

ME AND MY GROUP: CULTURAL STATUS CAN DISRUPT COGNITIVE CONSISTENCY

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Yale undergraduates implicitly preferred their university to a competitor. However, implicit preferences for smaller residential colleges (RCs) within the university reflected the status of the RC in the local culture, despite the fact that RC membership was randomly assigned. Consistent with system justification theory, members of lower-status RCs showed depressed implicit ingroup preference. Implicit cognitions related to university adhered to principles of balanced cognitive consistency. However, implicit cognitions related to residential colleges did not show cognitive consistency. These data suggest that although group membership predisposes one to favor the ingroup, implicit ingroup preferences can be attenuated when the ingroup is not culturally valued. Moreover, differences in group status can disrupt the tendency to maintain consistency among self- and group-related cognitions.

Among psychology's most fundamental assumptions is that people are strongly bound to their groups. That people disproportionately favor their own groups—in attitudes, beliefs, and

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behavior—is supported by observation and systematic research. Remarkably, ingroup favoritism prevails even when group membership is based on arbitrary assignment (see Tajfel, Billig, Bundy, & Flament, 1971 for a review). Indeed, research using “minimal groups” demonstrates that even when no pre-existing or lasting connection with a group exists, members rate ingroups more positively (e.g., Gaertner, Mann, Murrell, & Dovidio, 1989), disproportionately allocate resources to their ingroup, (e.g., Tajfel et al., 1971), and ascribe more positive traits to their ingroup than an outgroup (e.g., Cadinu & Rothbart, 1996). It may be argued that ingroup favoritism appears because self-report measures tap a desire to demonstrate support for one’s own group. Yet observations of ingroup favoritism go beyond self-report measures. People prefer arbitrarily assigned ingroups on indirect attitude measures that tap spontaneous, less deliberate responses (Ashburn-Nardo, Voils, & Monteith, 2001; Otten & Wentura, 2001). When placed into an arbitrary group, people clearly favor their own group over other groups on direct and indirect measures. Thus, although self-report measures of ingroup favoritism may be suspect due to demand to show ingroup favoritism, measures that bypass such concerns continue to strongly support it. Moreover, these ingroup preferences are not merely hothouse effects cultivated in the laboratory—30 years of evidence suggest that ingroup favoritism is a robust and nearly ubiquitous fact of social life.

Ingroup favoritism, however, is not inevitable. Beginning with Clark and Clark’s (1947) observations that Black children preferred White dolls over Black dolls, social psychologists have demonstrated that, rather than being inevitable, ingroup favoritism is occasionally diminished or even absent (Hewstone & Ward, 1985; Jost & Burgess, 2000; Mlicki & Ellemers, 1996). For example, women rate themselves as less competent than men in mathematics, African-Americans endorse the notion that they are more hostile and less intelligent than other groups, and the poor indicate that they are not as hardworking as the rich (Jost & Banaji, 1994; Jost, Banaji, & Nosek, 2004). These observations are consistent with meta-analyses indicating that members of low-status groups, compared to members of high-status groups, show reduced ingroup positivity (compared to an outgroup) on

many affective, cognitive and behavioral measures (Bettencourt, Charlton, Dorr, & Hume, 2001; Mullen, Brown, & Smith, 1992).

These two findings—strong, seemingly ubiquitous ingroup preference, and reduced ingroup preference—appear to present a paradox. On one hand, ingroup attitudes seem to be closely connected to the self, such that people develop strong liking for groups to which they are connected. On the other, ingroup attitudes reflect an internalization of the broader culture's evaluation of the group. In this research, we explore these two potential sources—self and culture—underlying implicit ingroup attitudes (Rudman, 2004).

SOURCES UNDERLYING IMPLICIT INGROUP ATTITUDES

The Self as a Source of Implicit Ingroup Attitudes. Starting with the assumptions that most people associate the self with a positive valence, and that the self is a central part of an associative knowledge structure, Greenwald et al. (2002) presented a framework for understanding implicit cognitions related to oneself and one's groups. Their theory makes specific predictions about the relations among group-related cognitions. First, because cognitive structures tend toward balance among related constructs, it predicts that strong implicit liking for self (self-esteem) should be related to strong implicit liking for one's ingroups. This hypothesis is consistent with a recent meta-analysis that found that self-esteem was positively related to the degree of ingroup bias in minimal group situations (Aberson, Healy, & Romero, 2000).

A second principle of the cognitive consistency approach suggests that the relationship between any two implicit cognitions about the self depends on the strength of a third, related cognition. For instance, the correlation between implicit self-esteem and ingroup liking should be moderated by the strength of implicit identity with that group. That is, positive ingroup attitudes should form only to the extent that people both evaluate themselves positively *and* have a strong implicit association between themselves and the group. This position can be illustrated as: "If I am good, *and* I am an American, then America is good." However, group members who are not strongly identified with the group would not need to develop positive ingroup attitudes to

maintain consistency among their self-esteem, attitude, and identity. This position can be summarized as: "If I am good, but am not an American, then I should not necessarily view America as good."

A number of demonstrations have supported this theory. For example, White subjects with high implicit self-esteem and strong implicit racial identity also showed stronger implicit preference for Whites relative to Blacks than those without high implicit self-esteem and strong racial identity (Greenwald et al., 2002). These data support the premise that strong implicit ingroup liking is related to strong implicit liking of the self and ties to the group.

Group Status as a Source of Implicit Ingroup Attitudes. At the same time, attitudes toward one's own group are not merely a function of attitudes toward the self. Explicit, self-report measures may overestimate the strength of ingroup preference (Greenwald & Banaji, 1995; Jost et al., 2004) — when groups differ in their position in an evaluative hierarchy, indirect measures should tap internalization of dominant cultural attitudes to a greater extent than more direct measures. Consistent with this contention, African-Americans explicitly report strong ingroup preference but show no such implicit ingroup preference (Nosek, Banaji, & Greenwald, 2002; Livingston, 2002). Likewise, the elderly report strong liking for their own group on explicit measures, but show strong implicit preference for *young* over *old* (Hummert, Garstka, O'Brien, Greenwald, & Mellott, 2002; Nosek et al., 2002). Reduced ingroup preference on implicit measures has been shown in other groups, including the poor, those who are overweight (Rudman, Feinberg, & Fairchild, 2002), and university students comparing themselves to a higher-status school (Jost, Pelham, & Carvallo, 2002). These data, then, might be taken to suggest that dominant cultural attitudes, rather than attitudes about the self, lie underneath implicit ingroup attitudes.

In fact, system justification theory (Jost & Banaji, 1994) makes exactly this argument. System justification theory begins with the assumption that, all things being equal, individuals will prefer their own groups; that is, they will show ingroup favoritism. However, because of the conflict faced by members of lower-status groups between the tendency toward ingroup preference and

consensual negative attitudes about their group, members of low-status groups may endorse negative ingroup stereotypes and show decreased ingroup preference. That is, social privileging of one group over another can lead to differences in evaluative status, which may be internalized by members of the disadvantaged group even when the resulting social arrangement is detrimental to such individuals.

THE CURRENT RESEARCH

The “self as source of implicit ingroup attitudes” position suggests that positive associations toward the self, coupled with strong associative ties between the self and one’s group, ought to yield positive implicit evaluations toward one’s ingroups. The alternate suggestion, that one’s group status can influence implicit attitudes, even when explicit ones are resilient to widespread beliefs, suggests that social standing of a group should moderate implicit ingroup attitudes toward it. When one’s group is positively evaluated in the culture, these two processes should work in tandem with one another to create strong ingroup liking. However, when one’s group is negatively evaluated in the local culture, there may be a tension between a drive to maintain consistency between group attitudes and positivity toward the self, and the incorporation of dominant attitudes. The former should lead to strong ingroup liking that is a function of self-related attitudes, whereas the latter should lead to depressed ingroup liking that is not necessarily a function of self-related attitudes.

In the current research, we explore this apparent contradiction. On one hand, the drive toward ingroup liking is so strong that people like their own groups even when those groups are randomly determined, and this group esteem is derived in part from self-esteem and group identity. On the other hand, the data are clear that such outcomes are not inevitable, and the status of a group can dramatically attenuate ingroup liking. Further, implicit measures may be more sensitive than explicit ones in detecting such differences. How can these two positions be reconciled? Or, put another way, which process—the tendency toward ingroup liking that originates in beliefs about the self, or the ten-

dency for low or high group status to diminish or intensify ingroup liking—underlies implicit attitudes of members of lower-status groups?

When groups are relatively equal in evaluative status within a culture, we expect that members of each group will show similar patterns of implicit ingroup preference, as Japanese-Americans and Korean-Americans did (Greenwald, McGhee, & Schwartz, 1998). Moreover, we expect that self- and group-related cognitions will demonstrate cognitive consistency.

However, when evaluative hierarchies are present — when groups differ in their overall cultural evaluation—we suggest two alternative hypotheses. The first hypothesis suggests that these two views are not necessarily incompatible. While the cognitive consistency approach focuses on interrelations among cognitions, the system justification approach has, to date, attended primarily to group differences in overall ingroup liking. It is plausible that cognitive consistency could be maintained despite an overall depression in ingroup liking. For instance, Blacks may show reduced levels of overall implicit ingroup liking, but if Blacks with high implicit self-esteem and high ingroup implicit identity showed the most positive implicit ingroup attitudes among Black subjects, then the predictions of both theories would be supported.

The second hypothesis takes the position that the opposition between the two processes should disrupt the tendency toward cognitive consistency. This account would suggest that members of lower-status groups would show decreased ingroup liking (as has already been widely demonstrated), and would not exhibit cognitive consistency among self- and group-related implicit cognitions. That is, when the positive cognitions about self conflict with negative ones from the culture, cultural evaluations may dominate.

Initial research supports the latter pattern. Elderly subjects were implicitly identified and preferred the outgroup *young* to the ingroup *old*. Contrary to the predictions of the cognitive consistency approach, higher implicit self-esteem among elderly subjects actually predicted greater *outgroup* positivity and identity. That is, age-related cognitions did not display cognitive consistency (Greenwald et al., 2002). Similarly, among smokers,

implicit self-esteem was not related to smoking attitudes (Swanson, Rudman, & Greenwald, 2001). These findings suggest that when groups are somehow stigmatized, group attitudes are independent from self-related cognitions.

We focus on groups that are formed by random assignment. Because the groups we studied have the same access to material resources, are not stigmatized (Crocker, Major, & Steele, 1998), and are not differentiated by stereotypes, the emergence of group differences in implicit ingroup liking would demonstrate that system justification operates even when group differences are not derived from conflict over tangible resources or the usual markings that characterize groups that are typically studied, such as ethnicity, class, or gender. We also use groups where membership is clearly determined. In the current study, group membership was unambiguous, and we expected strong implicit ingroup identity to form.

We measured attitudes toward Yale and its smaller residential colleges, which differ in their position in the evaluative hierarchy on campus (i.e., there is consensus at any given time that some residential colleges are “better” than others). Unlike previous work, in which groups were either known to participants or experimentally manipulated to differ widely from one another (Jost et al., 2004; Mullen et al., 1992), the differences among the residential colleges are known primarily to members of a small intimate community. We explored the two potential sources of implicit ingroup attitudes—self and culture.

The Residential Colleges at Yale. At Yale, the residential colleges are the center of undergraduate life. Importantly, students are randomly assigned to them before arriving at Yale and are affiliated with them throughout college. Although they differ somewhat in architecture and location, no obvious or systematic differences exist among them. With few exceptions (e.g., legacies¹), students cannot choose their residential college. The residential colleges, therefore, provide an important naturalistic setting in which to observe group identity and attitude that are created by random assignment.

1. A legacy student is related to a student or alumnus.

The 12 residential colleges are divided into natural pairs based on shared common features or locations—for example, certain pairs of residential colleges share a courtyard. We selected two pairs of residential colleges for which a number of factors suggested natural pairs.² Within each selected pair of residential colleges, the two colleges are adjacent to each other, are similar in physical structure and facilities, and have developed a natural pairing. A *Yale Daily News* (1999) overview of the residential colleges, for example, described College B as College A's "rival" and characterized Colleges C and D similarly. First-years are involved in residential college life and eat their dinners in their residential college regardless of whether they live in the college itself. In the current study, first-years lived in one pair of residential colleges that we selected, but lived outside the residential colleges in the other pair.

Unlike universities, residential colleges lack recognition outside the university and are not known to differ in status—they are intended to be a "microcosm of the larger student population" (Yale University, 2003). To an observer watching students eat from china with their residential college's pattern, all seem to evoke a similar sense of high-status. However, residential colleges develop a reputation on campus that may be influenced by location, administration, popular annual events or local facilities. This reputation likely varies over time as residential colleges are renovated, or have administrative turnover. In a data collection conducted independently of this one, 105 Yale undergraduates indicated that they thought most Yale students would prefer College A over College B, $\chi^2(1) = 28.58, p < .0001$, and College C over College D, $\chi^2(1) = 5.76, p = .02$, indicating that there are consensual status differences among the residential colleges. Specifically, Colleges A and C had relatively high-status within the local culture, whereas Colleges B and D had relatively low status within the local culture. Moreover, the magnitude of the differences indicated that the status difference was much larger between Colleges

2. Because of the potential for knowledge of group differences to become self-fulfilling, and the likelihood that Yale affiliates may learn of these findings, we will not name the residential colleges, but will refer to them as Colleges A and B (first data collection) and C and D (second data collection).

A and B than Colleges C and D. Thus, we coded Colleges A and C as 'high-status' and Colleges B and D as 'low-status.' Moreover, these data suggest—but because of their relative nature do not confirm—that College A was the highest-status residential college, and College B the lowest-status residential college.

OVERVIEW OF RESEARCH

Students completed measures of implicit self-esteem, and implicit and explicit attitudes toward and identity with Yale and their residential college. Testing was done during the first week of the academic year and again a few weeks later.

Two primary questions were addressed. First, does group status attenuate implicit ingroup liking even among randomly determined groups? The combination of students' university affiliation, coupled with the perceived equal status of Yale and Harvard, ought to result in strong positivity toward one's own university. In contrast, we expected that the local evaluative hierarchy would be internalized by students in the residential colleges, and predicted that residential college status would moderate the strength of ingroup liking toward the residential colleges.

Second, we compared cognitive consistency and group status as sources of implicit attitudes. In particular, we expected that Yale attitudes and identities would adhere to principles of cognitive consistency. When status differences entered the picture, at least two possibilities exist. First, although status may attenuate average levels of ingroup liking, cognitive consistency may be maintained at the individual level. If this were the case, then residential college implicit cognitions should adhere to cognitive consistency principles for members of high- and low-status residential colleges. On the other hand, if lowered group status disrupts the tendency toward cognitive consistency, then status, rather than cognitive balance, ought to best predict implicit ingroup attitudes.

Additionally, we also considered the relative level of students' experience. Differences between residential colleges, but not between levels of experience, in group liking would provide additional support for the ubiquity of system justification—such

findings would suggest that the process of justifying the system begins even when one is randomly placed into a low-status group rather than after extensive time in a culture that subtly or overtly favors certain groups. To the extent that evaluative group hierarchies are internalized only after sustained experience with the group, first-year students in both high- and low-status residential colleges should show strong implicit liking for their own residential college; in contrast, upper-class students' attitudes should differ by residential college. On the other hand, if internalization of prevailing attitudes does not require sustained experience with the culture, then first-year and upper-class students should show similar attitudes that reflect the hierarchy. That is, students of all years in high-status residential colleges should show stronger implicit preference for their colleges than those in the low-status residential colleges.

METHOD

PARTICIPANTS

Three hundred and six Yale undergraduates (151 in the initial data collection and 155 in the second data collection) participated in exchange for candy. Eleven participants were excluded due to failure to follow directions or complete the task, resulting in a total of 295 subjects (167 men, 127 women, and 1 unknown gender). Participants' race was as follows: 185 White, 50 Asian, 14 Black, 13 Hispanic, 14 Biracial, and 19 other or unknown. One hundred and fifteen participants were first-year students, with the remainder in their second ($N = 89$), third ($N = 41$) or fourth ($N = 49$) year of undergraduate study (one student did not report year). Collapsing across second through fourth year students yielded 179 upperclass students and 115 first-year students.

MATERIALS

Implicit Measures. The Implicit Association Test (IAT; Greenwald et al., 1998) measures automatic aspects of social cognition by providing estimates of the strength of association between target concepts (e.g., *Yale, Harvard*) and evaluation (*Good, Bad*) or

identity (*Me, Not-me*). In the current study, participants classified words as denoting one of two target categories (e.g., *Yale* or *Harvard*), while simultaneously categorizing words as denoting one of two attributes (e.g., *Good* or *Bad*). Each category shared a response with each attribute for one block. We expected responses to be faster in the block in which closely associated concepts were paired (e.g., for our participants, *Yale* and *Good*).

Participants completed a paper-and-pencil version of the IAT. The logic of the paper-and-pencil task is identical to that of the response latency version (Greenwald et al., 1998). As in the computerized IAT, each concept is paired with each attribute for one block. Figure 1 presents a portion of a sample block in which Yale and Good share a response. Each page contained two columns of 24 words with stimuli from the concept (e.g., *Yale* and *Harvard*) and attribute categories (e.g., *Good* and *Bad*) in a random order, with the restriction that words from the concept and attribute categories alternated with one another. A circle was printed to the left and right of each item. Category reminders were above each column of circles. Participants had 20 seconds to categorize as many words as possible by checking the appropriate (left or right) circle. The dependent measure was the difference in the number of items completed between the two blocks.

Six IATs were administered. A practice task assessed relative attitudes toward flowers and insects. The critical tasks measured (a) university attitude, (b) residential college attitude, (c) university identification, (d) residential college identification, and (e) self-esteem. Three stimuli represented each concept (e.g., *Bulldog*, for YALE; *Cambridge* for HARVARD; residential college names and common abbreviations for residential colleges). Two sets of evaluative stimuli connoted the attributes GOOD (e.g., *awesome*) and BAD (e.g., *terrible*). Table 1 summarizes the measures and stimuli.

Explicit and Demographic Measures. Three items assessed explicit Yale attitude (e.g., "I believe that Yale is the best university in the nation"). Two items related to each of Yale identity, and residential college attitude and identity. All items were presented on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale. Participants also ranked Yale on a scale of 1 (*worst possible college choice*) to 10 (*best possible college choice*).

Participants listed the undergraduate colleges or universities to which they had applied in the order of preference at time of appli-

| | | | |
|-----------|-----------|-----------|-----------|
| YALE | HARVARD | YALE | HARVARD |
| Blue | Cambridge | Blue | Cambridge |
| Bulldogs | Crimson | Bulldogs | Crimson |
| Yale | Harvard | Yale | Harvard |
| GOOD | BAD | GOOD | BAD |
| awesome | evil | awesome | evil |
| excellent | murder | excellent | murder |
| happy | terrible | happy | terrible |

| | | | |
|-----------------------|----------------|-----------------------|----------------|
| Yale | Harvard | Yale | Harvard |
| good | bad | good | bad |
| <input type="radio"/> | Cambridge | <input type="radio"/> | happy |
| <input type="radio"/> | awesome | <input type="radio"/> | Blue |
| <input type="radio"/> | Bulldogs | <input type="radio"/> | evil |
| <input type="radio"/> | terrible | <input type="radio"/> | Yale |
| <input type="radio"/> | Blue | <input type="radio"/> | excellent |
| <input type="radio"/> | evil | <input type="radio"/> | Harvard |

FIGURE 1. Sample paper-pencil IAT.

Note. Each column contained 24 stimuli. Participants categorized as many words as possible in a 20-second time period.

cation, and indicated whether they had applied to Harvard, and if so, the outcome of their application. Students not admitted to Harvard also indicated whether they thought they would have attended had they been offered admission. Finally, participants provided demographic information, and indicated whether they were a legacy, transferred to Yale or had applied early decision.³

3. Under early decision at the time of this study, students could apply to Yale in November rather than December. If accepted, they were required to attend Yale.

TABLE 1. Summary of Implicit Categories and Stimuli

| Category | Stimuli |
|--------------|--|
| Flower | daffodil, daisy, tulip |
| Insect | gnat, mosquito, roach |
| Harvard | Cambridge, Crimson, Harvard, |
| Yale | Blue, Bulldog, Yale |
| Good (Set A) | awesome, excellent, happy |
| Bad (Set A) | awful, cancer, horrible |
| Good (Set B) | great, terrific, wonderful |
| Bad (Set B) | evil, terrible, murder (data collection 1), bomb (data collection 2) |
| Self | me, my, mine |
| Other | theirs, them, they |
| RCs | RC names and well-known abbreviations |

These measures were largely exploratory and did not have sufficient variability in responses to examine whether they moderated the results.

Presentation. All measures were included in a single packet. The first two pages, in order, were the practice *flower+good* block, and the *flower+bad* block. The remaining tasks followed in one of two random orders, with the two blocks of the same IAT never appearing consecutively. The two orders were fully counterbalanced with the two evaluative word sets (see Table 2 for a summary). Explicit and demographic questions followed the IATs.

PROCEDURE

Participants were tested individually or in groups in a quiet area of the residential college dining halls. The experimenter explained the task and reminded participants to move down the column without skipping words, to begin the second column if they completed the first, and to work quickly but to try to avoid mistakes. After answering questions, the experimenter said “Start,” and “Stop” at the beginning and end of each 20-second period for each of the 10 critical blocks. After completing the implicit measures, each participant completed the explicit and demographic questionnaires.

TABLE 2. Summary of Counterbalancing Strategy

| Order | 1 | | 2 | | 3 | | 4 | |
|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | A | | A | | B | | B | |
| Block 1 | Flower+Good | Flower+Good | Flower+Good | Flower+Good | Flower+Good | Flower+Good | Flower+Good | Flower+Good |
| Block 2 | Flower+Bad | Flower+Bad | Flower+Bad | Flower+Bad | Flower+Bad | Flower+Bad | Flower+Bad | Flower+Bad |
| Block 3 | Yale+Bad | Yale+Self | Yale+Self | Yale+Bad | Yale+Bad | Yale+Bad | Yale+Self | Yale+Self |
| Block 4 | Coll B (D)+Self | Self+Good | Self+Good | Coll B (D)+Self | Coll B (D)+Self | Coll B (D)+Self | Self+Good | Self+Good |
| Block 5 | Self+Bad | Yale+Other | Yale+Other | Self+Bad | Self+Bad | Self+Bad | Yale+Other | Yale+Other |
| Block 6 | Yale+Other | Coll A (C)+Self | Coll A (C)+Self | Yale+Other | Yale+Other | Yale+Other | Coll A (C)+Self | Coll A (C)+Self |
| Block 7 | Coll B (D)+Good | Yale+Bad | Yale+Bad | Coll B (D)+Good | Coll B (D)+Good | Coll B (D)+Good | Yale+Bad | Yale+Bad |
| Block 8 | Yale+Self | Coll A (C)+Good | Coll A (C)+Good | Yale+Self | Yale+Self | Yale+Self | Coll A (C)+Good | Coll A (C)+Good |
| Block 9 | Yale+Good | Self+Bad | Self+Bad | Yale+Good | Yale+Good | Yale+Good | Self+Bad | Self+Bad |
| Block 10 | Coll A (C)+Self | Coll B (D)+Self | Coll B (D)+Self | Coll A (C)+Self | Coll A (C)+Self | Coll A (C)+Self | Coll B (D)+Self | Coll B (D)+Self |
| Block 11 | Self+Good | Yale+Good | Yale+Good | Self+Good | Self+Good | Self+Good | Yale+Good | Yale+Good |
| Block 12 | Coll A (C)+Good | Coll B (D)+Good | Coll B (D)+Good | Coll A (C)+Good | Coll A (C)+Good | Coll A (C)+Good | Coll B (D)+Good | Coll B (D)+Good |

Note. Columns represent all possible orders of implicit materials received by participants.

RESULTS

DATA PREPARATION

Although most tests using the IAT are computerized, paper–pencil versions have been used occasionally (e.g., Lowery, Hardin, & Sinclair, 2001; Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003). Paper-and-pencil versions of the task have exhibited similar patterns of overall preferences as computerized IATs, and exhibit convergent validity with computerized measures of the same constructs (Lemm, Sattler, Khan, Mitchell, & Dahl, 2002).

Nevertheless, relatively less is known about the parameters of such measures. The scoring procedures used in these studies evolved in this laboratory over the course of analyzing several simulated and actual data sets, and are presented here for the first time. Ten participants who averaged 20% or more errors on the non–flower IATs were excluded. Overall error rates were approximately 3.0%. Both the computerized and paper–pencil versions of the IAT assume that categorizing items should be more difficult when one’s self or social group is paired with *Bad* or *Other*. Consistent with this assumption, error rates were higher in the incompatible blocks (3.7% – 6.8%) than in the compatible blocks (0.1% – 1.3%). Error rates did not vary by IAT, or residential college. Any individual IAT with more than 20% errors or fewer than eight items completed on either block was also excluded (approximately 6% of non–practice IATs). Because subjects could have between one and six IATs excluded, degrees of freedom differ across analyses.

The following transformation is based on analyses of simulated data sets that mirror the distribution of general IAT effects. Compared to a number of alternatives, this algorithm best accounts for the difference between the number of items completed and individual differences in speed in completing categorization tasks in general. IAT effects were calculated as: $\pm [\text{maximum} / \text{minimum}] \cdot \sqrt{(\text{maximum} - \text{minimum})}$, where *maximum* is the number of correctly categorized items on the block for which participants completed more correct items, and *minimum* is the number of items correctly categorized on the block for which they completed fewer correct items. Values were multiplied by negative one if

maximum corresponded to the incompatible block (Nosek & Lane, 1999). This transformation is correlated with raw difference scores ($r = .98$ using Fisher's r -to- z transformation), but minimizes the influence of extreme scores, and reduces the overall skewness of the distribution of the data. Although statistics were performed on transformed scores, difference scores are reported for ease of interpretation. Mean scores indicate the difference between the number of items completed between the two blocks, with higher scores reflecting stronger positivity or identity toward one's self or one's ingroup. Analyses performed on the raw difference scores revealed the same pattern of results.

Analyses were collapsed across task order and evaluative word sets, which did not influence the results. Gender and ethnicity did not moderate any of the main implicit or explicit effects of interest; subsequent analyses were thus collapsed across these variables as well. In all analyses, students from Colleges A and C were classified as 'high status' and students from Colleges B and D were classified as 'low status.' Data collection period was included as a between-subjects factor.

ATTITUDES AND IDENTIFICATION WITH YALE

Implicit Measures. Yale's high status, coupled with participants' ties between self and Yale, ought to result in strong ingroup liking for Yale among its undergraduate students. Consistent with this prediction, the seemingly ubiquitous finding of ingroup preference emerged. Participants strongly implicitly preferred Yale over Harvard (Table 3), completing more items in the *Yale+good* block ($M = 26.03$, $SD = 5.40$) than in the *Yale+bad* block ($M = 18.69$, $SD = 5.21$), reflecting a strong preference for Yale, $t(270) = 24.25$, $p < .0001$, Cohen's $d = 1.48$. Similarly, participants strongly implicitly identified with Yale over Harvard, completing more items in the *Yale+self* block ($M = 23.58$, $SD = 5.20$) than in the *Yale+other* block ($M = 15.94$, $SD = 5.04$), reflecting strong implicit identification with Yale over Harvard, $t(258) = 26.19$, $p < .0001$, $d = 1.63$.

Explicit Measures. As on the implicit measures, students' explicit attitude toward Yale, $t(292) = 27.61$, $p < .0001$, $d = 1.62$ and explicit identity with Yale, $t(292) = 15.77$, $p < .0001$, $d = 0.92$, were positive and strong (Table 3). Implicit and explicit attitude to-

ward Yale were moderately correlated, $r(271) = .19, p < .01$, whereas implicit and explicit identity were not, $r(259) = .03, ns$. Because the IAT was a relative measure (that is, attitude and identity were always assessed relative to Harvard), and the self-report measures assessed absolute liking of and identity with Yale, these measures are not directly comparable.

Effects of Direct Experience. We next examined whether direct experience at Yale moderated implicit and explicit attitude and identity with the university. Because first-year students had been enrolled at Yale for less than a week (the first data collection) or less than a few weeks (the second data collection), these data speak to the role of direct experience in development of implicit and explicit attitudes. To the extent that implicit attitudes require extensive direct experience and are slow to develop (Fazio, 1993; Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Smith & DeCoster, 1999), upper-class students should exhibit stronger liking for Yale than first-year students. On the other hand, to the extent that even implicit ingroup attitudes form rapidly (Ashburn-Nardo et al., 2001; Otten & Wentura, 2001), we would expect that first-year and upper-class students would show similar implicit attitudes.

To say that first-year students had no experience with Yale would be misleading—they had already chosen to research, apply, attend, and in many cases visit the university. However, they had less direct experience with the university than upper-class students. Implicit and explicit attitude and identity data were each subjected to a 2 (data collection period: first week of school versus a few weeks later) \times 2 (year in school: first-years versus other students) analysis of variance (ANOVA). Data collection period was included as a between-subjects factor in order to account for any differences that might emerge within the first few weeks of school, or differences between pairs of residential colleges.

Implicit Yale attitudes did not vary by data collection period, year in school, or their interaction, all $F_s < 2.25, ns$. Similarly, implicit identity was unaffected by data collection period, year in school, and their interaction, $F_s < 0.81, ns$. Students had strong associations between *Yale* and *Good*, and *Yale* and *Self*, whether they had been at Yale one week or one (or more) years.

TABLE 3. Implicit and Explicit Attitude and Identity Main Effects Overall and By Residential College

| | Overall | | | College A | | | College B | | | <i>t</i> | College C | | | College D | | | |
|-----------------|---------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|----------|-----------|-----------|----------|-----------|-----------|----------|---------|
| | Mean | <i>SD</i> | <i>d</i> | Mean | <i>SD</i> | <i>d</i> | Mean | <i>SD</i> | <i>d</i> | | Mean | <i>SD</i> | <i>d</i> | Mean | <i>SD</i> | <i>d</i> | |
| Implicit | | | | | | | | | | | | | | | | | |
| Yale Attitude | 7.29 | 5.03 | 1.48 | 7.49 | 4.98 | 1.51 | 6.98 | 5.07 | 1.40 | 0.77 | 6.89 | 4.77 | 1.45 | 7.89 | 4.40 | 1.86 | -1.10 |
| Yale Identity | 7.78 | 4.67 | 1.63 | 8.50 | 5.01 | 1.65 | 7.54 | 4.58 | 1.64 | 1.25 | 6.92 | 4.79 | 1.38 | 8.44 | 4.50 | 2.01 | -1.65 |
| RC Attitude | 4.02 | 6.08 | 0.64 | 8.42 | 5.56 | 1.38 | -0.21 | 6.15 | -0.07 | 8.51** | 6.21 | 4.75 | 1.30 | 1.59 | 4.44 | 0.35 | 5.75** |
| RC Identity | 6.00 | 6.58 | 0.82 | 8.03 | 6.49 | 1.20 | 6.21 | 5.31 | 1.10 | 2.00* | 5.68 | 5.93 | 0.93 | 9.27 | 5.03 | 1.58 | -4.40** |
| Self-Esteem | 6.25 | 5.52 | 1.12 | 6.27 | 6.61 | 0.94 | 5.30 | 5.24 | 1.01 | 1.01 | 6.51 | 5.57 | 1.16 | 6.77 | 4.82 | 1.48 | -0.09 |
| Explicit | | | | | | | | | | | | | | | | | |
| Yale Attitude | 5.65 | 1.03 | 1.62 | 5.61 | 0.99 | 1.65 | 5.62 | 1.11 | 1.46 | -0.02 | 5.69 | 0.97 | 1.76 | 5.74 | 1.02 | 1.73 | -0.31 |
| Yale Identity | 5.18 | 1.29 | 0.92 | 4.97 | 1.22 | 0.80 | 5.02 | 1.35 | 0.76 | -0.24 | 5.06 | 1.29 | 0.83 | 5.64 | 1.17 | 1.41 | -2.51* |
| RC Attitude | 5.14 | 1.49 | 0.77 | 5.56 | 1.29 | 1.22 | 4.99 | 1.39 | 0.72 | 2.43* | 5.18 | 1.57 | 0.76 | 5.19 | 1.49 | 0.81 | -0.03 |
| RC Identity | 4.67 | 1.40 | 0.48 | 4.75 | 1.39 | 0.54 | 4.91 | 1.26 | 0.73 | -0.69 | 4.41 | 1.20 | 0.35 | 4.79 | 1.62 | 0.49 | -1.41 |

Note. Implicit attitude and identity reflect the difference in number of items completed on each block of the IAT. Explicit attitude and identity were assessed on a 7-point scale. Higher numbers on both implicit and explicit measures reflect greater liking for or identity with self[comma here] university[comma here] or one's own residential college. *T*-tests reflect the simple effect differences between each pair of residential colleges. * $p < .05$. ** $p < .01$.

On the other hand, explicit liking for and identity with Yale did vary over time. Main effects of data collection period, $F(1, 289) = 3.86, p = .05$, on self-reported Yale attitudes were qualified by a marginally significant interaction between data collection period and year in school, $F(1, 289) = 3.00, p = .08$, that indicated that first-years in the second data collection period reported more liking for Yale ($M = 6.03, SD = 0.77$) than the other three groups (M s ranged from 5.56 to 5.59 for the other three groups). This result was somewhat surprising, as there was no *a priori* reason to expect that students who had been at Yale for a few weeks would like it more than those who had just arrived, or had been there for a few years.

Although implicit identity was approximately equally strong among all groups, development of explicit identity lagged behind. During the first week of school students reported lower identity with Yale ($M = 4.62, SD = 1.26$), but within a few weeks reported similar identity with Yale as did upper class students (M s between 5.29 and 5.60 for the other three groups), as evidenced by significant main effects of data collection period, $F(1, 289) = 9.68, p = .002$, and year in school, $F(1, 289) = 10.01, p = .002$, that were qualified by a significant interaction between year in school and data collection period, $F(1, 289) = 9.14, p < .01$.

Summary. These data indicate that implicit and explicit attitudes toward one's university were positive and strong. Moreover, implicit attitudes and identities were in place early and did not vary whether students had been immersed in the university environment for one week (first years in the first data collection), a few weeks (first years in the second data collection), or a few years (all upper-class students).

ATTITUDES AND IDENTIFICATION WITH THE RESIDENTIAL COLLEGES

Implicit Measures. We next examined implicit attitudes toward the residential colleges. Because the residential colleges varied in their status in the local culture, two potentially competing forces contribute to ingroup attitudes. On one hand, the tendency toward ingroup liking would predict that strong ingroup preference should emerge. On the other hand, group status often attenuates this tendency. A 2 (residential college status: high-sta-

tus versus low–status) \times 2 (data collection period) \times 2 (year in school) ANOVA revealed a strong main effect for residential college status, $F(1, 234) = 83.54, p < .0001$, an effect that was qualified by an interaction between status and data collection period, $F(1, 234) = 7.19, p < .01$. That is, contrary to the notion that ingroup attitudes originate in the self (and therefore ought to be generally positive), strong ingroup preference was not inevitable, although the magnitude of difference in ingroup liking differed by data collection period (Figure 2). This is not surprising since pretesting data indicated that the status difference between Colleges A and B was larger than that between Colleges C and D. Indeed, implicit ingroup attitudes reflected the local hierarchies.

Simple effects tests revealed that College A residents implicitly preferred their residential college more than College B residents preferred their residential college, $t(129) = 8.51, p < .0001, d = 1.50$. Similarly, College C residents implicitly preferred their residential college more than College D residents, $t(109) = 5.75, p < .0001, d = 1.10$. Residents of high–status residential colleges completed more items when their own residential college was paired with good than when it was paired with bad. This difference reflected strong ingroup preference for high–status residential colleges (College A $d = 1.38$, College C $d = 1.30$). Among lower–status residential colleges, ingroup preference was markedly diminished (College B $d = -0.07$, College D $d = 0.35$). These results are consistent with system justification theory's (Jost & Banaji, 1994; Jost et al., 2004) prediction that implicit ingroup liking should be moderated by the prevailing status of the group.

On the other hand, students in both high– and low–status residential colleges showed strong implicit identification with their residential college; although not all residential colleges elicited strong implicit preference, students in all residential colleges showed strong implicit ingroup identity (d s ranged from 0.93 to 1.58; see Table 3). There were group differences in the extent to which students identified with their residential college, as evidenced by significant interactions between residential college status and year in school, $F(1, 218) = 5.47, p = .02$ and residential college status and data collection period, $F(1, 218) = 12.24, p < .01$. However, more positive evaluations did not always imply stronger ingroup identification. College A residents showed stronger

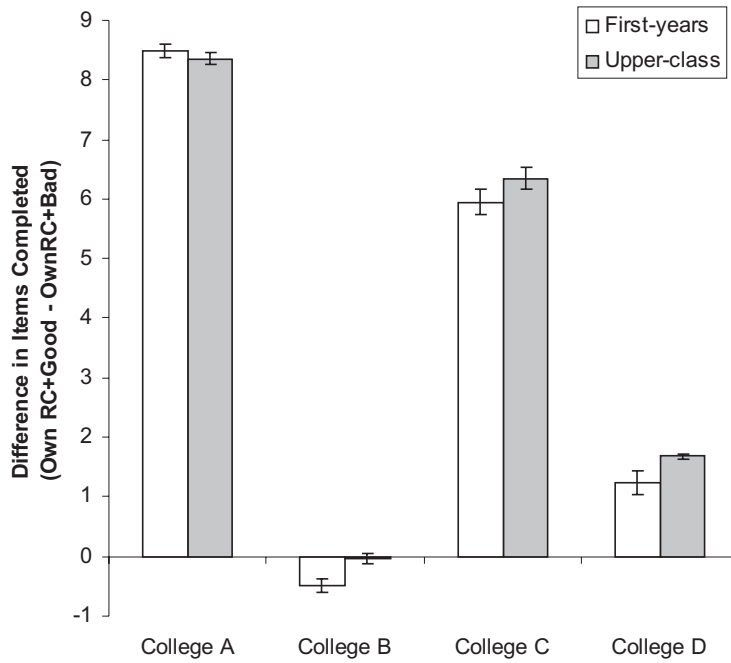


FIGURE 2. Implicit preference for residential college, by RC affiliation and experience level.

identity than College B residents, $t(120) = 2.00, p = .05, d = 0.37$. On the other hand, students in the lesser-liked College D showed stronger identity than students in College C, $t(102) = -4.40, p < .0001, d = 0.87$.

To further examine the effects of status on implicit ingroup attitude and identity, we examined whether, across all four residential colleges, status predicted ingroup attitudes. To test this, we assigned each residential college a perceived status value based on the earlier ratings of Yale students who were not residents of any of the relevant residential colleges. Group membership was coded such that higher values reflected more positive evaluative status, as follows: 1 = College B, 2 = College D, 3 = College C, 4 = College A. Perceived status covaried strongly with implicit ingroup attitudes,

$r(242) = .55, p < .0001$ but not implicit ingroup identity, $r(226) = -.08, ns$. That is, ingroup liking was largely a function of a group's social status, whereas implicit identity was in place regardless of a group's evaluative status.⁴

These results imply that ingroup attitudes were largely a function of the overall residential college status. The stark differences in residential college preference are particularly striking when compared to the robust preference for Yale. Despite students' positive self-reported attitudes, residential colleges differed dramatically in the degree to which their residents implicitly preferred them. Status did not attenuate implicit identity with the residential colleges to the same degree.

Explicit Measures. The evaluative hierarchy among residential colleges within the university was reflected by members of both high-status and low-status residential colleges on the implicit measures. In contrast, explicit self-report data (Table 3) suggest that participants were not consciously aware of, or were not willing to report, disparities between the residential colleges in which they lived. Despite the stark differences in implicit residential college attitude, students from all residential colleges reported strong liking for their own residential college. As before, explicit attitude was included in a 2 (residential college status) \times 2 (year in school) \times 2 (data collection period) ANOVA. Omnibus F s were not significant for attitude, or identity, both F s $< 1.16, ns$. Mirroring the university data, implicit and explicit residential college attitudes were slightly correlated, $r(240) = .17, p < .01$, although implicit and explicit identity were not, $r(240) = .03, ns$.

As before, we next examined whether, across all four residential colleges, status predicted ingroup attitudes. Perceived residential college status covaried slightly with explicit ingroup attitudes, $r(244) = .14, p = .03$, but did not covary with explicit identity, $r(244) = -.07, ns$. Importantly, the correlation between status and implicit

4. The status variable was extracted from relative rankings, and this method may overestimate the differences in status among the residential colleges. (For example, Colleges A and C may be of similarly high-status if Colleges B and D widely vary in status.) To account for this, we repeated this analysis coding status as high (1: Colleges A and C) and low (0: Colleges B and D). This dichotomous coding yielded the same pattern of results.

residential colleges ($r = .55$) was significantly larger than between status and explicit residential college attitudes, $z = 5.22$, $p < .0001$.

Effects of Direct Experience. Does status attenuate ingroup attitudes even when members are new to their groups, or do the effects of status differences take time to emerge? To the extent that evaluative group hierarchies are internalized only after sustained experience with the group, first-years in both high- and low-status residential colleges should show strong implicit liking for their own residential college; in contrast, upper-class students' attitudes should differ by residential college. On the other hand, if implicit preferences are formed early and system justification does not require sustained experience with the culture, then first-year and upper-class students should show similar attitudes that reflect the hierarchy. That is, we should find that the evaluative hierarchies are reflected by both first-years and more senior students. Figure 2 presents implicit residential college attitudes by residential college and year. Students of all years reflected the cultural evaluation of the residential colleges. Cultural evaluations, rather than experience with the group, appeared to determine implicit ingroup attitude in our sample. The earlier ANOVA (group status \times data collection period \times year in school) revealed that implicit ingroup attitudes did not differ based on students' level of experience, and experience did not interact with status or data collection period to moderate implicit residential college attitudes, all $F_s < 0.50$, *ns*.

Similarly, the group status \times data collection period \times year in school ANOVA revealed no effect of experience on self-reported liking of students' residential colleges, all $F_s < 1.78$, *ns*. This result provides additional support for the notion that system-justifying processes begin when one is placed into a low-status group rather than after extensive time in a culture that subtly or overtly favors certain groups.

Summary. In the current studies, even arbitrary assignment to a beautiful residential college created an inequity, reflected in members' differential implicit ingroup evaluations. Moreover, students internalized evaluative hierarchies implicitly but not explicitly, and such internalization occurred very rapidly upon being randomly assigned to a particular residential college.

TABLE 4. Correlations among Implicit Attitude, Identity, and Self-Esteem for Yale and the Residential Colleges

| | Yale | | Residential Colleges | | |
|-------------|----------|----------|----------------------|----------|-------------|
| | Attitude | Identity | Attitude | Identity | Self-Esteem |
| Attitude | | | Attitude | 0.45**** | 0.45**** |
| Identity | 0.30**** | | Identity | 0.30** | 0.42**** |
| Self-Esteem | 0.25**** | 0.19** | Self-Esteem | -0.11 | -0.12 |

Note. The left panel depicts zero-order correlations among Yale attitude and identity and self-esteem. (*Ns* range from 246 to 272). The right panel depicts zero-order correlations among residential college attitude and identity and self-esteem. Correlations among residents of high-status residential colleges (*Ns* range from 107 to 112) are presented above the diagonal. Correlations among residents of low-status residential colleges (*Ns* range from 108 to 114) are presented below the diagonal. $+p < .10$. $*p < .05$. $**p < .01$. $***p < .001$. $****p < .0001$.

TESTS OF COGNITIVE CONSISTENCY

We next tested for cognitive consistency among the implicit cognitions related to Yale, the residential colleges and self (Greenwald et al., 2002). Although any of the three implicit measures can be included as the criterion variable, we selected attitude because subjects' implicit self-esteem should theoretically precede their attitude and identity with Yale and the residential colleges, and attitude, but not identity, varied by residential college status. In all of the analyses that follow, an initial step in the regression controlled for data collection period.

Table 4 presents the intercorrelations of implicit attitude, identity, and self-esteem for Yale (left panel) and high- and low-status residential colleges (right panel). Yale attitude, identity and self-esteem were positively related to one another (all $r_s > .19$, $p < .01$). Similarly, among residents of high-status residential colleges, attitude, identity and self-esteem were strongly and positively related to one another (all $r_s > .42$, $p < .0001$). These findings are consistent with Greenwald et al.'s (2002) prediction that "when any variable in the BID is polarized toward its high end [in this case, all three variables], the zero-order correlation between the other two variables should be positive" (p. 11). In contrast, this same pattern did not hold for members of low-status residential colleges—although attitude and identity did, as predicted, positively relate to one another ($r = .30$, $p < .01$), self-esteem was

dissociated from residential college attitude ($r = -.11, ns$) and identity ($r = -.12, ns$). Group attitudes and self-esteem should be positively related to one another in a cognitively balanced system. This was not the case—despite students' strong identity with their residential college, their ingroup attitudes were not a function of their self-esteem. This dissociation between self-evaluations (implicit self-esteem) and group-related cognitions (implicit identity and attitude) suggests that members of low-status groups may account for the disparity in their group by separating their self-evaluations from their group-evaluations.

Greenwald et al. (2002) make specific predictions about the interrelation of implicit attitude, identity and self-esteem. Specifically, they expect that the interaction between implicit self-esteem and implicit identity should fully account for implicit attitude. That is, a person's ingroup attitude should be strongly positive only to the extent that they have high self-esteem *and* are strongly identified with the group. This prediction can be tested with a two-step hierarchical regression predicting ingroup attitudes. In Step 1, the interaction between self-esteem and identity is expected to be positively related to ingroup attitudes, and this model should account for a substantial amount of variance in implicit ingroup attitudes. In Step 2, the interaction and its component main effects are included in the model. The interaction term, but not the corresponding main effects, are expected to predict implicit ingroup attitudes.

Yale Attitudes. Table 5 summarizes the results for this analysis in the domain of university attitudes. Because there is no conflict between associating oneself with a high-status university and maintaining positive regard for the self, we expected that the predictions of Greenwald et al. (2002) would be supported. In two steps of a hierarchical regression, we entered the theoretically critical variables: the self esteem \times identity interaction (Step 1), and this interaction and its main effects (Step 2). Consistent with the first prediction, the interaction between implicit self-esteem and identity with Yale explained a substantial amount of variance in implicit attitudes toward Yale, $F(2, 233) = 18.00, p < .0001, Adjusted R^2 = .13$. The magnitude of this effect was large ($\beta = .37$). Entering the main effects for self-esteem and identity in addition to the interaction confirmed that the interaction completely explained variability in Yale attitudes, $Change\ in\ Adjusted\ R^2 = .01$.

Moreover, the main effects of implicit Yale identity ($\beta = .08$) and self-esteem ($\beta = -.05$) were not significant predictors of Yale attitude. The interaction continued to be an excellent predictor of Yale attitudes ($\beta = .35$). In short, Yale-related implicit cognitions were quite consistent with one another.

Residential Colleges. We next conducted the same analyses separately for members of low-status and high-status residential colleges. Members of low-status residential colleges did not exhibit consistency among their self- and group-related cognitions (Table 6). The interaction between self-esteem and identity was not a significant predictor of residential college attitudes ($\beta = .07$). When the two main effects of self-esteem and identity, as well as their interaction, were included in the model, residential college identity was a slight (albeit nonsignificant) predictor of residential college attitude ($\beta = .19$). Thus, although identity was slightly related to attitudes, self-esteem was dissociated from ingroup attitudes, contrary to predictions.

Similarly, members of high-status residential colleges did not show cognitive consistency (Table 6). Although the interaction between implicit residential college identity and implicit self-esteem predicted residential college attitudes ($\beta = .37$) by itself, it was no longer significant ($\beta = .01$) when included in the model with the main effects of self-esteem ($\beta = .29$) and group identity ($\beta = .28$). That is, students showed the patterns "If I am good, then my residential college is good" (main effect of self-esteem) and "If I am identified with my residential college, then it is good" (main effect of identity), but each effect occurred independently of the other. Although these data are not consistent with the predictions of the cognitive consistency approach, there was no dissociation between implicit attitudes toward the self and implicit attitudes toward the group, as there was for members of low-status residential colleges.

These data suggest that when there are large status differentials between groups, group status, rather than self-related attitudes, determine implicit ingroup attitudes. We next examined whether implicit ingroup cognitions would exhibit consistency after controlling for the effects of status (Table 7). Before conducting the critical analyses, we first entered status (0 = low-status, 1 = high-status) of the residential college into a regression predicting ingroup attitude. However, contrary to expectations, the interac-

TABLE 5. Beta Weights from Hierarchical Regression Predicting Implicit Yale Attitudes (Full Sample)

| | Step 1 | | | Step 2 | | |
|-------------|------------------------|---------------------|------------------------|-------------|----------|---|
| | Self-Esteem × Identity | Adj. R ² | Self-Esteem × Identity | Self-Esteem | Identity | Adj. R ² Change R ² |
| Full Sample | .37*** | 0.13*** | .35*** | -0.05 | 0.08 | 0.14 0.01 |

TABLE 6. Beta Weights from Hierarchical Regression Predicting Implicit Residential College Attitudes (By Level of Residential College Status)

| | Step 1 | | | Step 2 | | |
|-------------|------------------------|---------------------|------------------------|-------------|----------|---|
| | Self-Esteem × Identity | Adj. R ² | Self-Esteem × Identity | Self-Esteem | Identity | Adj. R ² Change R ² |
| Low-Status | 0.07 | 0.02 | 0.04 | -0.10 | 0.19 | 0.05 0.03+ |
| High-Status | 0.37*** | 0.17*** | 0.01 | 0.29** | 0.28** | 0.26 0.09** |

TABLE 7. Beta Weights from Hierarchical Regression Predicting Implicit Residential College Attitudes (Full Sample)

| | Step 1 | | | Step 2 | | |
|-------------|---------|---------------------|------------------------|-------------------|---------------------------------|---|
| | Status | Adj. R ² | Self-Esteem × Identity | Status × Identity | Status × Identity × Self-Esteem | Adj. R ² Change R ² |
| Full Sample | 0.56*** | 0.31*** | 0.43*** | -0.08 | 0.21 ⁺ | 0.25 ⁺ -0.04 0.41 0.10*** |

+p < .10. *p < .05. **p < .01. ***p < .0001.

tion term did not fully explain variability in residential college attitudes after controlling for status. The final step of this regression included self-esteem, group identity, group status and all possible two- and three-way interactions among these variables. If, after controlling for the effects of status, participants' cognitions exhibited consistency, the interaction between implicit self-esteem and identity should be a significant predictor of implicit attitudes. This was not, however, the case – status remained as the only significant predictor of residential college attitudes ($\beta = .53$), although residential college identification ($\beta = .21$) and the interaction between status and implicit self-esteem ($\beta = .25$) were marginally significant.

Summary. In summary, implicit self-esteem, Yale attitude and Yale identity showed strong evidence for cognitive consistency. Among students in higher-status residential colleges, both high implicit self-esteem and stronger implicit identity predicted implicit ingroup attitudes. However, the interaction between the two did not predict ingroup attitudes—strong implicit positivity about oneself predicted strong implicit positivity toward the group regardless of the strength of implicit identity with the group. Among students in lower-status residential colleges, implicit ingroup attitudes were slightly related to implicit ingroup identities, but were not related to implicit attitudes about oneself.

Although group status and cognitive consistency have been independently shown to be determinants of implicit attitudes, their relative contributions to the formation of implicit attitudes have never been directly compared. In the current study, implicit attitudes about Yale (compared to an equal-status university) were cognitively consistent with implicit Yale identity and self-esteem. Attitudes about the residential colleges, which differed in their status, were largely a function of group status, rather than cognitive consistency. These findings suggest that differences in group status not only cause depressed ingroup preference (Jost & Banaji, 1994; Jost et al., 2004), but also prevail over the tendency toward cognitive consistency.

DISCUSSION

The current research compared social status and the tendency toward cognitive consistency as potential sources of implicit atti-

tudes. Consistent with system justification theory (Jost & Banaji, 1994; Jost et al., 2004), a group's status in the larger culture affected implicit, but not explicit, ingroup attitudes. Moreover, these data demonstrate that group status overwhelmed the tendency toward cognitive consistency when both sources of implicit attitudes were directly compared.

Not surprisingly, students at a high-status university implicitly and explicitly preferred their school to its main rival. Furthermore, the residential college data also showed how differences in reputation might overpower the typically strong tendency toward ingroup favoritism: group status attenuated implicit ingroup preference.

Examination of implicit attitudes among groups with relatively low status allowed us to test the relative contributions of two competing sources of information about the groups: cultural knowledge about the groups, which would lead to negative group evaluations, and associations with self, which (for most people) would lead to positive group evaluations. Members of high-status groups do not face this conundrum, and can easily associate both themselves and their group with good. In fact, students showed extremely strong consistency among cognitions related to their high-status university. When the two groups being evaluated differed in status, it was in fact group status, rather than self-related cognitions, that best predicted implicit ingroup attitudes. Importantly, because we measured implicit Yale attitudes and identities relative to an equal-status college, the current data do not speak to whether group status would account for a greater proportion of variance among university attitudes than cognitive consistency if they were measured compared to a lower-status or higher-status institution.

These data, along with other demonstrations that members of low-status groups do not show consistency among a similar set of cognitions (Greenwald et al., 2002; Hummert et al., 2002; Swanson et al., 2001) suggest that not only does group membership moderate overall evaluations of one's groups, but it can also affect the connection between oneself and one's group. Only among students in lower-status residential colleges was self-esteem not a predictor of group attitudes. For these subjects, liking for self did not extend to liking for one's (less positively evalu-

ated) social group. Prevailing cultural attitudes about the groups disrupted the tendency toward cognitive consistency.

Research on intergroup bias has shown that removal of entrenched attitudes that come from living in a culture over time is challenging. The current studies demonstrate evaluative hierarchies' influence even without clearly defined group differences. The well-known tendency to like one's own groups did *not* overwhelm the evaluative hierarchy among the residential colleges. Even a seemingly benign division created a hierarchy, and members of high- and low-status groups reflected this hierarchy (Sidanius & Pratto, 1999). While system-justifying tendencies have been demonstrated among groups with clear and tangible differences (e.g., Jost & Banaji, 1994; Rudman et al., 2002), these data suggest that system justification may reflect a more general process that does not rely on widely known consensual stereotypes between groups. Importantly, students in lower-status residential colleges showed strong implicit identification with their groups, although they did not exhibit strong implicit ingroup favoritism. These results are consistent with earlier observations that members of low-status groups, such as African-Americans, form strong ties between themselves and the group, but nevertheless reflect culturally dominant group evaluations on attitudinal measures (Rosier, Banaji, & Greenwald, 1998).

Importantly, these differences are not likely to be solely a reflection of the cultural hierarchy (Karpinski & Hilton, 2001; Olson & Fazio, 2004). Certainly attitudes are largely influenced by one's culture, but there is no clear demarcation where the culture ends and the person begins. Implicit attitudes belong to their holders as much as explicit ones do (Banaji, 2001; Nosek & Hansen, 2004). If implicit measures in general—and the IAT in particular—simply tapped well-known cultural attitudes, and not personal ones, they would not prove valuable as reliable measures of individual differences in preference. That is, if an IAT score was just a mirror of one's culture, and was uninformative about a person's attitude, then it should not relate to a person's behavior. However, many studies have shown that the IAT predicts a wide range of individual behaviors, such as nonverbal (McConnell & Leibold, 2001) and anxious (Egloff & Schmukle, 2002) behavior (see Poehlmann, Uhlmann, Greenwald, & Banaji, 2005 for a meta-analysis of the predictive validity of the IAT). Similarly, if

one's implicit attitude, as measured by the IAT is purely a function of the broader culture, it should be unrelated to any beliefs about oneself. As seen in the current data, as well as other studies (Greenwald et al., 2002), implicit attitudes are strongly tied to self-related cognitions. Finally, the IAT is consistently and positively related to self-reports of attitudes (Hofmann, Gawronski, Gschwender, Le, & Schmitt, in press), and, in fact, is more consistently related to one's own declaration of preference than knowledge of the broader culture's preference (Nosek & Hansen, 2004; however, see Olson & Fazio, 2004 for an alternate view).

While these data are not conclusive, they do suggest that new friendships, broken romances, bad food, and academic tribulations and triumphs did not appear to affect implicit liking for Yale or preferences for residential colleges—first-years liked Yale as much as their upper-class peers, and within each residential college, showed similar implicit attitudes toward their group. Implicit attitudes seemed to form quickly and also to be relatively stable over the course of students' experience. These data may be particularly important given theories that suggest implicit attitudes require extensive direct experience and are slow to form (Fazio, 1993; Fazio et al., 1986; Smith & DeCoster, 1999). In contrast, they suggest that implicit attitudes can form quickly and in the absence of sustained direct experience with the attitude object (Bargh, Chaiken, Govender, & Pratto, 1992; Bargh, Chaiken, Raymond, & Hymes, 1996; Duckworth, Bargh, Garcia, & Chaiken, 2002). Moreover, extensive experience may, occasionally, do little to change initial evaluations: positive implicit attitudes persist as liking, and negative implicit evaluations persist as disliking. Arbitrary divisions created a hierarchy that was quickly internalized—and maintained—on both sides of the status divide.

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