology sample on the group identification questionnaire were eligible to participate in the study. Eligible participants were solicited by telephone and asked to take part in the study. Those participants who agreed to take part in the study were given partial course credit in return for their participation.

Procedure

Participants were run in groups of up to 8 people and were told that goal of the study is to survey OSU students in order to gather information on their opinions and beliefs about themselves and the group OSU students as a whole. As in the two previous studies, participants were told they would be filling out some questionnaires during the first half of the session and that during the second half of the session they would engage in a discussion with the other students in the session. The first questionnaire that participants completed was the SAQ. Participants were instructed to return the SAQ to the experimenter when they were finished so that the experimenter could score their responses.
for the later discussion. While the experimenter pretended to enter participants' responses on the SAQ, participants were asked to complete a OSU identification questionnaire. This was the same questionnaire that participants completed during the mass pretesting session. Participants completed the identification measure again in order to ensure that their level of identification with the group “OSU students” had not gone down since the pretesting session.

After entering participants’ responses, the experimenter prepared bogus SAQ feedback forms (which constituted the experimental manipulations) and distributed the forms to participants. After allowing participants ample time to review the feedback, the experimenter collected the feedback forms and informed participants they would be moving on to their first task. This first task was a categorization task where participants were asked to judge whether an unknown person is an OSU student or not based on trait information that they were given. (This task is described in more detail below.) After the categorization task, participants were asked to complete a question selection task which was designed to explore the types of questions that participants choose to ask in order to judge a unknown person's ingroup membership. The last questionnaires that participants completed were the PANAS, a categorization satisfaction measure, and a manipulation check questionnaire. After completing the questionnaires, participants were told that the group discussion would not take place and were debriefed, thanked, and dismissed.
**Need State Manipulations**

The need state manipulations used in this study were very similar to those used in Studies 1 and 2. However, in this study the ingroup that participants belonged to was "Ohio State students" and the outgroup as indicated on participants’ SAQ feedback forms was always "Other US College Students".

**Need for assimilation condition.** For participants assigned to the need for assimilation condition, the following information appeared at the top of their SAQ feedback form:

Your Score: ________ [48]

Breakdown of scores:

Students at OSU typically score around 60 on the self-attributes questionnaire. The range for OSU students is generally between 53 and 66.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 62 while the average for other US college students is 34. The range for other US college students is generally between 30 and 43.

OSU Student Average: 62
US College Student Average: 34

**Need for differentiation condition.** For participants assigned to the need for differentiation condition, the following information appeared at the top of their SAQ feedback form:
Breakdown of scores:

Students at OSU typically score around 60 on the self-attributes questionnaire. The range for OSU students is generally between 53 and 66.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 62 while the average for other US college students is 58. The range for other US college students is generally between 51 and 64.

OSU Student Average: 62
US College Student Average: 58

Control condition. The control condition was designed to balance the differences between the need for differentiation and need for assimilation conditions. The information that participants in the control condition received was as follows:

Breakdown of scores:

Students at OSU typically score around 60 on the self-attributes questionnaire. The range for OSU students is generally between 53 and 66.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 62 while the average for other US college students is 34. The range for other US college students is generally between 30 and 43.
OSU Student Average: 62  
US College Student Average: 34

Table 4.1 below provides a summary of the need state conditions and Appendix E contains the full experimental manipulations.

<table>
<thead>
<tr>
<th>Need for Assimilation</th>
<th>Control</th>
<th>Need for Differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant's score indicates that he or she is different from other OSU students.</td>
<td>Participant's score indicates that he or she is similar to other OSU students.</td>
<td>Participant's score indicates that he or she is similar to other OSU students.</td>
</tr>
<tr>
<td>OSU student distribution is described as being characteristic of OSU students and <em>not</em> of other US college students.</td>
<td>OSU student distribution is described as being characteristic of OSU students and <em>not</em> of other US college students.</td>
<td>OSU student distribution is described as being characteristic of OSU students <em>and</em> of other US college students.</td>
</tr>
</tbody>
</table>

Table 4.1 Experimental manipulations for Study 3

*Counterbalancing.* As in Studies 1 and 2, the position of the ingroup relative to the outgroup was counterbalanced across the SAQ feedback forms. Half of the participants in the study saw the scores of OSU students distributed higher than the scores of other US college students. The other half of participants saw the opposite: OSU scores were distributed lower than the score of other US college students. Thus, there were 6 combinations of feedback presented on the SAQ feedback form: 3 (need state: need for
assimilation, need for differentiation, control) X 2 (position: ingroup higher vs. ingroup lower).

**Dependent Measures**

*Categorization task.* The first task that participants completed after reading their SAQ feedback form was a categorization task. In this task participants were given a set of 10 notecards each of which contained a single trait adjective (e.g., “social”). Participants were told that their job was to decide whether an unknown person is an OSU student or not based on the information that they read on the notecards. Participants were told that there were 10 notecards in the stack but that they may not need to read all 10 cards in order to reach a decision regarding whether the person described by the cards is an OSU student. The specific verbal instructions given to participants was as follows:

In this task, your job is to decide whether an unknown person is an OSU student or not based on the information on the cards I just handed out. What you need to do is look at the first card and then ask yourself the following question: “Do I feel like I have enough information to decide whether the person described by the card is an OSU student or not?” If your answer to this question is “yes” then please fill out the form before you. If your answer to that question is “no” then go on to the next card and then ask yourself after that card whether you feel as if you have enough information to make a decision. And then repeat this procedure until you have made a decision or until you have read all of the cards.

Although I have given you 10 cards, you may not need to read all 10 cards in order to make your decision. Some people need all 10 and some people need only 1 and some people are somewhere in between. What you need to make sure to do is go through the cards slowly, and think after each card whether you have enough information to make a decision. What you should not do is just quickly flip through all the cards. If you understand these instructions, you may begin.
Participants were given a form to complete after they have made their decision. On this form participants had to indicate their categorization decision (i.e., whether they believe the person is an OSU student or not), the card number at which they stopped, and their confidence level in their decision (on a 7-point scale). Two types of card sets were developed for this task—a stereotype set and a counter-stereotype set. Approximately half of the participants received a set of cards that contained traits that were all stereotypical traits of OSU students (e.g., social, rowdy), and the other half of participants received a set of cards that contained all counter-stereotypical traits (e.g., anti-social, quiet).\(^{13}\) (See Table 4.2 below for the traits used in each card set.) For each card set (stereotypical and counter-stereotypical), 5 random card orders were constructed. This was done in order to randomize the order in which participants saw the traits in the set. Each participant saw a single random ordering of either a stereotypical or counter-stereotypical card set. It was expected that the stereotypical card set would lead participants to judge the person as an ingroup member and that the counter-stereotypical card set would lead participants to judge the person as not being an OSU student. What was of interest on this dependent measure was whether the number of cards that participants read before making a decision would differ depending on participants’ need state and the card type that participants received.

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\(^{13}\) Earlier research (Pickett, 1996) established the traits that are considered to be stereotypical of OSU students. Pickett (1996) had a group of OSU students select traits that they believed described the “typical OSU student”. The traits that were selected most often were selected as the OSU stereotypical traits. The counter-stereotypical traits were developed by taking the antonym of the OSU stereotypical traits.
<table>
<thead>
<tr>
<th>OSU Stereotypical Trait Set</th>
<th>OSU Counter-Stereotypical Trait Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>social</td>
<td>anti-social</td>
</tr>
<tr>
<td>rowdy</td>
<td>inhibited</td>
</tr>
<tr>
<td>loud</td>
<td>quiet</td>
</tr>
<tr>
<td>active</td>
<td>inactive</td>
</tr>
<tr>
<td>outgoing</td>
<td>shy</td>
</tr>
<tr>
<td>fun-loving</td>
<td>solemn</td>
</tr>
<tr>
<td>confident</td>
<td>uncertain</td>
</tr>
<tr>
<td>friendly</td>
<td>unfriendly</td>
</tr>
<tr>
<td>happy</td>
<td>unhappy</td>
</tr>
<tr>
<td>proud</td>
<td>modest</td>
</tr>
</tbody>
</table>

Table 4.2: Traits used in categorization task.

**Question selection task.** In the question selection task, participants were presented with a list of 40 yes/no questions and were asked to select questions that they would use to determine whether an unknown person is an OSU student or not. An example of a question is “Does this person often celebrate in the streets with friends after a big game?” The 40 questions in the task were constructed around 5 different trait dimensions—social, rowdy, fun-loving/partier, proud, and honest. The first 4 dimensions were related to the stereotype of OSU students, and the 5th dimension (honesty) was stereotype-irrelevant. Within each of these trait dimensions, there were 4 different question types and 2 instances of each question type for a total of 8 questions within each of the 5 dimensions. The
question types were: (1) high diagnostic/confirming, (2) high diagnostic/disconfirming, 
(3) low diagnostic/confirming, (4) low diagnostic/disconfirming (see Appendix E for the 
list of questions used).

The term “high diagnostic” refers to whether an answer to the question would help 
one determine whether a person is an OSU student or not. A question was considered to 
be high in diagnosticity if it was a question that more OSU students would answer “yes” 
or “no” to compared to other US college students. A question was low in diagnosticity if 
it was a question to which similar percentages of OSU and other US college students 
would respond “yes” or “no”. For example, because OSU students are generally 
considered to be very social, then one would expect more OSU students to answer “yes” 
to the question, “Do you go out to parties almost every Saturday night?” than other US 
college students. A question was considered to be confirming if a “yes” answer would 
lead one to categorize a person as an OSU student and disconfirming if a “yes” answer 
would lead one to categorize a person as not being an OSU student.

Participants saw 5 separate pages of questions. On each page were all the 
questions related to a single trait dimension, resulting in 8 questions listed per page. So, 
all the rowdy-related questions were on the same page, and all the honesty-related 
questions were on the same page, etc. Participants were instructed to select two questions 
from each page that they would use to determine if an unknown person is an OSU student 
or not. The specific instructions were as follows:

Please place an X next to the two questions that you would choose to ask 
in order to determine whether an unknown person is an OSU student or 
ot. Remember: you must choose two questions and you may not choose 
more than two.
At the end of the task, participants should have selected 10 questions altogether.

**Mood scale.** Participants were asked to complete a version of Watson et al.'s (1988) positive and negative affect scale (PANAS). This scale was identical to the ones used in Studies 1 and 2 (see Appendix E).

**Satisfaction items.** A set of items were included in the questionnaire in order to see whether the manipulations had their intended effects. These items were similar to the items used in Study 1 but with the wording changed to reflect the different groups used in the present study. (See Appendix E.) In addition, the question “I am satisfied with my score on the self-attributes questionnaire” was replaced with “I wish OSU students’ and US college students’ scores on the SAQ were more different.” It was predicted that need for differentiation participants would agree more strongly with this statement compared to control and need for assimilation participants.

**Manipulation check items.** To determine whether participants paid attention to the feedback that they received on the self-attributes questionnaire, participants were asked a series of questions regarding their score on the SAQ and the range of scores for OSU and other US college students. Participants were also asked questions regarding the purpose of the study in order to detect any suspicion regarding the feedback received.

**Results**

**Group identification.** In the original pretesting session, the median group identification score for the introductory psychology student sample was 4.5 on a 6-point scale. Participants selected for the present study all had pretest OSU identification scores
above 4.5. Participants completed the OSU identification scale a second time at the beginning of the experimental session. On the retest, most participants again scored above 4.5. However, a small number of participants scored in the 4.18-4.5 range (N=7). Only one participant showed a significant drop in identification level with a score of 3.44. This participant was deleted from all analyses.

Manipulation check items. Analysis of the manipulation check items revealed that participants in the need for assimilation condition felt that they were less similar to other OSU students (M = 3.95) compared to participants in both the control (M = 6.19) and need for differentiation conditions (M = 6.05), F (2, 57) = 24.41, p < .0001. In addition, participants in the need for differentiation condition perceived OSU students as being more similar to other US college students (M = 5.04) than did need for assimilation (M = 3.43) and control (M = 3.15) participants, F (2, 58) = 9.46, p < .001.

On the manipulation check questionnaire, participants were asked to recall their own score on the self-attributes questionnaire. Most participants (98.4%) were able to recall their score within 3 points of the correct score. Participants were also asked to recall the average score for OSU students and the average score for other US College students on the SAQ. Overall, 96.8% of participants were able to recall the average student score for OSU students within 3 points of the correct score and 87.1% of participants were able to recall the average US college student score within 3 points of the correct score. Finally, 87.1% of participants correctly answered the question, “How did your score on the SAQ compare to the average score of other OSU students?” and 85.5% of participants correctly answered the question “How did the average score of OSU
students on the SAQ compare to the score of other US college students?”. These results suggest that participants generally paid attention to and encoded the information provided to them on their SAQ feedback form.

**Satisfaction items.** The five satisfaction questions were designed to assess participants’ reactions to the information that they received about themselves and OSU students as a group on the SAQ feedback form. The two items that asked about participants’ personal scores on the SAQ—“I feel good about my score on the SAQ” and “I feel bad about my score on the SAQ”—were averaged together to form a single index (Cronbach’s alpha = .91) after reverse scoring of the negative item. This index was subjected to a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) ANOVA. Results of this ANOVA revealed a significant main effect of need state, F (2, 57) = 6.09, p < .01, indicating that need for assimilation participants felt significantly worse about their personal performance on the SAQ (M = 4.70) than did need for differentiation participants (M = 6.06). There was, however, no difference between the need for assimilation condition and control condition (M = 5.26) on this measure. There were also no effects of position on this index.

Two other satisfaction items dealt with how participants felt about how OSU students as a group performed on the SAQ. Participants were asked to respond to the following statements, “I feel good about how OSU students scored on the SAQ” and “I feel bad about how OSU students scored on the SAQ”. The second item was reverse-scored and the two items were averaged into single index (Cronbach’s alpha = .93). This index was then submitted to a 3 (need state: need for assimilation, need for
differentiation, and control) X 2 (group position: higher vs. lower) ANOVA. Results of this analysis revealed significant main effects of need state, $F(2, 57) = 4.69, p < .05,$ and ingroup position, $F(1, 57) = 20.68, p < .001.$ Need for differentiation participants felt significantly better about how the ingroup scored on the SAQ ($M = 5.76$) compared to control ($M = 5.08$) and need for assimilation ($M = 4.87$) participants. In addition, the position of the ingroup in relation to the outgroup had a significant effect on how participants felt about the ingroup’s performance on the SAQ. Participants felt better about the ingroup’s performance when the ingroup position was higher than the outgroup ($M = 5.80$), than when the ingroup position was lower ($M = 4.67$).

Finally, a significant need state X position interaction, $F(2, 57) = 8.30, p < .001,$ showed that need for assimilation and control participants varied in how good they felt about the ingroup’s score on the SAQ depending on the position of the ingroup. Need for differentiation participants tended to feel good about the ingroup’s performance regardless of the ingroup’s position (see Table 4.3 below). This is what one would expect given that in the need for differentiation condition, there was considerable overlap between the ingroup and outgroup distributions, and thus the difference in the relative positions of the ingroup and outgroup was actually quite small.

The final satisfaction item (“I wish OSU students’ and US college students’ scores on the SAQ were more different”) was analyzed in a separate 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) ANOVA. Results of this ANOVA revealed no significant main effects or interactions.

Overall, the five satisfaction items suggest that participants were generally sensitive to the
information that they received regarding their score and the score of other honors students on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>Need State</th>
<th>Ingroup Higher</th>
<th>Ingroup Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>6.05</td>
<td>3.68</td>
</tr>
<tr>
<td>Control</td>
<td>5.65</td>
<td>4.50</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>5.70</td>
<td>5.82</td>
</tr>
</tbody>
</table>

Table 4.3: Satisfaction with OSU student score on SAQ by need state and ingroup position.

**Mood scale.** As in Studies 1 and 2, the 28 mood items from the PANAS were categorized into one of four dimensions—positive, high arousal (e.g., excited), negative, high arousal (e.g., nervous), positive, low arousal (e.g., content), and negative, low arousal (e.g., worried). The average for each of the four dimensions was calculated for each participant. The mood dimensions were then analyzed using a 3 (need state: need for assimilation, need for differentiation, and control) X 2 (group position: higher vs. lower) X 2 (mood valence: positive vs. negative) X 2 (arousal: high vs. low) ANOVA with repeated measures on the last two factors (valence and arousal).
Results of this analysis revealed a significant main effect of valence, $F(1, 57) = 154.94, p < .0001$ and a significant main effect of ingroup position, $F(1, 57) = 10.14, p < .01$. The valence main effect indicated that participants reported being in a more positive ($M = 5.88$) than negative ($M = 1.65$) mood. The position main effect described above was qualified by a position X valence interaction, $F(1, 57) = 4.89, p < .05$ (see Table 4.4 below). This interaction indicated that participants felt less positive when the ingroup was positioned below the outgroup, but that participants felt equally negative regardless of ingroup position. There was also a valence X arousal interaction, $F(1, 57) = 44.16, p < .0001$, showing that the positive-low arousal emotions were felt most strongly ($M = 6.19$), followed by the positive-high arousal ($M = 5.58$), negative-high arousal ($M = 2.04$), and negative-low arousal emotions ($M = 1.26$).
<table>
<thead>
<tr>
<th>Ingroup Position</th>
<th>Positive High Arousal</th>
<th>Positive Low Arousal</th>
<th>Negative High Arousal</th>
<th>Negative Low Arousal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingroup Higher</td>
<td>6.51</td>
<td>6.91</td>
<td>2.14</td>
<td>1.22</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td>4.73</td>
<td>5.54</td>
<td>1.95</td>
<td>1.29</td>
</tr>
</tbody>
</table>

Table 4.4: PANAS results by affect/arousal dimension and ingroup position.

**Categorization task.** The number of cards that participants looked at in order to judge the target’s group membership was submitted to a 3 (need state: need for differentiation, need for assimilation, and control) X 2 (position: ingroup higher vs. ingroup lower) X 2 (card set: stereotypic vs. counter-stereotypic) ANOVA. This ANOVA revealed a significant main effect of card set, F (1, 44) = 4.39, p < .05, which showed that participants looked at more cards when the card set contained stereotypical traits (M = 6.36) than when the card set contained counter-stereotypical traits (M = 4.96). This finding is in line with Yzerbyt and Leyens (1991) research where their participants requested more traits when the traits confirmed rather than disconfirmed their hypotheses. In this study, the hypothesis being tested is “This person is an OSU student”, and it was expected that participants would need more confirmatory evidence in order to accept this
hypothesis and less disconfirmatory evidence to reject the hypothesis. The significant card set main effect indicates that this was indeed the case for participants in this study.

In addition to the card set main effect, there were two significant two-way interactions: a card set X position interaction, \( F(1, 44) = 3.97, p = .05 \), and a need state X position interaction, \( F(2, 44) = 5.28, p < .01 \). Qualifying these two interactions was a three-way need state X position X card set interaction, \( F(2, 44) = 4.04, p < .05 \) (see Table 4.5 below). This three-way interaction showed that need for differentiation participants looked at more traits when the ingroup was positioned lower than the outgroup and that this was the case regardless of whether the card set contained stereotypical or counter-stereotypical traits. By contrast, control participants differed in the number of traits that they looked at depending on the card set they received and the position of the ingroup. Need for assimilation participants who had the stereotypical card set looked at more traits than participants who had the counter-stereotypical card set, but these numbers were relatively unaffected by the position of the ingroup.
### Table 4.5: Number of traits examined by need state, ingroup position, and card set.

The confidence level with which participants made their categorization judgments was analyzed using a 3 (need state: need for differentiation, need for assimilation, and control) X 2 (position: ingroup higher vs. ingroup lower) X 2 (card set: stereotypic vs. counter-stereotypic) ANOVA. There were no significant main effects or interactions on this confidence measure, and overall, participants were only moderately confident in their confidence.
categorization decisions ($M = 5.18$ on a 7-point scale). A correlation was computed between participants' reported confidence level and the number of traits that participants examined. There was a significant negative correlation between confidence level and number of traits looked at ($r = -.30, p = .01$) indicating that the less confident participants felt in their categorization decision the more traits participants examined. Finally, participants who decided that the target person was an OSU student were as confident in their decision as those participants who decided that the target was not an OSU student, $F < 1$. Thus, the particular decisions that participants arrived at were not associated with differences in confidence level.

Question selection task. The questions that participants selected on the question selection task were submitted to a 3 (need state: need for differentiation, need for assimilation, and control) $\times$ 2 (position: ingroup higher vs. ingroup lower) $\times$ 2 (question diagnosticity: high diagnostic vs. low diagnostic) $\times$ 2 (confirmatory status: confirming vs. disconfirming) ANOVA with repeated measures on the last two factors. This first analysis looked only at the questions related to the 4 stereotype-relevant dimensions—i.e., social, rowdy, partier, and proud. Results of this first ANOVA revealed a significant main effect of diagnosticity, $F (1, 61) = 7.30, p < .01$, such that participants tended to ask more high diagnostic ($M = 2.11$) than low diagnostic questions ($M = 1.75$), and a main effect of confirmatory status, $F (1, 61) = 58.15, p < .0001$. Participants tended to select more confirming ($M = 2.82$) than disconfirming ($M = 1.04$) questions. These two main effects were qualified by a diagnosticity $\times$ confirmatory status interaction, $F (1, 61) = 17.73, p < .0001$, showing that high diagnostic-confirming questions were most likely to be selected.
by participants ($M = 3.25$), followed by low diagnostic-confirming questions ($M = 2.39$), low diagnostic-disconfirming questions ($M = 1.12$), and high diagnostic-disconfirming questions ($M = 0.97$). There were no main effects or interactions of need state or position in this analysis.

The questions that participants selected on the stereotype-irrelevant dimension of honesty were analyzed using a 3 (need state: need for differentiation, need for assimilation, and control) X 2 (position: ingroup higher vs. ingroup lower) X 2 (question diagnosticity: high diagnostic vs. low diagnostic) X 2 (confirmatory status: confirming vs. disconfirming) ANOVA with repeated measures on the last two factors. For this dimension, the typical diagnosticity X confirmatory status effect was qualified by interactions with need state and ingroup position (need state X diagnosticity X confirmatory status interaction, $F (2, 61) = 3.87, p < .05$; and position X diagnosticity X confirmatory status interaction, $F (1, 61) = 4.56, p < .05$). The first interaction showed that both need for assimilation and need for differentiation participants selected more high diagnostic-confirming questions than control participants (see Table 4.6 below).
Table 4.6: Question types selected on Honesty dimension by need state condition.

<table>
<thead>
<tr>
<th>Need State</th>
<th>High Diagnostic Confirming</th>
<th>High Diagnostic Disconfirming</th>
<th>Low Diagnostic Confirming</th>
<th>Low Diagnostic Disconfirming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>.63</td>
<td>.28</td>
<td>.29</td>
<td>.53</td>
</tr>
<tr>
<td>Control</td>
<td>.45</td>
<td>.59</td>
<td>.55</td>
<td>.32</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>.65</td>
<td>.44</td>
<td>.22</td>
<td>.35</td>
</tr>
</tbody>
</table>

The position X diagnosticity X confirmatory status interaction (see Table 4.7 below) indicated that when the ingroup was positioned lower than the outgroup, participants tended to ask more high diagnostic-confirming questions and low-diagnostic disconfirming questions, and fewer high diagnostic-disconfirming question and low-diagnostic confirming questions. This pattern suggests that on the dimension of honesty, seeing the ingroup positioned lower than the outgroup on the SAQ resulted in an exclusionary reaction. High-diagnostic confirming questions and low-diagnostic disconfirming questions are the ones that would lead to the most ingroup exclusion because it is relatively difficult for one to answer affirmatively to a high-diagnostic confirming question and relatively easy to answer affirmatively to a low-diagnostic
disconfirming question. Thus, asking these two types of questions should result on average in more ingroup exclusion.

<table>
<thead>
<tr>
<th>Question Type</th>
<th>Ingroup Position</th>
<th>High Diagnostic Confirming</th>
<th>High Diagnostic Disconfirming</th>
<th>Low Diagnostic Confirming</th>
<th>Low Diagnostic Disconfirming</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ingroup Higher</td>
<td>0.53</td>
<td>0.53</td>
<td>0.44</td>
<td>0.31</td>
</tr>
<tr>
<td></td>
<td>Ingroup Lower</td>
<td>0.62</td>
<td>0.35</td>
<td>0.27</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Table 4.7: Question types selected on Honesty dimension by ingroup position.

**Discussion**

The present study departed from the first two studies in this dissertation by exploring whether participants sought more or different types of information when judging a person’s ingroup membership as a function of assimilation and differentiation needs. In general, the results of this study failed to support the notion that the needs for assimilation and differentiation influenced the number of traits that participants requested or the questions that participants asked in order to judge whether an unknown person is an ingroup member. The general lack of results on the measures used in this study may be accounted for by the nature of these particular tasks. In the categorization task participants appeared to be concerned with making a confident decision and thus looked at
more cards when they felt a lack of confidence in their ability to make a decision about the
target's group membership. And, in the question selection task, the predominant strategy
was to select high-diagnostic confirming questions as is usually the case in hypothesis-
testing tasks.

The results of this study suggest that the needs for assimilation and differentiation
may not have discernible effects on all types of dependent variables. The goal of this third
study was to explore whether participants' hypothesized motivation to be more restrictive
in judging the potential membership of ingroup targets would be evidenced in how they
gather information for judging group membership. The lack of results on the measures in
Study 3 may reflect the fact that information-gathering strategies are simply not
susceptible to motivational influences such as the needs for assimilation or differentiation,
or it could be that the particular group used in Study 3 was too well-defined to make the
categorization and question-selection tasks seem meaningful. In this study, participants
were trying to judge whether an individual is an OSU student or not. In real social
interactions, if a person wanted to know the answer to this question he or she would
simply ask the direct question, "Are you an OSU student?". Thus, asking questions about
stereotype-relevant traits in order to determine ingroup membership may not have seemed
to participants to be a very good or logical way of determining ingroup membership.
Thus, participants may have been uninvolved in the task and consequently chose to
respond using default strategies—i.e., selecting traits until confident and asking mostly
diagnostic-confirming questions.
It is possible that had a group been used (e.g., feminists or liberals) where group membership is not so objectively determined, participants would have responded to the task in a manner closer to predictions. If one wanted to know whether a person is a feminist one might be more likely to ask questions about traits the person possesses because a declaration that one is a feminist may not have a clear meaning and may not coincide with one's own definition of what a feminist is. Thus, one may be more likely in real social interactions to ask about specific views and traits in order to classify a person into one's own category of feminists. Thus, it may be the case that the particular group used in Study 3 (OSU students) made it more difficult for the predicted effects to emerge. A future study with a less-objectively defined group may potentially yield result more in line with predictions.
CHAPTER 5

GENERAL DISCUSSION

According to optimal distinctiveness theory (Brewer, 1991), the needs for assimilation and differentiation constitute two fundamental human motivations. As fundamental motivations, the needs for assimilation and differentiation should direct cognitive processing, affect a broad variety of behaviors, and elicit goal-oriented behavior designed to satisfy the motivation (Baumeister & Leary, 1995). The present project has focussed specifically on this third component of motivation. Optimal distinctiveness theory states that the needs for assimilation and differentiation can be met through the social groups to which individuals belong. However, social groups differ in the degree to which they are able to satisfy these needs. Two factors that will determine the suitability of a group for the satisfaction of assimilation and differentiation needs are the inclusiveness of the group (i.e., how broad the group is), and the boundedness and distinctiveness of the group. According to ODT, when an individual’s need for differentiation is aroused, individuals may attempt to satisfy the need by seeking a less inclusive, more distinct group with which to identify or engaging in behavior that would restore the distinctiveness and optimality of the current group.
In the present studies an attempt has been made to examine the strategies that individuals use to satisfy their needs for assimilation and differentiation with respect to a specific ingroup membership. Two strategies, in particular, were examined: (1) stringency and leniency in the categorization of ingroup and outgroup members, and (2) perception of homogeneity and heterogeneity among ingroup and outgroup members.

The second route is the route that one would expect highly identified group members to choose, and is also the route that would lead to the use of the strategies described above.

By being more restrictive in categorizing others as ingroup and outgroup members, one can enhance and strengthen the boundaries between the ingroup and outgroup. If a person is lax in his or her criteria for categorizing others as part of the ingroup or outgroup, the likely result will be considerable overlap between the two groups. By contrast, greater restrictiveness would result in reduced overlap thus helping to satisfy the need for differentiation. The second strategy, perceiving more or less ingroup homogeneity, works in a similar fashion. One way to increase the difference between two groups is to see the members of each of the groups as being “all alike” on whatever dimensions define the groups. For example, if one believes that women are dependent and men are independent, then the extent to which one perceives men and women as being similar to other ingroup members on these dimensions will determine how different the groups appear to be.

What is interesting about this second strategy (perceiving more or less ingroup homogeneity) is that it seems on the surface to be an easier method of achieving intergroup distinctiveness compared to the first strategy (being more restrictive in one’s
criteria for group membership). Perceiving the ingroup as being more or less homogeneous does not require one to redefine what it means to be a group member and it does not change the boundaries of the group. Rather what this strategy does is change how individuals within the group are distributed within those bounds. A nice feature of this strategy is that one can enhance or reduce intergroup distinctiveness in one quick step by changing one’s perceptions of the homogeneity of the group. By contrast, the first strategy implies a process of encountering new potential ingroup members and excluding them from or including them within the ingroup based on whether they meet one’s new more restrictive criteria. In addition, a person would also have to go through the mental process of recategorizing current members based on the new criteria and getting rid of the members that do not meet the higher standards. Thus, although the two strategies may be used to achieve similar goals, there may be differences between the two in terms of the ease with which the strategy can be employed.

When the need for assimilation is aroused, the same two strategies (use of restrictive/lenient criteria, perceptions of homogeneity) may be used in service of this need. Generally, the need for assimilation is aroused under conditions where an individual is somehow excluded or marginalized from their ingroup. ODT states that what people want is to feel as if they are good, secure members of the groups to which they belong. When people feel excluded, their response is to seek greater inclusion. One way to seek greater inclusion is find others who share your marginalized position. One can do this by being more lax in one’s judgments of who belongs to the ingroup. For example, if one is an atypical engineer (i.e., non-analytical and bad with numbers) then one can alleviate
feeling different from other engineers by defining the group "engineers" as a group made up of lots of different people who do not need to conform to specific criteria for group membership (e.g., analytic ability). However, what one has simultaneously done in using this strategy is sacrificed the distinctiveness and boundedness of the group.

Research by Doosje, Ellemers, and Spears (1995) suggests that this type of strategy will likely only be used by those individuals who are not highly identified with the group. A highly identified engineer would not want to say that any old person can be an engineer. The highly identified engineer would want to preserve the distinctiveness of the group. Therefore, he may use other strategies (self-stereotyping, outgroup derogation) in order to gain a more secure position within the group. And, importantly, use of these other strategies may be more successful to the extent that the ingroup is distinctive, coherent, and bounded.

In summary, the needs for assimilation and differentiation may be met by changing one's criteria for group membership and one's perceptions of ingroup and outgroup homogeneity. However, the direction that individuals go with this (in terms of greater leniency or restrictiveness) will depend on identification level. Highly identified individuals will tend to be more restrictive in their categorization criteria and will tend to perceive greater homogeneity in response to both heightened assimilation and differentiation needs. Low identifiers, on the other hand, will either leave the group (when the need for differentiation is aroused) or will perceive the group as being more heterogeneous (when the need for assimilation is aroused). Low identifiers may also
become more lax in their criteria for deciding that other individuals are ingroup and outgroup members.

Evidence from Studies 1 and 2

The first two studies in this dissertation were designed to assess participants' strategic responses to heightened assimilation and differentiation needs. The questions to be addressed in this section are (1) how much evidence have the two studies provided regarding participants' use of the two strategies described above? and (2) how well do the data line up with the theoretical framework? The most compelling results to emerge from Study 1 were the data from the perceived similarity measure. On this measure, need for assimilation and need for differentiation participants (all OSU honors students) perceived greater ingroup homogeneity on the stereotype-relevant dimension of academic ability compared to control participants. By contrast, on the stereotype-irrelevant dimensions of personality and social life, need for assimilation participants perceived less ingroup homogeneity than control and need for differentiation participants.

The results from Study 1 provide initial evidence that heightened needs for assimilation and differentiation can lead to shifts in perceived ingroup homogeneity. On the stereotype-relevant dimension of academic ability, need for assimilation and need for differentiation participants showed the response that one would expect from highly identified group members—they perceived greater ingroup homogeneity than control participants. Interestingly, however, on the personality and social life dimensions—the dimensions less relevant to the definition of the ingroup—need for assimilation
participants perceived greater ingroup heterogeneity than control and need for differentiation participants.

It is important to keep in mind that highly identified need for assimilation participants have two goals, to maintain the definition of the ingroup and to see themselves as being less marginal. Need for assimilation participants in Study 1 appeared to have accomplished this by perceiving greater ingroup homogeneity on the stereotype-relevant dimension of academic ability and greater ingroup heterogeneity on the stereotype-irrelevant dimensions. On the stereotype-irrelevant dimensions, need for assimilation participants could “safely” use the strategy of perceiving greater ingroup heterogeneity because greater heterogeneity along these dimensions would not undermine the definition of the ingroup.

Similar to Study 1, Study 2 produced results in line with the prediction that arousing the need for assimilation and differentiation would result in the strategic use of shifting criteria for group membership and changes in perceived group homogeneity. In Study 2, the ingroup to which participants belongs was Arts and Humanities majors. One important difference between Arts and Humanities students and Honors students as ingroups is that membership in the group “Honors students” is almost entirely defined by one’s academic ability. By contrast, being an Arts and Humanities major is determined by a variety of personality characteristics and preferences of individual group members. Thus, the dimensions that differentiate the ingroup from other students are more varied for the group “Arts and Humanities majors” than the group “honors students”. Given this, it was not surprising to find that in Study 2, participants exhibited strategic responses on
both stereotype-relevant dimensions and stereotype-irrelevant dimensions. Although the
traits in the stereotype-irrelevant dimensions were not closely tied to the stereotype of the
ingroup, greater perceived homogeneity on the stereotype-irrelevant dimension would still
serve the purpose of differentiating and defining the ingroup especially since personality in
general is what tends to define Arts and Humanities students from other students.

The results from the trait selection task in Study 2 indicates that both need for
assimilation and need for differentiation participants tended to be more stringent in their
criteria for judging others as ingroup members. Need for assimilation and differentiation
participants selected more traits as being necessary for ingroup membership than control
participants. Study 2 also demonstrated that assimilation and differentiation needs may
influence both perceptions of ingroup homogeneity and perceptions of outgroup
homogeneity. Perceiving both the ingroup and the outgroup as homogeneous allows for
maximal differentiation of the ingroup from the outgroup and clarifies ingroup boundaries.

Finally, Study 3 was designed to take an exploratory look at other strategies that
individuals may use in response to heightened assimilation and differentiation needs. It
was hypothesized that perhaps one response to heightened assimilation and differentiation
needs would be a change in how one gathers information in order to render judgments of
group membership. There was little evidence, however, that participants' information-
gathering strategies were influenced by assimilation and differentiation needs.

Overall, the results from the studies presented here shed light on a previously
unexplored consequence of heightened assimilation and differentiation needs—i.e., greater
perceived ingroup homogeneity and stereotypicality and greater stringency in judging
group membership. Because the needs for assimilation and differentiation are constant forces in individuals' lives, it is important to understand the processes that are involved when individuals attempt to satisfy their assimilation and differentiation needs when aroused. The results described in this dissertation and in previous research (Pickett & Brewer, 1999) indicate that changes in group-perception as well as self-perception may ensue as a result of the arousal and satisfaction of assimilation and differentiation needs. And perhaps even more interesting than the changes themselves is the fact that individuals do not seem to recognize or be very aware of the changes. One area for future research is understanding the degree to which individuals are conscious of the implementation and consequences of different strategies for achieving assimilation and differentiation.

The Role of Group Status and Outgroup Type

In all three studies, the position of the ingroup relative to an outgroup was manipulated. For half the participants, the ingroup was shown to be positioned higher than the outgroup on the feedback form that participants received. For the other half of participants, the ingroup was positioned lower than the outgroup. In general, participants appeared to be threatened by the lower position of the ingroup relative to the outgroup. Participants consistently indicated that they were less satisfied with the ingroup's performance when the ingroup was positioned lower than the outgroup. In Study 2, participants responded to this threat to the standing of their group by changing their perceptions of ingroup and outgroup homogeneity.

The pattern of responses was partially in line with the findings of Doosje, Ellemers, & Spears (1995). In their studies, Doosje et al. (1995) found that low identifiers
responded to threatened group status (low status) by perceiving the ingroup to be less homogeneous. By contrast, high identifiers maintained their perception of ingroup homogeneity regardless of high or low ingroup status. In the research reported here, low identifiers in Study 2 responded to their lower ingroup position by perceiving the ingroup as being less homogeneous than did high identifiers. However, this effect was only found in the case where the outgroup specified on participants' feedback form was “other OSU students”. Participants responded very differently to the lower position of the ingroup when the outgroup was Natural Sciences students. It appears as if participants were unwilling to engage in the protective strategy of seeing the ingroup as more heterogeneous when the comparison target was the specific group “Natural Sciences students.”

One possible explanation for this result is a non-motivational explanation. The presence of the specific outgroup, Natural Sciences students, may have simply enhanced the perceived similarity of the ingroup because of the contrast between Arts and Humanities students and Natural Sciences students. As would be expected by self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), the contrasting stereotypes of Arts and Humanities students and Natural Sciences students may have made it more clear or salient to participants the many ways that Arts and Humanities students are similar to each other. Not only are Arts and Humanities students similar to each other in terms of the features and personality characteristics that they share, but they are also similar to each other in the features that they do not share with Natural Sciences students. For example, not only are Arts and Humanities students expressive, but they are also non-mathematical. Thus, the presence of the specific group “Natural Sciences

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students" on participants feedback forms may have made salient to participants additional dimensions of ingroup similarity which then resulted in an overall increase in perceived ingroup homogeneity.

Arguing against this explanation, however, is the fact that perceptions of ingroup similarity when the specific group "Natural Sciences students" was listed on participants' feedback form differed depending on the position of the ingroup relative to the outgroup. Perceived ingroup homogeneity was lower when the ingroup was positioned higher than the outgroup, and higher when the ingroup was positioned lower than the outgroup when "Natural Sciences students" was listed as the outgroup on participants' SAQ feedback form. This finding is surprising not only because it is the opposite of what was found when "other OSU students" was listed as the outgroup on participants' feedback forms, but also because there seems to be relatively little to be gained by participants in exhibiting this pattern of responses.

One tentative explanation for this effect is that the comparison with the group "Natural Sciences students" was simply not as involving or threatening to the ingroup as the comparison between the ingroup and other OSU students. Being positioned lower than Natural Sciences students may not have been perceived as threatening enough for participants to react by perceiving the ingroup as being less homogeneous. In fact, participants tended to perceive greater ingroup homogeneity under these conditions. At this point, it is not very clear why the type of outgroup had such an effect on participants' perceptions of ingroup homogeneity. However, this research does point to the importance
of considering what the specific comparison group is when making predictions regarding responses to threatened group status.

**Future Directions**

Briefly, there are two future directions of research that are related to the studies described in this dissertation. The first direction involves a very basic issue, namely, how do we know that a person's assimilation and differentiation needs have been met once they have used a particular strategy? For example, do self-stereotypers actually feel more assimilated after they have gone through the process of perceiving themselves as being more like the stereotypical group member? It is easy to infer that this is the case, but in order to be certain, attempts need to be made to measure the extent to which individuals feel and experience the needs for assimilation and differentiation.

Within this area, a second potential area for further research is the delineation of all the different processes involved in the satisfaction of assimilation and differentiation needs. At the highest level, ODT explains that individuals turn to their group memberships and social identities in order to ward off feelings of isolation and deindividuation. However, turning to one's group memberships can involve a variety of subprocesses (e.g., identifying with more exclusive group identities, derogating outgroup members, self-stereotyping, exhibiting ingroup bias). To date, there is not a clear understanding of what all the possible processes are, and there is also no clear framework for understanding when certain responses to heightened assimilation and differentiation needs will occur or when the others will be more likely. Although it is possible that individuals may show a multitude of responses at once, it seems likely that certain circumstances (e.g., intergroup
context, high identification) will trigger one set of responses and other circumstances will trigger others. Below is a preliminary framework (based on a framework by Branscombe et al., 1999) of the types of responses that individuals may exhibit as a way of satisfying their needs for assimilation and differentiation. In the table, the “response type” refers to either the behavioral or cognitive response exhibited by individuals in response to assimilation or differentiation needs. “Eliciting conditions” refers to the conditions under which particular responses are likely to occur.
<table>
<thead>
<tr>
<th>Need State</th>
<th>Response Type</th>
<th>Eliciting Conditions</th>
</tr>
</thead>
</table>
| **Need for Assimilation** | Self-stereotyping             | • high ingroup identification  
|                   |                               | • clear ingroup stereotype                               
|                   | Relaxation of group boundaries (resulting in psychological expansion of ingroup) | • low ingroup identification  
|                   | Self-presentation              | • high ingroup identification  
|                   |                               | • clear ingroup stereotype                               
|                   |                               | • well-defined ingroup                                    |
|                   | Identification with different group | • low ingroup identification  
|                   | Greater restrictiveness in criteria for group membership | • high ingroup identification  
|                   | Greater perceived ingroup and outgroup homogeneity | • high ingroup identification  
| **Need for Differentiation** | Greater perceived ingroup and outgroup homogeneity | • high ingroup identification  
|                   | Identification with different group | • low ingroup identification  
|                   | Greater restrictiveness in criteria for group membership | • high ingroup identification  
|                   | Ingroup bias                   | • high ingroup identification  
|                   |                               | • need for positive distinctiveness                       |
|                   | Self-presentation              | • high ingroup identification  
|                   | Self-stereotyping              | • high ingroup identification  
|                   |                               | • intergroup context                                      
|                   |                               | • clear ingroup stereotype                               |

Table 5.1. Possible mechanisms and responses for meeting assimilation and differentiation needs
In general, the above table highlights the idea that high and low identifiers should respond very differently to heightened assimilation and differentiation needs. High identifiers should act in ways that would restore the optimality of the ingroup while low identifiers are generally predicted to seek other social groups to identify with when their need for assimilation or differentiation has been activated. It is presumed that when another, more optimally-distinct group is available, low identifiers will simply switch over to that group membership as their salient identity. This is presumably the "path of least resistance" in terms of satisfying the heightened need, and because low identifiers are not greatly invested in the non-optimal identity, switching groups or identities should be a likely response. One way of investigating this would be to assess switches in identity by high and low identifiers after assimilation and differentiation needs have been activated.

Reaction time measures and group-listing procedures, such as the twenty statements test (Kuhn & McPartland, 1954), may be able to detect whether high and low identifiers self-categorize differently in response to the heightened assimilation and differentiation needs.

The research in this area is at the beginning stages of demonstrating the motivational properties of assimilation and differentiation needs and the consequences of the arousal of these needs. The findings that have been reported thus far (e.g., Brewer, Manzi, & Shaw, 1993; Brewer & Weber, 1994; Simon et al., 1997) suggest that individuals do engage in predictable responses and behaviors in response to heightened assimilation and differentiation needs, and that they engage in these behaviors in order to restore optimal identification. Future research will hopefully result in a more complete
understanding of the mechanisms through which optimality is restored and the conditions under which certain modes or responding or more likely to occur versus others.


Humphreys, L. G. (1978). Research on individual differences requires correlational analysis, not ANOVA. *Intelligence, 2*, 1-5.


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TRAIT PRETESTING QUESTIONNAIRE

Trait Checklist

Please take a moment to think of what a typical HONORS student at OSU is like.
We understand that it is sometimes difficult to think of what a “typical” person is like.
However, please try your best to consider what Honors students are generally like,
and then go through the following list of traits and select the traits that you
think to best describe HONORS students at OSU. You may check as many or as
few traits as you wish. You may also write in any traits that were not included on
the list on the blank lines at the end of the checklist.

- ___ strong
- ___ fit
- ___ protective
- ___ intelligent
- ___ social
- ___ preppy
- ___ rowdy
- ___ loud
- ___ light-hearted
- ___ analytical
- ___ smart
- ___ creative
- ___ opinionated
- ___ disciplined
- ___ rich
- ___ confident
- ___ old-fashioned
- ___ snobbish

- ___ outspoken
- ___ artistic
- ___ careless
- ___ immature
- ___ hard-working
- ___ friendly
- ___ close-minded
- ___ proud
- ___ loyal
- ___ heartless
- ___ determined
- ___ disrespectful
- ___ organized
- ___ stuck-up
- ___ conservative
- ___ happy
- ___ reliable
- ___ outgoing

- ___ dominant
- ___ popular
- ___ immature
- ___ graceful
- ___ hard-working
- ___ quiet
- ___ close-minded
- ___ expression
- ___ laid-back
- ___ heartless
- ___ logical
- ___ hard-working
- ___ stressed
- ___ intense
- ___ stressed
- ___ intense
- ___ conscientious
- ___ expressive
- ___ laid-back

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sheltered uncommitted mature
brainy coordinated submissive
sexist supercilious greedy
materialistic open-minded attractive
religious rigid well-spoken drinker
spoiled well-spoken follower
thoughtful shy
selfish pompous
confused mellow
healthy partier
active timid
nurturing successful
dependent lost
passive obnoxious
ambitious
funny helpful

Other

Other

Other

Other

Other

Other

Other

Other

Other
Introduction

[Call subjects into the lab, have them sit down, and collect their experiment cards]

Read the following:

Thank you for agreeing to participate in this study. As you know, we are in the process of studying various student groups on the OSU campus and this quarter we have decided to look at Honors Students. In past years, we have studied honors students and although we do have some data on this group, every year we like to collect more data on each group.

What you will be doing today is completing a series of questionnaires which will allow us to gather information about you guys. However, as mentioned on the sign-up sheet, what you will also be doing is engaging in a conversation with another honors student in this session. In the past we’ve found that recording these discussions tends to give us information that we can’t get from questionnaires. You will be filling out the questionnaires in this room, and when you’re ready for the discussion, you will be taken to the adjoining room where tables and recorders are set up.

So, this is what will happen. I’ll hand you a questionnaire right now and while you are filling that out, I’ll go ahead and pair everyone up. When you finish the questionnaire, you need to hand it to me immediately so that I can enter your responses into the computer. When everyone has finished the questionnaire, I’ll let you know who you’re paired up with, and you’ll get a chance to interact briefly.

At that point, I’ll also discuss in more detail what the rest of the study will entail. Are there any questions at this point?

[second instruction set]

Okay, I’ve scored your self-attribute questionnaires and right now I’ll let you know what your scores in addition to giving you some general feedback about the self-attribute questionnaire. As the form mentions, your partner will be given a copy of these results in order to facilitate the discussion that will take place later. In addition to this form, there will also be several other questionnaires that your partner will receive from you after you have completed them. When you’ve finished reading over your form, return it to me and I’ll hand you the next questionnaire. Each time you finish a questionnaire, you should return it to me, and get the next item.
GROUP IDENTIFICATION MEASURE

Please use the scale below to indicate how strongly you agree or disagree with each statement. When you have decided on an answer to an item, please write the number in the space next to that item. Thank you.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>slightly disagree</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

1. When someone criticizes honors students, it feels like a personal insult.
2. I care about what happens to honors students.
3. I don’t act like the typical honors student.
4. I am ashamed to be an honors student.
5. I’m very interested in what others think about honors students.
6. I like being an honors student.
7. The limitations associated with honors students apply to me also.
8. When I talk about honors students, I usually say “we” rather than “they.”
9. If I could, I would not be an honors student.
10. I have a number of qualities typical of honors students.
11. Honors students’ successes are my successes.
12. I dislike being an honors student.
13. If a story in the media criticized honors students, I would feel embarrassed.
14. When someone praises honors students, it feels like a personal compliment.
15. I act like an honors student to a great extent.
16. I am proud to be an honors student.

173
BOGUS PERSONALITY TEST

Your Name: ____________________________

Self-Attributes Questionnaire (SAQ)

This questionnaire has to do with your attitudes about some of your activities and abilities. For the first ten items, you should rate yourself relative to other college students your own age by using the following scale:

A B C D E F G H I J
bottom lower lower lower lower upper upper upper upper top
5% 10% 20% 30% 50% 50% 30% 20% 10% 5%

An example of the way the scale works is as follows: if one of the traits that follows were “height”, a woman who is just below average in height would choose “E” for this question, whereas a woman who is taller than 80% (but not taller than 90%) of her female classmates would mark “H”, indicating that she is in the top 20% on this dimension:

Please rate yourself on the following traits using the scale above.

1. sense of humor
2. social skills/social competence
3. artistic and/or musical ability
4. competency or skill at sports
5. physical attractiveness
6. leadership ability
7. common sense
8. emotional stability
9. luck
10. discipline
Now rate how certain you are of your standing on each of the above traits (you may choose any letter).

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all certain</td>
<td>moderately certain</td>
<td>extremely certain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. sense of humor
2. social skills/social competence
3. artistic and/or musical ability
4. competency or skill at sports
5. physical attractiveness
6. leadership ability
7. common sense
8. emotional stability
9. luck
10. discipline

PLEASE READ

How the scoring works:

All of the ratings are converted into numerical scores and then your ratings on the first part are multiplied by your certainty ratings and then averaged across the ten traits. These scores are then standardized into a single percentile ranking which ranges from 0 to 75. (Standardizing scores allows for easier comparisons across groups of people.)

While you complete the next part of the study, the experimenter will enter the results of this questionnaire into a computer program which will automatically score your questionnaire. As mentioned earlier, the results of this questionnaire will be made available to you and your discussion partner as a means of facilitating the discussion. When you are finished reading, please hand this questionnaire to the experimenter.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: 61

Breakdown of scores:

Students in the honors program here at OSU typically score around 60 on the self-attributes questionnaire. The range for honors students is generally between 53 and 66.

Studies of past and current honors students has consistently demonstrated that one of the areas in which honors students and other non-honors students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Honors students is 62 while the average for other non-honors OSU students is 58. The range for non-honors OSU students is generally between 51 and 64.

Honor's Student Average: 62
OSU (non-honors) Student Average: 58

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners' forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______ [59]

Breakdown of scores:

Students in the honors program here at OSU typically score around 60 on the self-attributes questionnaire. The range for honors students is generally between 51 and 64.

Studies of past and current honors students has consistently demonstrated that one of the areas in which honors students and other non-honors students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Honors students is 58 while the average for other non-honors OSU students is 62. The range for non-honors OSU students is generally between 53 and 66.

Honors Student Average: 58
OSU (non-honors) Student Average: 62

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners’ forms to read.
NEED FOR ASSIMILATION FEEDBACK FORM (A)

RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______ [48]

Breakdown of scores:

Students in the honors program here at OSU typically score around 60 on the self-attributes questionnaire. The range for honors students is generally between 53 and 66.

Studies of past and current honors students has consistently demonstrated that one of the areas in which honors students and other non-honors differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Honors students is 62 while the average for other non-honors OSU students is 34. The range for non-honors OSU students is generally between 30 and 43.

Honor’s Student Average: 62
OSU (non-honors) Student Average: 34

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners’ forms to read.
NEED FOR ASSIMILATION FEEDBACK FORM (B)

RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: _[48]_

Breakdown of scores:

Students in the honors program here at OSU typically score around 30 on the self-attributes questionnaire. The range for honors students is generally between 30 and 43.

Studies of past and current honors students has consistently demonstrated that one of the areas in which honors students and other non-honors differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Honors students is 34 while the average for other non-honors OSU students is 62. The range for non-honors OSU students is generally between 53 and 66.

Honors Student Average: 34
OSU (non-honors) Student Average: 62

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners' forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: \[61\]

Breakdown of scores:

Students in the honors program here at OSU typically score around 60 on the self-attributes questionnaire. The range for honors students is generally between 53 and 66.

Studies of past and current honors students has consistently demonstrated that one of the areas in which honors students and other non-honors differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Honors students is 62 while the average for other non-honors OSU students is 34. The range for non-honors OSU students is generally between 30 and 43.

Honors Student Average: 62
OSU (non-honors) Student Average: 34

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners' forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: [33]

Breakdown of scores:

Students in the honors program here at OSU typically score around 30 on the self-attributes questionnaire. The range for honors students is generally between 30 and 43.

Studies of past and current honors students has consistently demonstrated that one of the areas in which honors students and other non-honors differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Honors students is 34 while the average for other non-honors OSU students is 62. The range for non-honors OSU students is generally between 53 and 66.

Honor's Student Average: 34
OSU (non-honors) Student Average: 62

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners' forms to read.
MOOD SCALE

**Current Mood Scale**

Because how you feel may affect how you respond to questionnaires included in this study, we need to know how you are feeling RIGHT NOW. Please indicate how you feel RIGHT NOW by filling in the space next to each item using the scale below. Work rapidly. Your first reaction is best.

**Please use the following scale:**

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>do not feel this way at all</td>
<td>feel this way very slightly</td>
<td>feel this way slightly</td>
<td>feel this way somewhat</td>
<td>feel this way very much</td>
<td>feel this way extremely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. ____ UNEASY
2. ____ HAPPY
3. ____ DISAPPOINTED
4. ____ NERVOUS
5. ____ RELAXED
6. ____ DEPRESSED
7. ____ EXCITED
8. ____ DISTRESSED
9. ____ PEACEFUL
10. ____ LOW
11. ____ AT EASE
12. ____ WORRIED
13. ____ LIVELY
14. ____ SATISFIED
15. ____ DISCOURAGED
16. ____ PLEASANT
17. ____ BOTHERED
18. ____ ENERGETIC
19. ____ DOWN
20. ____ ALERT
21. ____ CONTENTED
22. ____ TENSE
23. ____ CHEERFUL
24. ____ COMFORTABLE
25. ____ SAD
26. ____ ACTIVE
27. ____ FEARFUL
28. ____ CALM
### CATEGORY SATISFACTION ITEMS

The following questions refer to the self-attributes questionnaire that you just completed. Please do not spend too much time thinking about the questions. We are interested in your first response or “gut reaction” to each question.

1. I feel good about my score on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>disagree</td>
<td>disagree</td>
<td>disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

2. I feel bad about my score on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>disagree</td>
<td>disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

3. I feel good about how Honors students have scored on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>disagree</td>
<td>disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

4. I feel bad about how Honors students have scored on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>disagree</td>
<td>disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

5. I am satisfied with how I scored on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>disagree</td>
<td>disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>
MANIPULATION CHECKS

Name: _______________________

1. How did the feedback that you received on the SAQ make you feel about yourself?

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>very different from other honors students</td>
<td>moderately different from other honors students</td>
<td>somewhat different from other honors students</td>
<td>Neutral</td>
<td>somewhat similar to other honors students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very different from other OSU students</td>
<td>moderately different from other OSU students</td>
<td>somewhat different from other OSU students</td>
<td>Neutral</td>
<td>somewhat similar to other OSU students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. How did the feedback that about the SAQ make you feel about honors students compared to other OSU students? That honors students were:

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>very different from other OSU students</td>
<td>moderately different from other OSU students</td>
<td>somewhat different from other OSU students</td>
<td>Neutral</td>
<td>somewhat similar to other OSU students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very different from other honors students</td>
<td>moderately different from other honors students</td>
<td>somewhat different from other honors students</td>
<td>Neutral</td>
<td>somewhat similar to other honors students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. What was your score on the self-attributes questionnaire (SAQ)? _________

4. How did your score on the self-attributes questionnaire compare to average score of other Honors students?

Circle one:  About the same Above the Honor’s Student Average Below the Honor’s Student Average
5. How did the average score of Honors students on the self-attributes questionnaire compare to the score of other non-honors OSU students?

Circle one: About the same Very different

6. What was the average score for Honors students on the self-attributes questionnaire? __________

What was the average score for non-honors OSU students on the self-attributes questionnaire? __________
7. Did you find anything to be odd, suspicious, or out of the ordinary in the present study? If so, what?

8. What do you think the purpose of the present study is?
APPENDIX B

ANCILLARY RESULTS FROM STUDY 1
Ancillary Results

Manipulation Check Items

Table B.1 contains the means from the manipulation check items asking participants how they felt about their own personal performance on the SAQ. These means are broken down by identification level, need state, and ingroup position.

<table>
<thead>
<tr>
<th>Identification Level</th>
<th>Low Identifiers</th>
<th>High Identifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td>3.29*</td>
<td>2.86*</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td>3.29*</td>
<td>3.33*</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td>4.66^b</td>
<td>5.80^b</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td>6.00^b</td>
<td>5.18^b</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td>5.00^b</td>
<td>5.71^b</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td>5.00^b</td>
<td>5.80^b</td>
</tr>
</tbody>
</table>

Table B.1. Satisfaction with personal score on SAQ in Study 1 broken down by experimental conditions.
Table B.2 below contains the means from the manipulation check item asking participants how they felt about how honors students scored on the SAQ.

Table B.2. Satisfaction with honors student performance on SAQ in Study 1 broken down by experimental conditions.
Satisfaction Items

The main effect of condition on how good participants felt about their own personal score on the SAQ qualified by a marginally significant need state X position interaction, $F(2, 74) = 3.00, p < .06$ (see Table B.3). This interaction indicates the position of the ingroup influenced how participants felt about their personal score only in the need for assimilation condition. Participants in the need for assimilation condition felt worse about their personal score when the ingroup scored higher than the outgroup. This effect is most likely an artifact of the relative position of the scores that participants in the need for assimilation condition received. When the ingroup was placed higher than the outgroup, need for assimilation participants were given a score of 48 placing them well-below the mean of their group. By contrast, when the ingroup was placed lower than the outgroup, need for assimilation participants were again given a score of 48, but this score placed them well-above the mean of their ingroup. Because participants in the control and need for differentiation conditions were always given scores which placed them at the mean of the ingroup, the position of the ingroup did not have such an effect on their personal satisfaction with their SAQ scores.
Table B.3: Mean item endorsement on the personal satisfaction with SAQ score index

<table>
<thead>
<tr>
<th>Need State</th>
<th>Higher</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Assimilation</td>
<td>3.62</td>
<td>4.92</td>
</tr>
<tr>
<td>Control</td>
<td>4.93</td>
<td>4.72</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td>5.45</td>
<td>5.34</td>
</tr>
</tbody>
</table>

Table B.4 below lists the average (across conditions) for each of the 10 stereotype traits for OSU honors students.
<table>
<thead>
<tr>
<th>Trait</th>
<th>Average Stereotypicality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>intelligent</td>
<td>85.1%</td>
</tr>
<tr>
<td>hard-working</td>
<td>73.8%</td>
</tr>
<tr>
<td>determined</td>
<td>76.1%</td>
</tr>
<tr>
<td>organized</td>
<td>64.1%</td>
</tr>
<tr>
<td>studious</td>
<td>72.5%</td>
</tr>
<tr>
<td>talented</td>
<td>78.4%</td>
</tr>
<tr>
<td>successful</td>
<td>78.09%</td>
</tr>
<tr>
<td>ambitious</td>
<td>78.2%</td>
</tr>
<tr>
<td>motivated</td>
<td>75.6%</td>
</tr>
<tr>
<td>responsible</td>
<td>74.1%</td>
</tr>
</tbody>
</table>

Table B.4: Average rating across 10 stereotypical honors student traits.
APPENDIX C

EXPERIMENTAL MATERIALS FROM STUDY 2
GROUP IDENTIFICATION MEASURE

Name________________________________________

Please use the scale below to indicate how strongly you agree or disagree with each statement. When you have decided on an answer to an item, please write the number in the space next to that item. Thank you.

1 strongly disagree 2 moderately disagree 3 slightly disagree 4 slightly agree 5 moderately agree 6 strongly agree

1. When someone criticizes Arts and Humanities students at OSU, it feels like a personal insult.

2. I care about what happens to Arts and Humanities students at OSU.

3. I don’t act like the typical Arts and Humanities student at OSU.

4. I am ashamed to be an Arts and Humanities student at OSU.

5. I’m very interested in what others think about Arts and Humanities students at OSU.

6. I like being an Arts and Humanities student at OSU.

7. The limitations associated with Arts and Humanities students at OSU apply to me also.

8. When I talk about Arts and Humanities students at OSU, I usually say “we” rather than “they.”

9. If I could, I would not be an Arts and Humanities student at OSU.

10. I have a number of qualities typical of Arts and Humanities students at OSU.

11. The successes of Arts and Humanities students at OSU are my successes.

12. I dislike being an Arts and Humanities student at OSU.

13. If a story in the media criticized Arts and Humanities students at OSU, I would feel embarrassed.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>When someone praises Arts and Humanities students at OSU, it feels like a personal compliment.</td>
</tr>
<tr>
<td>15.</td>
<td>I act like an Arts and Humanities student at OSU to a great extent.</td>
</tr>
<tr>
<td>16.</td>
<td>I am proud to be an Arts and Humanities student at OSU.</td>
</tr>
</tbody>
</table>
BOGUS PERSONALITY TEST

Your Name:____________________

Self-Attributes Questionnaire (SAQ)

This questionnaire has to do with your attitudes about some of your activities and abilities. For the first ten items, you should rate yourself relative to other college students your own age by using the following scale:

A B C D E F G H I J
bottom lower lower lower lower upper upper upper upper top
5% 10% 20% 30% 50% 50% 30% 20% 10% 5%

An example of the way the scale works is as follows: if one of the traits that follows were “height”, a woman who is just below average in height would choose “E” for this question, whereas a woman who is taller than 80% (but not taller than 90%) of her female classmates would mark “H”, indicating that she is in the top 20% on this dimension:

Please rate yourself on the following traits using the scale above.

1. sense of humor ______
2. social skills/social competence ______
3. artistic and/or musical ability ______
4. competency or skill at sports ______
5. physical attractiveness ______
6. leadership ability ______
7. common sense ______
8. emotional stability ______
9. luck ______
10. discipline ______
**BOGUS PERSONALITY TEST**

Now rate how certain you are of your standing on each of the above traits (you may choose any letter).

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all certain</td>
<td>moderately certain</td>
<td>extremely certain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. sense of humor
2. social skills/social competence
3. artistic and/or musical ability
4. competency or skill at sports
5. physical attractiveness
6. leadership ability
7. common sense
8. emotional stability
9. luck
10. discipline

**PLEASE READ**

How the scoring works:

All of the ratings are converted into numerical scores and then your ratings on the first part are multiplied by your certainty ratings and then averaged across the ten traits. These scores are then standardized into a single percentile ranking which ranges from 0 to 75. (Standardizing scores allows for easier comparisons across groups of people.)

While you complete the next part of the study, the experimenter will enter the results of this questionnaire into a computer program which will automatically score your questionnaire. As mentioned earlier, the results of this questionnaire will be made available to you and your discussion partner as a means of facilitating the discussion. When you are finished reading, please hand this questionnaire to the experimenter.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and other Ohio State students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for other non-Arts and Humanities OSU students is 58. The range for non-Arts and Humanities OSU students is generally between 51 and 64.

Arts and Humanities Student Average: 62
OSU (non-Arts and Humanities) Student Average: 58

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners’ forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and Natural Science students at OSU do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for Natural Science students is 58. The range for Natural Science students at OSU is generally between 51 and 64.

Arts and Humanities Student Average: 62
Natural Sciences Student Average: 58

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners’ forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: _______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 51 and 64.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and other Ohio State students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 58 while the average for other non-Arts and Humanities students is 62. The range for non-Arts and Humanities OSU students is generally between 53 and 66.

Arts and Humanities Student Average: 58
OSU (non-Arts & Humanities) Student Average: 62

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners’ forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 51 and 64.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and Natural Sciences students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 58 while the average for Natural Sciences students is 62. The range for Natural Sciences students is generally between 53 and 66.

Arts and Humanities Student Average: 58
Natural Sciences Student Average: 62

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners’ forms to read.
NEED FOR ASSIMILATION FEEDBACK FORM (1A)

NA1-A

Name________________________________________

RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: _______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and other non-Arts and Humanities students at OSU differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for other non-Arts and Humanities OSU students is 34. The range for non-Arts and Humanities OSU students is generally between 30 and 43.

Arts and Humanities Student Average: 62
OSU (non-Arts & Humanities) Student Average: 34

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners' forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and Natural Sciences students at OSU differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for Natural Sciences students is 34. The range for Natural Sciences students is generally between 30 and 43.

Arts and Humanities Student Average: 62  
Natural Sciences Average: 34

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners' forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: _______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and other non-Arts and Humanities students at OSU differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for other non-Arts and Humanities OSU students is 34. The range for non-Arts and Humanities OSU students is generally between 30 and 43.

Arts and Humanities Student Average: 62
OSU (non-Arts & Humanities) Student Average: 34

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners' forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: _______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 60 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 53 and 66.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and Natural Sciences students at OSU differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 62 while the average for Natural Sciences students is 34. The range for Natural Sciences students is generally between 30 and 43.

Arts and Humanities Student Average: 62
Natural Sciences Average: 34

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners’ forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: 

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 30 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 30 and 43.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and other non-Arts and Humanities differ is in their scores on the self-attributes questionnaires. As shown on the following graph, the average for Arts and Humanities students is 34 while the average for other non-Arts and Humanities OSU students is 62. The range for non-Arts and Humanities OSU students is generally between 53 and 66.

Arts and Humanities Student Average: 34
OSU (non-Arts and Humanities) Student Average: 62

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners' forms to read.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students in the Arts and Humanities program here at OSU typically score around 30 on the self-attributes questionnaire. The range for Arts and Humanities students is generally between 30 and 43.

Studies of past and current Arts and Humanities students has consistently demonstrated that one of the areas in which Arts and Humanities students and Natural Sciences (e.g., physics, chemistry, biology) differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for Arts and Humanities students is 34 while the average for Natural Sciences students at OSU is 62. The range for Natural Sciences OSU students is generally between 53 and 66.

Arts and Humanities Student Average: 34
Natural Sciences Student Average: 62

When you have finished reading this form, please return it to the experimenter. The experimenter will then hand the form over to the other discussion partners to read before the beginning of the discussion and you will be given your discussion partners’ forms to read.
MOOD SCALE

Current Mood Scale

Because how you feel may affect how you respond to questionnaires included in this study, we need to know how you are feeling RIGHT NOW. Please indicate how you feel RIGHT NOW by filling in the space next to each item using the scale below. Work rapidly. Your first reaction is best.

Please use the following scale:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>do not feel this way at all</td>
<td>feel this way very slightly</td>
<td>feel this way slightly</td>
<td>feel this way somewhat</td>
<td>feel this way very much</td>
<td>feel this way extremely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. _____ UNEASY 15. _____ DISCOURAGED
2. _____ HAPPY 16. _____ PLEASANT
3. _____ DISAPPOINTED 17. _____ BOTHERED
4. _____ NERVOUS 18. _____ ENERGETIC
5. _____ RELAXED 19. _____ DOWN
6. _____ DEPRESSED 20. _____ ALERT
7. _____ EXCITED 21. _____ CONTENTED
8. _____ DISTRESSED 22. _____ TENSE
9. _____ PEACEFUL 23. _____ CHEERFUL
10. _____ LOW 24. _____ COMFORTABLE
11. _____ AT EASE 25. _____ SAD
12. _____ WORRIED 26. _____ ACTIVE
13. _____ LIVELY 27. _____ FEARFUL
14. _____ SATISFIED 28. _____ CALM

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CATEGORY SATISFACTION ITEMS

The following questions refer to the self-attributes questionnaire that you completed at the beginning of the session. Please do not spend too much time thinking about the questions. We are interested in your first response or "gut reaction" to each question.

1. I feel good about my score on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>slightly disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

2. I feel bad about my score on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>slightly disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

3. I feel good about how Arts and Humanities students generally score on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>slightly disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

4. I feel bad about how Arts and Humanities students generally score on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>slightly disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

5. I am satisfied with how I scored on the self-attributes questionnaire.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>slightly disagree</td>
<td>neutral</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>
MANIPULATION CHECK QUESTIONNAIRE

Please answer the following questions:

Name: ______________________

1. How did the feedback that you received on the SAQ make you feel about yourself?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>very different from other Arts and Humanities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderately different from other Arts and Humanities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>somewhat different from other Arts and Humanities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>neutral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>somewhat similar to other Arts and Humanities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderately similar to other Arts and Humanities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very similar to other Arts and Humanities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. How did the feedback that about the SAQ make you feel about Arts and Humanities compared to other OSU students? That Arts and Humanities were:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>very different from other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderately different from other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>somewhat different from other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>neutral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>somewhat similar to other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderately similar to other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very similar to other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. What was your score on the self-attributes questionnaire (SAQ)? ________

4. How did your score on the self-attributes questionnaire compare to average score of other Arts and Humanities?

Circle one: About the same Above the Arts and Humanities Student Average Below the Arts and Humanities Student Average
5. How did the average score of Arts and Humanities on the self-attributes questionnaire compare to the score of other non-Arts and Humanities OSU students?

Circle one:  About the same     Very different

6. What was the average score for Arts and Humanities on the self-attributes questionnaire? ______
   What was the average score for non-Arts and Humanities OSU students (or Natural Sciences students) on the self-attributes questionnaire? ______

7. Did you find anything to be odd, suspicious, or out of the ordinary in the present study? If so, what?

8. What do you think the purpose of the present study is?
TRAIT SELECTION TASK

Name_________________________________________

On this page is a list of personality characteristics. What we would like for you to do is review these traits and then indicate which traits you believe are necessary in order for a person to be considered an OSU Arts and Humanities student. In other words, if you were to meet an unknown person and wanted to be confident that that person is an OSU Arts and Humanities student, which of the following traits must that person possess? It is important that you answer efficiently—in other words, please select the minimum number of traits that you believe are necessary in order to make an accurate judgment of whether the person is an OSU Arts and Humanities student. Please indicate which trait(s) you have selected by writing them in on the blank lines at the bottom of the page.

Intelligent  Analytical  Organized
Smart       Creative    Logical
Opinionated            Brainy
Disciplined          Open-minded
Confident              Well-spoken
Hard-working         Successful
Determined           Ambitious
Mature               Motivated
Serious              Responsible

____________________________________

____________________________________

____________________________________

____________________________________

____________________________________

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GROUP STEREOTYPICALITY MEASURE

Percentage Estimates Task

For each of the following traits, please estimate what percentage of OSU Arts and Humanities students you believe possess that trait. Your estimates should fall between 0% and 100%, where 0% indicates that you believe that no OSU Arts and Humanities students possess that trait and 100% indicates that you believe all Arts and Humanities students possess that trait. Please write in your estimate in the blank space next to each trait.

<table>
<thead>
<tr>
<th>Trait</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>intelligent</td>
<td>_________%</td>
</tr>
<tr>
<td>hard-working</td>
<td>_________%</td>
</tr>
<tr>
<td>determined</td>
<td>_________%</td>
</tr>
<tr>
<td>organized</td>
<td>_________%</td>
</tr>
<tr>
<td>studious</td>
<td>_________%</td>
</tr>
<tr>
<td>talented</td>
<td>_________%</td>
</tr>
<tr>
<td>successful</td>
<td>_________%</td>
</tr>
<tr>
<td>ambitious</td>
<td>_________%</td>
</tr>
<tr>
<td>motivated</td>
<td>_________%</td>
</tr>
<tr>
<td>responsible</td>
<td>_________%</td>
</tr>
</tbody>
</table>
SIMILARITY RATINGS

Please answer the following questions:

1. In terms of their personality, how similar do you believe OSU Arts and Humanities students are to each other?

   
   
   1 2 3 4 5 6 7 8 9 10
   
   large differences

2. In terms of their academic ability, how similar do you believe OSU Arts and Humanities students are to each other?

   
   
   1 2 3 4 5 6 7 8 9 10
   
   large differences

3. In terms of their social life, how similar do you believe OSU Arts and Humanities students are to each other?

   
   
   1 2 3 4 5 6 7 8 9 10
   
   large differences

4. In general, how similar do you believe OSU Arts and Humanities students are to each other?

   
   
   1 2 3 4 5 6 7 8 9 10
   
   large differences
APPENDIX D

ANCILLARY RESULTS OF STUDY 2
Ancillary Results

Trait Selection Task

On the trait selection task, a significant identification level by outgroup interaction was obtained, $F(1, 76) = 4.93, p < .05$ (see Table D.1 below). Among high identifiers, when a specific outgroup had not been specified, participants selected more traits as being necessary for judging an unknown person as an ingroup member. Low identifiers did not show the same pattern effects and selected a similar number of traits regardless of whether a specific outgroup had been named. This is of interest because it indicates that the intergroup context (presence or absence of specific outgroup) in which the judgment is made has some influence on the extent of the ingroup overexclusion effect.

<table>
<thead>
<tr>
<th>Outgroup Type</th>
<th>Identification Level</th>
<th>Non-specific Outgroup</th>
<th>Specific Outgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Identifiers</td>
<td>4.57</td>
<td>5.10</td>
</tr>
<tr>
<td></td>
<td>High Identifiers</td>
<td>5.85</td>
<td>4.33</td>
</tr>
</tbody>
</table>

Table D.1: Number of ingroup traits selected on trait selection task by identification level and outgroup type.

In addition, a marginally significant position by identification by outgroup interaction qualified the above interaction $F(1, 76) = 3.45, p < .07$ (see Table D.2 below).
The above pattern of effects for the two-way identification by outgroup interaction was exacerbated when the ingroup was positioned lower than the outgroup. When the ingroup was positioned lower than the outgroup and when a specific outgroup was named, highly identified participants tended to show an even greater difference in the number traits needed compared to when a specific outgroup was not named.

<table>
<thead>
<tr>
<th>Outgroup Type</th>
<th>Non-specific Outgroup</th>
<th>Specific Outgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Level</td>
<td>Ingroup Higher</td>
<td>Ingroup Lower</td>
</tr>
<tr>
<td>Low Identifiers</td>
<td>5.14</td>
<td>4.00</td>
</tr>
<tr>
<td>High Identifiers</td>
<td>5.19</td>
<td>6.50</td>
</tr>
</tbody>
</table>

Table D.2: Number of traits selected by identification level, outgroup type, and ingroup position.

**Categorization Task**

On the categorization task, two marginally significant interactions emerged, a categorization choice X identification level interaction, $F(3, 231) = 2.76, p = .07$, and a categorization choice X need state X position interaction, $F(6, 231) = 2.04, p < .10$. The first interaction indicated that high identifiers tended to choose the ingroup and outgroup categories more often and the “either” category less often than low identifiers when
judging target individuals (see Table D.3 below). Examination of the means from the second interaction (Table D.4) shows that while both need for assimilation and control participants tended to make more ingroup and outgroup categorizations when the ingroup scored lower than the outgroup compared to when the ingroup scored higher, need for differentiation participants did not show this pattern. Participants in the need for differentiation condition tended to make slightly fewer ingroup and outgroup categorizations when the ingroup was positioned lower than the outgroup.

<table>
<thead>
<tr>
<th>Identification Level</th>
<th>Categorization Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ingroup</td>
</tr>
<tr>
<td>Low Identifiers</td>
<td>5.82</td>
</tr>
<tr>
<td>High Identifiers</td>
<td>7.48</td>
</tr>
</tbody>
</table>

Table D.3: Categorization choice by identification level.
### Categorization Choice

<table>
<thead>
<tr>
<th>Need State</th>
<th>Ingroup</th>
<th>Outgroup</th>
<th>Either</th>
<th>Neither</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Need for Assimilation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup higher</td>
<td>6.10</td>
<td>3.11</td>
<td>8.07</td>
<td>1.83</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>8.15</td>
<td>4.58</td>
<td>10.15</td>
<td>1.08</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup higher</td>
<td>4.58</td>
<td>2.38</td>
<td>12.84</td>
<td>0.67</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>8.67</td>
<td>4.52</td>
<td>8.65</td>
<td>1.91</td>
</tr>
<tr>
<td><strong>Need for Differentiation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup higher</td>
<td>6.90</td>
<td>3.98</td>
<td>8.13</td>
<td>1.94</td>
</tr>
<tr>
<td>Ingroup lower</td>
<td>5.50</td>
<td>3.27</td>
<td>10.29</td>
<td>2.04</td>
</tr>
</tbody>
</table>

Table D.4: Categorization choices by need state and ingroup position.
<table>
<thead>
<tr>
<th>Need for Assimilation</th>
<th>Ingroup Similarity Ratings</th>
<th>Outgroup Similarity Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personality</td>
<td>Social Life</td>
</tr>
<tr>
<td>High Identifiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>5.83</td>
<td>5.00</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>6.15</td>
<td>4.43</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>7.00</td>
<td>6.67</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>5.25</td>
<td>3.75</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>3.25</td>
<td>3.50</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>4.67</td>
<td>3.67</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>5.75</td>
<td>6.50</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>3.00</td>
<td>3.33</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>5.20</td>
<td>6.40</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>7.33</td>
<td>6.00</td>
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<tr>
<td>Ingroup Lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>6.17</td>
<td>5.50</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>5.67</td>
<td>6.00</td>
</tr>
<tr>
<td>Low Identifiers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Similarity Ratings</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personality</td>
<td>Social Life</td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>3.33</td>
<td>2.67</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>6.33</td>
<td>5.67</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>5.17</td>
<td>4.33</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>3.00</td>
<td>2.50</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>2.33</td>
<td>2.67</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>3.80</td>
<td>3.40</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>4.80</td>
<td>4.00</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>4.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Need for Differentiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingroup Higher</td>
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<td></td>
</tr>
<tr>
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<tr>
<td>Non-Specific</td>
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<td>3.88</td>
</tr>
<tr>
<td>Ingroup Lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td>6.50</td>
<td>3.00</td>
</tr>
<tr>
<td>Non-Specific</td>
<td>3.75</td>
<td>4.50</td>
</tr>
</tbody>
</table>

Table D.5: Four-way interaction on ingroup and outgroup similarity ratings
APPENDIX E

EXPERIMENTAL MATERIALS FROM STUDY 3
GROUP IDENTIFICATION MEASURE

Please use the scale below to indicate how strongly you agree or disagree with each statement. When you have decided on an answer to an item, please write the number in the space next to that item. Thank you.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>strongly disagree</td>
<td>moderately disagree</td>
<td>slightly disagree</td>
<td>slightly agree</td>
<td>moderately agree</td>
<td>strongly agree</td>
</tr>
</tbody>
</table>

___ 1. When someone criticizes OSU students, it feels like a personal insult.
___ 2. I care about what happens to OSU students.
___ 3. I don’t act like the typical OSU student.
___ 4. I am ashamed to be an OSU student.
___ 5. I'm very interested in what others think about OSU students.
___ 6. I like being an OSU student.
___ 7. The limitations associated with OSU students apply to me also.
___ 8. When I talk about OSU students, I usually say “we” rather than “they.”
___ 9. If I could, I would not be an OSU student.
___ 10. I have a number of qualities typical of OSU students.
___ 11. OSU students’ successes are my successes.
___ 12. I dislike being an OSU student.
___ 13. If a story in the media criticized OSU students, I would feel embarrassed.
___ 14. When someone praises OSU students, it feels like a personal compliment.
___ 15. I act like an OSU student to a great extent.
___ 16. I am proud to be an OSU student.
BOGUS PERSONALITY TEST

Name______________________________

Self-Attributes Questionnaire (SAQ)

This questionnaire has to do with your attitudes about some of your activities and abilities. For the first ten items, you should rate yourself relative to other college students your own age by using the following scale:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>bottom</td>
<td>5%</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>50%</td>
<td>50%</td>
<td>30%</td>
<td>20%</td>
<td>10%</td>
<td>5%</td>
</tr>
</tbody>
</table>

An example of the way the scale works is as follows: if one of the traits that follows were "height", a woman who is just below average in height would choose "E" for this question, whereas a woman who is taller than 80% (but not taller than 90%) of her female classmates would mark "H", indicating that she is in the top 20% on this dimension:

Please rate yourself on the following traits using the scale above.

1. sense of humor
2. social skills/social competence
3. artistic and/or musical ability
4. competency or skill at sports
5. physical attractiveness
6. leadership ability
7. common sense
8. emotional stability
9. luck
10. discipline
BOGUS PERSONALITY TEST

Now rate how certain you are of your standing on each of the above traits (you may choose any letter).

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all certain</td>
<td>moderately certain</td>
<td>certain</td>
<td>certain</td>
<td>certain</td>
<td>certain</td>
<td>extremely certain</td>
<td>extremely certain</td>
<td></td>
</tr>
</tbody>
</table>

1. sense of humor
2. social skills/social competence
3. artistic and/or musical ability
4. competency or skill at sports
5. physical attractiveness
6. leadership ability
7. common sense
8. emotional stability
9. luck
10. discipline

PLEASE READ

How the scoring works:

All of the ratings are converted into numerical scores and then your ratings on the first part are multiplied by your certainty ratings and then averaged across the ten traits. These scores are then standardized into a single percentile ranking which ranges from 0 to 75. (Standardizing scores allows for easier comparisons across groups of people.)

While you complete the next part of the study, the experimenter will enter the results of this questionnaire into a computer program that will automatically score your questionnaire.

When you are finished reading, please hand this questionnaire to the experimenter.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ________

Breakdown of scores:

Students here at OSU typically score around 60 on the self-attributes questionnaire. The range for OSU students is generally between 53 and 66.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 62 while the average for other college students in the United States is 58. The range for other US college students is generally between 51 and 64.

OSU Student Average: 62
US College Student Average: 58

When you have finished reading this form, please return it to the experimenter.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students here at OSU typically score around 60 on the self-attributes questionnaire. The range for OSU students is generally between 51 and 64.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students do not differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 58 while the average for other college students in the United States is 62. The range for other US college students is generally between 53 and 66.

OSU Student Average: 58
US College Student Average: 62

When you have finished reading this form, please return it to the experimenter.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students here at OSU typically score around 60 on the self-attributes questionnaire. The range for OSU students is generally between 53 and 66.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 62 while the average for other college students in the United States is 34. The range for other US college students is generally between 30 and 43.

OSU Student Average: 62
US College Student Average: 34

When you have finished reading this form, please return it to the experimenter.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students here at OSU typically score around 30 on the self-attributes questionnaire. The range for OSU students is generally between 30 and 43.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 34 while the average for other college students in the United States is 62. The range for other US college students is generally between 53 and 66.

OSU Student Average: 34
US College Student Average: 62

When you have finished reading this form, please return it to the experimenter.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students here at OSU typically score around 60 on the self-attributes questionnaire. The range for OSU students is generally between 53 and 66.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 62 while the average for other college students in the United States is 34. The range for other US college students is generally between 30 and 43.

OSU Student Average: 62
US College Student Average: 34

When you have finished reading this form, please return it to the experimenter.
RESULTS FROM THE SELF-ATTRIBUTES QUESTIONNAIRE

Your Score: ______

Breakdown of scores:

Students here at OSU typically score around 30 on the self-attributes questionnaire. The range for OSU students is generally between 30 and 43.

Studies of past and current OSU students has consistently demonstrated that one of the areas in which OSU students and other US college students differ is in their scores on the self-attributes questionnaire. As shown on the following graph, the average for OSU students is 34 while the average for other college students in the United States is 62. The range for other US college students is generally between 53 and 66.

OSU Student Average: 34
US College Student Average: 62

When you have finished reading this form, please return it to the experimenter.
Current Mood Scale

Because how you feel may affect how you respond to questionnaires included in this study, we need to know how you are feeling RIGHT NOW. Please indicate how you feel RIGHT NOW by filling in the space next to each item using the scale below. Work rapidly. Your first reaction is best.

Please use the following scale:

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>do not feel this way at all</td>
<td>feel this way very slightly</td>
<td>feel this way slightly</td>
<td>feel this way somewhat</td>
<td>feel this way very much</td>
<td>feel this way extremely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. ____ UNEASY
2. ____ HAPPY
3. ____ DISAPPOINTED
4. ____ NERVOUS
5. ____ RELAXED
6. ____ DEPRESSED
7. ____ EXCITED
8. ____ DISTRESSED
9. ____ PEACEFUL
10. ____ LOW
11. ____ AT EASE
12. ____ WORRIED
13. ____ LIVELY
14. ____ SATISFIED
15. ____ DISCOURAGED
16. ____ PLEASANT
17. ____ BOTHERED
18. ____ ENERGETIC
19. ____ DOWN
20. ____ ALERT
21. ____ CONTENTED
22. ____ TENSE
23. ____ CHEERFUL
24. ____ COMFORTABLE
25. ____ SAD
26. ____ ACTIVE
27. ____ FEARFUL
28. ____ CALM
SATISFACTION ITEMS

The following questions refer to the self-attributes questionnaire that you completed at the beginning of the session. Please do not spend too much time thinking about the questions. We are interested in your first response or “gut reaction” to each question.

1. I feel good about my score on the self-attributes questionnaire.

   0 1 2 3 4 5 6
   strongly disagree moderately disagree slightly disagree neutral slightly agree moderately agree Strongly agree

2. I feel bad about my score on the self-attributes questionnaire.

   1 2 3 4 5 6 7
   strongly disagree moderately disagree slightly disagree neutral slightly agree moderately agree Strongly agree

3. I feel good about how OSU students generally score on the self-attributes questionnaire.

   1 2 3 4 5 6 7
   strongly disagree moderately disagree slightly disagree neutral slightly agree moderately agree Strongly agree

4. I feel bad about how OSU students generally score on the self-attributes questionnaire.

   1 2 3 4 5 6 7
   strongly disagree moderately disagree slightly disagree neutral slightly agree moderately agree Strongly agree

5. I wish OSU students and US college students scores on the SAQ were more different.

   1 2 3 4 5 6 7
   strongly disagree moderately disagree slightly disagree neutral slightly agree moderately agree Strongly agree

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MANIPULATION CHECK QUESTIONNAIRE

Please answer the following questions:

Name: __________________________

1. How did the feedback that you received on the SAQ make you feel about yourself?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<td>very different from other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderately different from other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>neutral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>somewhat similar to other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderately similar to other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very similar to other OSU students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. How did the feedback that you received on the SAQ make you feel about OSU students compared to other US college students? That OSU students were:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>very different from other US COLLEGE students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderately different from other US COLLEGE students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>somewhat different from other US COLLEGE students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>neutral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>somewhat similar to other US COLLEGE students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderately similar to other US COLLEGE students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>very similar to other US COLLEGE students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. What was your score on the self-attributes questionnaire (SAQ)? ________

4. How did your score on the self-attributes questionnaire compare to the average score of other OSU students?

Circle one: About the same Above the OSU Student Average Below the OSU Student Average

5. How did the average score of OSU students on the self-attributes questionnaire compare to the score of other US college students?

Circle one: About the same Very different

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MANIPULATION CHECK QUESTIONNAIRE

6. What was the average score for OSU students on the self-attributes questionnaire? ____

What was the average score for other US college students on the self-attributes questionnaire? ______

7. Did you find anything to be odd, suspicious, or out of the ordinary in the present study? If so, what?

8. What do you think the purpose of the present study is?
CATEGORIZATION TASK FORM

Name______________________________

Below, please write the number of the card set that you were given.

Card Set:________

Indicate below your decision regarding whether the person described by the cards is an OSU student or not.

Decision: ______Person is an OSU student

______Person is not an OSU student

Indicate below the card number (in the upper right hand corner of the card) at which you stopped when you were ready to make a decision.

Card Number at which you stopped:_______

Please answer the following question:

How confident are you that you judged correctly that the person described by the cards is or is not an OSU student?

1  2  3  4  5  6  7
not at all confident moderately unconfident somewhat unconfident neutral somewhat confident moderately confident very confident

235
QUESTIONS SELECTION TASK

Name: ________________________________

Instructions:

Imagine that you have just met a person with whom you are not acquainted. Your job is to judge whether this unknown person is an Ohio State student or not based on the answers to a variety of questions. On the following pages you will see a list of different questions. Please read through the entire list of questions on each page. When you finished reading through the questions, please select two (2) questions on each page that you would most like to include in a questionnaire designed to test the idea that the unknown person is an Ohio State student.
QUESTION SELECTION TASK

Page 1

Please place an X next to the two questions that you would choose to ask in order to determine whether an unknown person is an OSU student or not. Remember: you must choose two questions and you may not choose more than two.

- Does this person usually organize social activities (e.g., bbq’s, tailgates)?

- Does this person like to hang out with close friends?

- Does this person avoid talking to people that he/she doesn’t know?

- Does this person sometimes feel uncomfortable at parties where he/she doesn’t know anyone?

- Would this person introduce him or herself to a stranger at party?

- Does this person usually become a “wall-flower” in social situations?

- Does this person make a point of going to social events so that he/she can see old friends and meet new ones?

- Does this person sometimes prefer to stay home alone rather than be with other people?
Please place an X next to the two questions that you would choose to ask in order to determine whether an unknown person is an OSU student or not. Remember: you must choose two questions and you may not choose more than two.

_____ Does this person go to parties almost every Saturday evening?

_____ Does this person occasionally spend a weekend at home watching videos rather than going out?

_____ Does this person go to a party at least once during a quarter?

_____ Did this person go out to bars every night during spring break?

_____ Does this person spend most Saturday nights studying at the library?

_____ Has this person spent a Saturday night studying at the library within the last 6 months?

_____ Does this person prefer to spend all of his/her weekends at home watching videos rather than going out?

_____ Did this person go out to a bar at least one night during spring break?
QUESTION SELECTION TASK

Please place an X next to the two questions that you would choose to ask in order to determine whether an unknown person is an OSU student or not. Remember: you must choose two questions and you may not choose more than two.

_____ Is this person often hoarse from yelling and cheering so much at sporting events?

_____ Does this person cheer when their football team makes a touchdown?

_____ Does this person refuse to go along with the cheers at sporting events?

_____ Does this person sit most of the time during football games?

_____ Does this person often celebrate in the streets with friends after a big game?

_____ Does this person sometimes behave loudly and noisily with his/her friends?

_____ Does this person almost always avoid situations where people may be acting rowdy?

_____ Does this person prefer to go to calm, quiet parties as opposed to ones that are wild and loud?
Please place an X next to the two questions that you would choose to ask in order to determine whether an unknown person is an OSU student or not. Remember: you must choose two questions and you may not choose more than two.

_____ Does this person feel ecstatic when his/her team wins a big game?

_____ Does this person like to tell people where he/she attends school?

_____ Does this person avoid wearing sweatshirts or t-shirts with his/her school logo on it?

_____ Does this person avoid telling people which university he/she attends?

_____ Does this person feel proud when he/she hears good things about his/her school on the news?

_____ Has this person bragged about his/her school within the last 6 months?

_____ Does this person feel ashamed about his/her school?

_____ Does this person sometimes cringe when he/she hears things about his/her school?
Please place an X next to the two questions that you would choose to ask in order to determine whether an unknown person is an OSU student or not. Remember: you must choose two questions and you may not choose more than two.

______ If this person found a wallet with identification, would he or she return it to its owner without taking anything?

______ Is this person religious?

______ Would this person lie in a court of law?

______ Does this person tape movies from television?

______ If someone was being blamed for breaking the window this person broke, would this person admit that he or she had done it?

______ Does this person always pay his or her bills on time?

______ Does this person cheat on his (her) girlfriend (boyfriend)?

______ Does this person gossip?