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Citation: Reid, Anne and Kay Deaux "Relationship between social and personal identities: Segregation or integration?", Journal of Personality and Social Psychology, vol. 71, no. 6, 1996, pp. 1084-1091

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Relationship Between Social and Personal Identities: Segregation or Integration?

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Recognition that self-representation includes both social and personal identities raises questions about the cognitive organization of these elements. Two models of identity structure are compared: (a) a segregation model (D. Trafimow, H. C. Triandis, & S. G. Goto, 1991), which assumes that (social) identities and (personal) attributes are two distinct categories, and (b) an integration model (K. Deaux, 1992), which proposes that identities and attributes often coexist in a limited set of cognitive structures. Clustering of self-relevant information in free recall was used to assess cognitive organization in a sample of 75 students. Identities and attributes clustered separately at greater-than-chance rates, consistent with the segregation model. More detailed analysis of recall data, in which individual patterns of association between identities and attributes were considered, provides stronger support for an integration model of self-representation.

How is the self best characterized? This question has engaged theorists for nearly a century, dating from the early work of James (1890/1950) and Mead (1934/1962) to the more recent activity in social cognition (Greenwald & Pratkanis, 1984; Kihlstrom & Cantor, 1984; Linville & Carlston, 1994). In offering their analyses of the self, the majority of theorists assume some form of multiplicity, believing that the self is more accurately and usefully viewed as a composite rather than as a unitary entity. Although theorists agree on this general tenet, different models offer different concepts to parse out the total self package. Thus, researchers variously view the self as made up of separate self-schemas (Markus, 1977); actual, ought, and ideal selves (Higgins, 1987); possible selves (Markus & Nurius, 1986); self-prototypes (Kihlstrom & Cantor, 1984); or roles and identities (McCall & Simmons, 1978; Stryker, 1980).

One major basis of characterizing aspects of the self, which has gained increasing prominence in recent years, is the distinction between aspects of identity that are collective and related to social group membership versus features of identity that are personal and presumably more individuating. This general distinction has several related forms. Social identity and self-categorization theories (Hogg & Abrams, 1988; Tajfel, 1981; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) contrast personal identity, in which the stress is on personality characteristics and behaviors (e.g., intelligent, hardworking) that differentiate one from others, with social identities that derive from group memberships (e.g., African American) and provide the basis for common identification. Luhtanen and Crocker (1992) elaborated on this distinction in proposing two distinct forms of self-esteem, one personal and one collective, that are based on different aspects of the self-concept. A similar partition between collective and private or individualistic aspects of the self was made by Greenwald and Pratkanis (1984) and by Triandis (1989).

General agreement that a conceptual distinction can be made between group-based and individual-based aspects of the self is unfortunately not accompanied by a consensual position on vocabulary. Terms for group-based aspects of identification include collective, allocentric, and social identity; the contrasting type of self-cognition has been termed individualistic, private, idio-centric, and personal identity. Our preference is to use the term identity, or social identity, to refer to social groups or collective categories of membership. We use the term attribute to designate the personality traits, characteristics, and behaviors that an individual uses in self-description. With this terminology we hope to avoid some of the confusion that results from the differing theoretical uses of personal identity (Deaux, 1992). Specifically, we want to differentiate our use of identity and attribute as elements of self-structure from the theoretical distinction between social and personal identity offered by social identity and self-categorization theories, in which the emphasis is on dynamic shifts in focus of attention (Turner et al., 1987; Turner, Oakes, Haslam, & McGarty, 1994).

The presumption of different aspects of the self, and in particular the distinction between identities and attributes, raises questions about the organization of self-structure. With the increased interest of investigators in cognitive organization and memory representation, these questions about self-structure take on new importance in research on the self.

One Basket or Two?

Trafimow, Triandis, and Goto (1991) recently addressed this question, suggesting two possible models of organization of self-
cognitions. One possibility, which they ultimately discarded, was a "one-basket" model in which information about both identity and attribute is stored in a single cognitive structure. From this perspective, retrieval of self-related elements from memory should be predicted solely on the basis of frequency. Thus, if a person has more personal attributes than social identities, then attributes are more likely to be recalled on request. Priming one aspect of the self—for example, social identities—should be no more likely to elicit social identities than attributes, according to a one-basket model.

The second model proposed by Trafimow et al. (1991) was termed a "two-basket" model. This model presumes that personal attributes are stored separately from social identities, that is, that there are two distinct and nonoverlapping self-representations. This model, which we term the segregation model, is illustrated in the top half of Figure 1.

Self-descriptions within the same basket are assumed to have some degree of association with one another, by virtue of their common category membership. Consequently, if an identity is made accessible, other identities stored in that same basket should be more accessible than any personal attributes in the other basket. Trafimow et al. (1991) tested this assumption in two ways, focusing on the kinds of items listed by respondents on Kuhn and McPartland's (1954) Who Am I? scale. First, they predicted that priming a social identity would result in more frequent listing of social identities and that priming a personal attribute would result in more frequent listing of attributes.

Second, they predicted that the retrieval of an item in one category—for example, a personal attribute—would increase the probability of retrieving another item in that same category. In general, their results were consistent with a two-basket model. Different primes led to different rates of retrieving either attributes or social identities (although the trends were relative, rather than absolute, in that respondents always listed more personal attributes). Furthermore, and more relevant to the present study, patterns of identity listing showed greater-than-chance clustering by category. When a respondent listed a social identity, it was more likely to be preceded by another social identity than by an attribute (and similarly for the sequence of attributes). Although these patterns were in the predicted direction, the data had a considerably less-than-perfect fit to a two-basket model, in which all social identities would be retrieved in sequence and then all personal attributes (or vice versa). This lack of fit to an ideal model suggests that additional principles may be needed to account for the structure of self-representations.

Two Baskets or More?

Trafimow et al.'s (1991) results quite clearly suggest that self-representations are stored in something more complex than a single cognitive structure. At the same time, they leave open the question of just what the alternative organization might be. Although the bifurcation of social identity versus personal attribute has an appealing simplicity, some investigators have proposed that social and personal aspects of the self are not so easily separated (Breakwell, 1986; Deaux, 1992, 1993; Rosenberg & Gara, 1985). According to this position, social identities and personal attributes are often inextricably linked and thus would be represented within the same cognitive structures. Attributes, defined as personality traits or behaviors, are viewed as not necessarily constituting a separate form of identity; rather, they often provide the content and meanings of social categories. Thus, defining oneself as a professor can implicate traits such as intelligent, curious, and hard-working. Similarly, the meaning of being a Catholic might be inseparable from seeing oneself as spiritual, honest, and concerned for the welfare of others. This model, which we term the integration model, is represented in the bottom half of Figure 1.

From the perspective of the integration model, most individuals would have more than two organizing structures for self-related features, many of which would contain some combination of social identity and personal attribute. In the simple version of this model, a person would have as many structures as he or she has social identities; each of these social identities would, in turn, be associated with a set of personal attributes. In a somewhat more complex version of the integration model, such as that proposed by Rosenberg and Gara (1985), social identities that share common attributes might be combined in a single structure, as represented in Figure 1.

The links between identities and attributes are thought to originate in at least two ways: (a) from culturally shared social representations that provide ways of interpreting common social categories (Breakwell, 1993; Moscovici, 1981) and (b) from specific individual experiences that give personal meaning to a categorical self-definition. Although the latter route pro-

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**Figure 1.** The relationship between social and personal identities: two alternative models. Social identities appear in uppercase letters; personal identities or attributes appear in upper and lowercase letters.
duces more idiosyncratic links between identity and attribute, both routes are consistent with the assumption that attributes provide meaning to the more general categories of self-definition.

Comparison of the Segregation and Integration Models

Predictions of self-representation, organization, and recall derived from the segregation model are quite straightforward. As outlined by Traimow et al. (1991), identities referring to social or group membership should always cluster together, distinct from the cluster of personal attributes. Making one versus the other category accessible should increase the probability that a person would draw from the primed category; a shift to the other category would be predicted only if category accessibility changed or if the first category were exhausted.

Predictions from the integration model are somewhat more complex and require a more detailed analysis of the social identities that an individual endorses and the specific attributes that are associated with each social identity. Thus, the integration model would predict that certain attributes are linked with certain identities and that those associated identities should be likely to cluster together in any test of report or recall. Put more concretely, the characteristic of intelligence, if associated with being a professor, should be more likely to be recalled with that category than with another personal attribute—such as physically fit—that might be primarily linked to the social identity of marathon runner. Attributes could be represented in the same cognitive structure if they had similar links to the social identity represented in that structure. Similarly, two or more social identities might be linked by common meaning: For example, being a psychologist and being a professor, although definably different identities, might have considerable shared meaning and hence occupy a common structure.

We designed this study with three goals in mind. First, we provide a conceptual replication of Traimow et al.'s (1991) study in which we assessed identity-attribute sequences using a measure of recall rather than open-ended listing of identities. Second, we test the power of each model using a different dependent measure, specifically the overall clustering of items in free recall. According to the segregation model, recall should be organized in terms of two major clusters. According to the integration model, recall should be organized in terms of several clusters, each of which combines identities and attributes. Given the assumption of idiosyncratic identity-attribute links, the appropriate test of the integration model requires an examination of associations between identities on an individual basis.

Third, we explore some unique implications of the integration model that predict differences within attribute-attribute and identity-identity pairings.

Method

Overview

Our goal in this study was to assess the organization of social identities and personal attributes in people's self-representations. In a first session, participants named each of their important social identities and provided a list of trait attributes associated with each. In a second session, 1 week later, each respondent was asked to recall the identities and attributes that he or she had named. Clustering patterns in order of recall served as an index of cognitive structure. In a third session, several weeks later, participants rated the degree to which each attribute was associated with each identity, providing the data necessary for a hierarchical classes (HICLAS) analysis of identity structure (DeBoeck & Rosenberg, 1988).

Participants

Fifty-seven undergraduate students (36 women and 21 men) from a large New York College participated in the study. The ages of the respondents ranged from 17 to 25 years with a mean of 19.5. Sixty-one percent of the sample was White, 9% was African American, 7% was Hispanic/Latino/Chicano, 11% was Asian American, and 7% was West Indian. The remaining 5% did not specify their ethnicity. Five people were eliminated from the analyses because they failed to provide usable data. Respondents participated in the study for both course credit (Session 1 and 2) and financial payment (Session 3).

Procedures for Data Collection

Session 1. Participants were tested individually in the first session. Each student completed the first stage of the identity elicitation interview (Rosenberg & Garf, 1985), which provides a list of identities and attributes. To introduce the task, the interviewer explained that people can define or describe themselves in terms of social categories or groups to which they belong. Some examples of these categories, such as sex, ethnicity, occupation, and political and religious affiliations, were provided for purposes of illustration. After hearing this brief description, participants were asked to generate a list of self-relevant social identities. The interviewer then asked each respondent to list the attributes that he or she associated with each social identity. Finally, respondents completed a short demographics questionnaire in which they indicated their sex, age, ethnicity, and year in school.

Session 2. One week later, each participant was given a list of the identities and attributes that he or she had generated in the previous session, presented now in a single alphabetical order. Alphabetical order provided an essentially random ordering of attributes and identities, thus avoiding a bias toward either the integration or the segregation model. Participants were asked to rate each item on the list in terms of its importance to their self-concept, using a 5-point scale on which 1 = not important and 5 = extremely important. We included this step to remind participants of the identities and attributes they had reported a week earlier, thereby improving rates of recall.

After completing the importance ratings, but before doing the recall task, students worked for 5 min on a distractor task, which consisted of a word search puzzle on an innocuous topic. The purpose of this interpolation was to increase the likelihood that the sequencing of participants' free recall in the next stage of the procedure would be based on long-term memory (i.e., self-structure) rather than short-term memory (i.e., the immediately preceding alphabetical order).

When they had completed the distractor task, participants were asked to recall as many of the items from the importance rating task as possible. They were told to list the items in whatever order occurred to them. This recall task provided the data for assessment of identity-attribute organization.

Session 3. Several weeks later, participants were contacted and asked if they would participate in a third session, for which payment of $10 was offered. Twenty-nine members of the original sample agreed to return for this additional session.1 Respondents in this sample did not

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1 Three participants who did not recall a sufficient number of identities at Session 2 were not contacted for this portion of the study; nor were the 5 people originally eliminated for unusable data in Session 1.
differ in age, sex, or ethnicity from those students who did not participate in the third session. They also did not differ in identity-relevant measures, including the number of identities and attributes generated at the first session or the number of identities and attributes recalled at Session 2 (all comparisons were nonsignificant).

At this third session, each participant was provided with a set of individually constructed rating forms on which they were asked to indicate the extent to which each attribute they had named in the first session was associated with each of their named identities (Rosenberg & Gara, 1985). These ratings were made on a 3-point scale (0 = never, 1 = sometimes, 2 = always); in subsequent data analysis the 1 and 2 responses are combined to provide the binary data necessary for HICLAS analysis (DeBoeck & Rosenberg, 1988; Rosenberg & Gara, 1985). This analysis, explained in more detail in the Results section, produces a graphical representation of a person’s identity structure that shows the association and overlap between both identities and attributes.

Results

Descriptive Summary

Participants in the study listed an average of 7.1 social identities (SD = 1.3), a figure closely approximating those reported in previous studies of identity (Deaux, 1991; Ethier & Deaux, 1994). The average number of attributes generated was 50.4 (SD = 23.2). On the recall task in Session 2, participants recalled on average 5.2 (73%) of their social identities (SD = 2.1) and 20.1 (40%) of their attributes (SD = 9.6). In addition, participants listed an average of 2.1 attributes that were not part of their original list. Virtually no identities were falsely recalled.

Analytic Strategy

The basic data for analysis were the respondent’s recalled identities and attributes. Each item in a respondent’s list was coded as either an identity (I), if it referred to a social role or a social group, or an attribute (A), if it referred to a trait, behavior, or other personal characteristic.2

We used three approaches to data analysis, each of which relies on the order and sequence in which identities and attributes were recalled. The first approach is based on the strategy adopted by Trafimow et al. (1991), who used conditional probability scores to assess the likelihood that identities and/or attributes succeed each other. In the second approach we considered the overall pattern of clustering in recall lists. To test the segregation model, two clusters are defined (identities and attributes). For the integration model, which takes into account each individual’s particular associations between identities and attributes, the number of clusters varies across individuals as a function of their initial identity listings. The third approach, which uses HICLAS analysis (DeBoeck & Rosenberg, 1988) to determine associations between identities and attributes, provides a more finely grained analysis of self-structure and allows the test of predictions unique to the integration model.

Conditional probabilities of identity-attribute pairings. In Trafimow et al.’s (1991) experiments, participants were given either private or collective primes and then asked to complete Kuhn and McPartland’s (1954) 20-statement “Who am I?” listing, with the assumption that the sequence of self-descriptions would reflect self-structure. In the present study, participants were asked to recall material they had generated earlier, but the assumption that sequence would reflect the organization of self-representations was the same. In Trafimow et al.’s procedure each participant was required to produce 20 statements; in our procedure the length of the recall list could vary (the average list length was 25.3 items).

Following the procedure of Trafimow et al. (1991), we calculated four probability scores for each recall list in which one or more social identities were recalled (N = 51): the probability of an identity following another identity, p(I|I); the probability of an identity following an attribute, p(I|A); the probability of an attribute following an identity, p(A|I); and the probability of an attribute following an identity, p(A|A).3 We used within-subject analyses of variance to test the comparisons predicted by the segregation model. Consistent with the results of Trafimow et al. (1991), the probability of retrieving an identity given that the previous response was an identity was greater than if the previous response was an attribute, p(I|I) = .33 > p(I|A) = .16, F(1, 50) = 18.79, p < .001. Similarly, the probability of retrieving an attribute given that the previous item was an attribute was greater than if the previous response was an identity, p(A|A) = .84 > p(A|I) = .67, F(1, 50) = 18.79, p < .001. These results are similar in magnitude and direction to those reported by Trafimow et al. (1991, Experiment 2), as shown in Table 1.

It is important to note that these similar patterns of findings are the result of too somewhat different methods of eliciting identities. Participants in Trafimow et al.’s (1991) study produced free-response lists after receiving either group or individual primes. In our procedure, participants at the initial session, 1 week prior to recall, generated a list of identities and then produced a set of attributes for each identity. Each of these procedures might be suspected of biasing the resultant output in a direction favoring the segregation or integration models, respectively. The similarity of the patterns, however, argues against such a procedural bias.

Table 1

<table>
<thead>
<tr>
<th>Probability</th>
<th>Present study</th>
<th>Trafimow et al. (1991)</th>
</tr>
</thead>
<tbody>
<tr>
<td>p(I</td>
<td>I)</td>
<td>.33</td>
</tr>
<tr>
<td>p(I</td>
<td>A)</td>
<td>.84</td>
</tr>
<tr>
<td>p(I</td>
<td>A)</td>
<td>.16</td>
</tr>
<tr>
<td>p(A</td>
<td>I)</td>
<td>.67</td>
</tr>
</tbody>
</table>

Note: I = identity; A = attribute.

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2 The designation of an item as an identity or attribute was based on participants’ initial listings of identities and attributes in Session 1.

3 Trafimow et al. (1991) used a different notation system: they used G (referring to group) for what we term identities (I) and L (referring to list) for what we term attributes (A). In addition, they initially coded a category that they termed alio-centric: used for characteristics that connoted interdependence and sensitivity to others, but the frequency of those items was quite low, and the category was not included in their reported analysis.

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At a conceptual level, the fact that two quite different methods of eliciting self-descriptive material led to similar outcomes suggests that a consistent form of mental representation is guiding the output. The precise form of this representation is not clearly specified, however. At a very general level, the assertion that identities and attributes cluster together separately is supported. Yet these patterns are far from perfect. In the pure case, one would expect that the I|I and A|A figures would both approach 1.0, and the I|A and A|I cases should approximate 0. The obtained data are quite discrepant from these norms, suggesting that other strategies of coding self-descriptive information may also be operating. In the second and third analytic approaches we explored this possibility, providing a basis for contrasting the segregation and integration models.

Overall patterns of clustering. The analysis of conditional probabilities tests the frequency of specific sequential pairs of identities and/or attributes. Another approach to analyzing lists of self-relevant material is to consider the overall pattern or clustering of items.

The segregation model would predict that recall would be organized in terms of two major clusters: one of identities and another of attributes. (In the absence of a prime, the order of these two clusters would be random.) The integration model, which assumes that social identities are linked to specific sets of attributes, would predict that clustering patterns would reflect these distinct cognitive structures. Accordingly, the number of clusters would vary by participant, with each cluster containing a combination of one or more identities and some number of attributes.

We analyzed the sequencing of items in recall in terms of an adjusted ratio of clustering (ARC), developed by Roenker, Thompson, and Brown (1971). ARC scores can range from +1 to −1; a score of 0 indicates chance clustering. Furthermore, because the value of an ARC score is relatively unaffected by the number of categories or the total number of categories recalled, it offers a reasonable basis for comparing the predictions made from the two models, which rely on different numbers of categories.

To test the prediction derived from the segregation model, we analyzed Recall lists in terms of the clustering of items in one of two categories: identities or attributes. We calculated an ARC score for each respondent (N = 52) and then summarized scores across respondents. The average ARC score was .23 (individual scores ranged from −.30 to 1.00). This degree of clustering is significantly greater than what would be expected on the basis of chance (z = 4.6, p < .001).

To test the integration model, which is based on idiosyncratic combinations of identities and attributes, it is necessary to refer to the original lists of identities and attributes provided by participants in the first session. In the first session, respondents listed their identities and the attributes they associated with each identity. On the basis of this information, associated items (i.e., an identity plus its linked attributes) were assigned the same code number, whereas items that were not associated received different code numbers. Thus, if a person initially indicated that his or her identity as a student could be characterized by intelligence, studiousness, and future-orientation, those three attributes would be scored with the same code as student. Intrusions, that is, items appearing in the recall list that were not originally generated by respondents, were treated as nonoccurrences and ignored in the analysis.

We calculated an ARC score for each respondent (N = 52) on the basis of the number of identity clusters that he or she named. Summarized over participants, the average ARC score was .34 (individual scores ranged from −.90 to 1.00). This degree of clustering is significantly greater than what would be expected on the basis of chance (z = 11.33, p < .001).

These results provide support for both the segregation model and the integration model, though the support for the latter is stronger. The fact that both models gained some support is not surprising, because both models predict that there will be some grouping on the basis of attributes. For the segregation model, all attributes should cluster together, distinct from the cluster of identities. For the integration model, subsets of attributes are predicted to cluster together, each associated with its own identity category. Thus, the predictions of the two models overlap to some extent. The stronger results for the pattern of clustering predicted by the integration model, however, argue in favor of the more complicated pattern of organization.

The analysis of clustering, using a single identity and its associated attributes initially generated by respondents, serves as one test of the integration model. However, it does not fully take into account the premise of the integration model, namely that more than one identity as well as more than one attribute may be contained within a single cognitive organization. This assumption, which requires more detailed representation of identity–attribute associations, is tested by HICLAS analysis.

Hierarchical classes of identity structure. Disjunctive HICLAS analysis, as developed by DeBoeck and Rosenberg (1988), provides a means of determining, for each individual respondent, the degree to which identities and attributes are associated with one another. HICLAS is based on the binary matrix of association between identities and attributes and produces a hierarchical model of an individual’s identity structure. Initially, the investigator chooses the number of ranks for the analysis, which can be considered the number of blocks at the base of the resulting pyramid. On the basis of both past research findings as well as the goodness of fit to the present data, we chose a Rank 3 solution.4

In the present analysis, we used individual HICLAS outputs such as the hypothetical one depicted in Figure 2 as the basis for determining which identities and attributes were associated with each other. Identities and attributes were considered to be associated if (a) they occurred in the same class or (b) they were in connected classes. As an example of the first case, the HICLAS output in Figure 2 shows that daughter and sister occupy the same class, by virtue of being described by the same set of attributes. The second case of association derives from the hierarchical assumptions of this particular model. One identity class may subsume one or more other classes, or it may be subsumed by a more general, superordinate class. In Figure 2, these circumstances are illustrated by the association of lawyer with

4 The average goodness of fit was .83 and ranged from .52 to 1.0 in individual solutions; generally, a goodness-of-fit ratio greater than .70 is considered acceptable (S. Rosenberg, personal communication, May 1992).
the superordinate class (woman) as well as with two subordinate classes (partner and volunteer).

On the basis of these coded associations, we analyzed the order of recall of items in terms of probabilities, similar to our first analysis and that of Trafimow et al. (1991). Rather than considering only whether items were identities or attributes, however, we also considered whether they were associated (matched) or not associated (unmatched) with one another. Thus, a matched attribute–identity (MA|I) pairing is one in which an attribute follows an identity with which it is associated, that is, contained within the same class or related superordinate or subordinate class. An unmatched attribute–identity (UA|I) pairing is one in which an attribute follows an identity with which it is not associated. In all, we coded for three types of sequences: matched attribute–attribute pairings (MA|A), matched identity–identity pairings (MI|I), and matched attribute–identity or identity–attribute pairings (MA|I or MI|A). Obtained mean probabilities for each of these paired sequences are shown in the second column from the left in Table 2.

To determine whether these obtained probabilities were greater or less than what would be predicted by chance alone, we computed base rates of association from each participant’s HICLAS solution. We accomplished this by calculating the proportion of all possible identity–identity, attribute–attribute, and attribute–identity (identity–attribute) pairings that would have been coded as matched had they been paired sequentially in recall. The mean probabilities for each of the paired sequences expected on the basis of chance alone are shown in the third column from the left in Table 2.

When one compares the probabilities obtained from respondents’ recall lists with those expected on the basis of HICLAS alone it becomes apparent that association, in addition to type of self-cognition (identity or attribute), plays a role in the storage of self-relevant information. Respondents recalled matched attribute–attribute pairings at levels well above the base rate, $F(1, 25) = 6.58, p = .02$. Similarly, when two identities were recalled together, they tended to be matched at a rate greater than that predicted by chance, $F(1, 25) = 3.11, p = .09$. Finally, although matched attribute–identity and identity–attribute pairings were not significantly more likely than would be predicted by chance alone, the means were in a direction consistent with the integration model.

**Discussion**

A segregation model of self-representation, such as that offered by Trafimow et al. (1991), posits that social identities and personal attributes are represented separately in memory. According to this model, the social identities that an individual has are linked together, and attention to or recall of one of these collective representations will facilitate thought and recall of other social identities. Stored separately are personal attributes, which also are linked among themselves in thought and memory. Although Trafimow et al. (1991) speculated that further subdivisions could occur within each of these two self-structures—for example, there could be subsets of personal attributes such as musical-related traits—they were clear in their position that “the distinction between private and collective self-c cognitions is both meaningful and important” (p. 653).

Although we do not deny the conceptual distinction between social identities and personal attributes, we suggest that an integration model, in which identities and attributes are inextricably linked to one another, offers a better way to conceptualize the organization of self-structure. From this perspective, attributes serve to give meaning to the social categories to which people belong. In claiming a social identity, people use attributes, traits, and behaviors to say what the category is and what it means to be a member of the category. Thus the integration model suggests that self-structure consists of a set of identity clusters, each of which may contain one or more identities and attributes. Although more elaborate in its analysis of cognitive

![Diagram](image)

**Table 2**

<table>
<thead>
<tr>
<th>Type of item pairing</th>
<th>Probability</th>
<th>Obtained</th>
<th>Expected</th>
</tr>
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<tr>
<td>$p(\text{MA}</td>
<td>\text{A})$</td>
<td>.63</td>
<td>.28</td>
</tr>
<tr>
<td>$p(\text{MI}</td>
<td>\text{I})$</td>
<td>.54</td>
<td>.40</td>
</tr>
<tr>
<td>$p(\text{MI}</td>
<td>\text{I})$ and $p(\text{MA}</td>
<td>\text{I})$</td>
<td>.59</td>
</tr>
</tbody>
</table>

Note: $M =$ matched; $A =$ attribute; $I =$ identity.
structure than earlier models of multiplicity, the integration model certainly shares assumptions with early discussions by James (1890/1950) and Mead (1934/1962), as well as with more recent versions of role theory and identity theory (Stryker & Statham, 1985).

The two positions are not totally incompatible. Attribute–attribute linkages are expected in both models, for example, but the extent and specification of these linkages differ in the two models. Whereas the segregation model predicts that all attributes will be linked and distinguished from all identities, the integration model predicts with more specificity which attributes and which identities might be linked. In addition, the integration model is unique in predicting specifiable links between identities and attributes. Given some areas of overlap, it is perhaps not surprising that the data reported here provide some support for both positions. Although we replicated the results of Trafimow et al. (1991), the overall pattern of results provides stronger support for an integration model of self-representation.

In the first analysis of conditional probabilities, we found, as did Trafimow et al. (1991), that attributes are more likely to be linked to other attributes and identities to other identities. Yet these patterns, though statistically different from a chance distribution, are also at a considerable distance from a perfect fit to a two-basket model. Such a disparity suggests that an alternative representation is needed, in which the linkages predicted by the segregation model are only part of a more complicated story and in fact may be the by-product of different organizational strategies.

Additional analyses provided support for this alternative position. In the first test, we considered the overall pattern of clusters in recall and tested a two-basket model against our hypothesized multiple-basket model. Because the predictions of the two models partially overlap, as noted above, it is not surprising to find that the clustering analysis provides some support for both strategies. However, the results were stronger for the more differentiated integration model, in which clusters are idiosyncratic combinations of identities and attributes.

This supportive pattern of results occurs even though the analysis of clusters does not take into account all of the premises of the integration model. Specifically, the integration model assumes that identities can be conceptually linked to other identities as well as to attributes. In the clustering analysis, attributes could be linked only to a single identity, reflecting the initial statements of the respondent.

The second test of the model, in which HICLAS techniques are used, makes possible a more sensitive definition of the individual self-structures, permitting one to chart the overlap between some identities and attributes in a single cluster. In this case, the predictions are unique to the integration model. The support of these predictions, in contrast to a null hypothesis derived from the segregation model, further argues for the more complex representation suggested by the integration model.

An integration model does not deny the utility of distinguishing personal attributes from social identity in operational terms; rather, it stresses the need to consider the ways in which these two aspects of the self interrelate. The distinction between social and personal identity is common within the theoretical tradition of social identity and self-categorization (Hogg & Ab-
idiosyncratic in its development and form. Only with such an approach is it possible to reveal the kinds of associations that an integration model proposes and to explore the critical questions of meaning that a segregation model cannot address.

References


Received April 14, 1995

Revision received November 16, 1995

Accepted November 26, 1995