Current theories of leadership suggest that certain types of individuals are especially likely to succeed as leaders in certain organizations. The intent in the present article was to first identify types or subgroups of individuals entering the U.S. Army based on ability, personality, and motivational characteristics, and subsequently identify which types tend to be found in upper level positions. A Ward and Hook cluster analysis revealed seven types in a sample of junior Army officers. Three of these types are also particularly prominent among upper level Army leadership positions. The seven types displayed some differences in skills and patterns of career development. Based on these findings, it was concluded that organizations should recognize the need for different types of people to fill different types of organizational leadership roles.
INTRODUCTION

Students of leadership have typically adopted the notion that certain traits can influence leader emergence and leader performance (Hogan, Curphy, & Hogan, 1994; Lord, DeVader, & Alliger, 1986). For example, there is now good reason to suspect that traits such as intelligence, dominance, extroversion, and achievement motivation consistently relate to leadership (Bass, 1990; McClelland & Boyzatis, 1982). This apparently straightforward conclusion, however, poses a new and more subtle question: How do traits act to shape leader development?

One potential answer to this question may be found in traditional trait or variable-oriented models. Here, dispositional characteristics are seen as discrete entities acting to condition certain responses to certain kinds of events. In fact, Connelly, Gilbert, Zaccaro, Threlfall, Marks, and Mumford (2000) have provided some support for this approach, showing that general cognitive ability and personality make unique contributions to the prediction of leader performance. In contrast to this variable-oriented approach, many theorists have argued that the influence of dispositional characteristics on performance is better understood using a person-centered approach (Magnusson, 1988; Mumford & Owens, 1984). The intent in the present study was, broadly speaking, to examine some of the implications of this person-centered approach for understanding leader development and performance.

Leader Types and Job Matches

The person-centered or typological model is not a new approach to understanding work behavior. As Borman (1991) and Katzell (1994) point out, matching models, especially person-centered or type approaches, have received substantial attention in recent years. For example, Barrett (1995) and Cable and Judge (1994) have shown that the congruence of a pattern of dispositional characteristics with environmental demands can contribute to performance prediction. Other work by Gustafson and Mumford (1995) suggests that certain types of people may need a particular environment in which to develop, while others develop regardless of the environmental conditions with which they are presented.

Person-job matching models also have a long history in studies of leadership. One of the earliest efforts along these lines may be found in the work of Fiedler and his colleagues (e.g., Fielder, 1964; Fiedler & Garcia, 1987). Fiedler has proposed that types of leaders can be identified in terms of their characteristic patterns of relations to others, as assessed using the least preferred coworker scale. High and low scores on the least preferred coworker scale are in turn linked to differences in the kinds of situations in which leaders are likely to perform well, and the kind of behavior required for successful leadership.

In recent years, two major models of leader types have appeared that attempt to provide explanations for the emergence and consequences of type membership. One of those models, which will be referred to as the homogeneity model, was proposed by Schneider and his colleagues (Schneider, 1987; Schneider, Goldstein, & Smith, 1995; Schneider & Schneider, 1994). Essentially, Schneider has argued that an organization’s founder creates an environment consistent with his or her pattern of personality characteristics. Similar individuals are attracted to this culture, and
organizations tend to select and retain those who are good matches. This model implies that a limited set of types, perhaps only one type, will eventually come to occupy senior leadership roles.

In contrast, other scholars have argued for role diversity models (e.g., Hart & Quin, 1993). Essentially, diversity models hold that organizations present different kinds of niches or roles. People with different characteristics will be attracted to and perform differently in these different roles. Accordingly, this model hypothesizes that a number of different types of leaders will be found in senior leadership positions in accordance with the need of the organization to fill diverse leadership roles.

**Fit Processes**

It would be desirable to have more clear-cut evidence indicating the applicability of these models in the description of organizational leadership. Even bearing this important caveat in mind, both the homogeneity and the diversity models pose another significant question: How does fit, or the lack thereof, operate in shaping leader behavior?

One potential answer to this question may be found in the work of Holland (1973, 1985). Holland, along with a number of other scholars, has argued that fit influences people's careers and career outcomes primarily through affective mechanisms. In other words, individuals tend to be attracted to organizations or roles consistent with their personalities because they find the perceived goals and rewards attractive given their broader patterns of dispositional characteristics. Organizations or organizational roles which provide these desired rewards are typically perceived as satisfying, leading the individual to remain in this area of endeavor (Dawis, 1991).

Another potential explanation for these kinds of fit effects has been proposed by Mumford and his colleagues (e.g., Mumford & Owens, 1984; Mumford, Snell, & Reiter-Palmon, 1994; Mumford, Stokes, & Owens, 1990; Stokes, Mumford, & Owens, 1989). They have argued that people who have characteristics consistent with demands of certain roles not only find activities in these roles rewarding, they actively seek other consistent or congruent situations. As part of this self-propagating pattern of situational choice, individuals will begin to acquire the knowledge and skills needed for effective performance within certain roles or classes of situations. Thus, fit effects may be as much a result of skill development and performance as they are a result of the person's affective reaction to the situation.

In their study of managerial careers, Bray, Campbell, and Grant (1974), provide some support for this performance-based explanation for fit effects. They found that “enlargers,” or people seeking diverse new experiences, tended to prosper in managerial careers, showing growth in assessed skills. Meanwhile, “enfolders,” or people withdrawing into the familiar, showed less skill growth and had less successful careers, even when initial ability was held constant. It is possible, however, that these kinds of performance-based fit effects may apply for some types, while affect may drive the actions of other types (Mumford, Snell, & Hein, 1993). In other words, certain explanations of fit effect may apply for some types of leaders, but not for others.
The intent in the present investigation was to address three central issues posed by the foregoing observations. First, by examining leaders across several levels of leadership in an organization, one goal was to determine whether certain types of leaders are more prevalent at senior versus junior organizational levels. Second, based on the number and nature of the types most prevalent at upper level leadership positions, the hope was to draw some conclusions about whether homogeneity or selective diversity models provide a more appropriate basis for describing fit effects among organizational leaders. Third, using the measures of leadership skills developed by Zaccaro, Mumford, Connelly, Marks, and Gilbert (2000), skill acquisition and indices of leadership performance are examined for the different leader types at both the junior and senior levels.

**METHOD**

**Sample**

The sample used to test these hypotheses was obtained as part of a larger study of leadership skills among U.S. Army officers. The sample used in this study has been described in some detail by Zaccaro et al. (2000). For the purpose of the present investigation, however, the larger sample was divided into two subsamples. The first subsample contained 821 second lieutenants, first lieutenants, and junior captains—all officers at the beginning of their careers. The second subsample contained 426 senior captains, majors, lieutenant colonels, and colonels.

**Person Measures**

As detailed in the Zaccaro et al. study (2000), the members of both samples were asked to complete a battery of standard psychometric measures. The first set of measures examined various motivational and personality characteristics known to be related to leadership. Achievement and dominance motives were described using the pertinent scales included in the Jackson Personality Research Form (Jackson, 1989). A measure of commitment to social systems was drawn from Gough’s (1975, 1987) California Psychological Inventory, while the NEO inventory provided a scale intended to measure openness (McCrae & Costa, 1985). Sample members were also asked to complete the Myers-Briggs Type Indicator (Briggs & Myers, 1987) which was scored for each of the relevant subclasses (e.g., introversion, extroversion, thinking, feeling, sensing, perception, intuition, and judgment). These measures are known to have reliabilities in the .80s, while evidencing adequate construct validity. In addition to these measures of personality and motivational characteristics, sample members were also asked to complete a battery of ability tests, including measures of verbal reasoning and writing skill. Details on these instruments are described in Zaccaro et al. (2000).

**Criterion Measures**

A second set of measures administered to members of the two samples was intended to provide a set of scales for assessing leader performance and is briefly
described here. Readers are again referred to Zaccaro et al. (2000) for additional details on the construction, reliability, and validity of these measures. The first criterion measure consisted of a series of self-report career history items intended to appraise distinctive career achievements (e.g., medals won, citations awarded). Kilcullen (1993) has provided evidence for the validity and accuracy of these kind of verifiable career achievement items. The second criterion measure also relied on a self-report format. Here, officers were asked to write brief descriptions or critical incidents describing their best performance over the course of the last year on four major dimensions of leadership identified by Fleishman, Mumford, Zaccaro, Korotkin, Levin, and Hein (1991): information gathering, information use, managing people, and managing things. Three judges, all doctoral candidates, were asked to rate the quality of each of these incidents and the average scores of judges across the four dimensions provided the incident scores used in the present effort. It is of note that these ratings yielded agreement coefficients in the .70s within this sample of officers.

A third criterion measure was intended to reflect the quality of solutions to open-ended military problems. On this measure, leaders were presented with two novel, ill-defined problem-solving military scenarios. The resulting two to three paragraph solutions to these open-ended scenarios were then evaluated by three doctoral candidates to assess the quality of the responses. These ratings were made in accordance with the procedures recommended by Baughman and Mumford (1995) and yielded interrater agreement coefficients in the .70s.

**Skill Measures**

The final group of measures, the skill measures, were intended to assess knowledge, problem-solving skills, and solution characteristics held to contribute to leader performance and problem solving (Zaccaro et al., 2000). The measure of complex problem-solving skills, presented a novel, ill-defined military leadership problem in which officers were asked to respond to a series of probe questions intended to elicit key skills involved in creative problem solving (e.g., problem construction and information encoding; Mumford, Mobley, Uhlman, Reiter-Palmon, & Doares, 1991). The measure of social judgment was intended to assess attributes related to social and systems perception as identified by Connelly, Marks, and Mumford (1993), including self-objectivity, reflection, systems perception, systems commitment, solution fit assessment, and judgment under conditions of uncertainty. This measure was based on two ill-defined organizational problems in which a problem that could have been averted occurred in solution implementation. The officers were asked to indicate why the problem occurred, what could have been done differently, and what they would have done in the given circumstances.

The third measure, examining solution construction, presented two novel, ill-defined military problems in which officers were asked to identify the key aspects of the problem, the information they would need to address it, and the issues they would need to consider. The officers’ responses were then to be assessed with respect to time span, attention to restrictions, self goals, and organizational goals. The fourth measure examined leader knowledge or expertise using a Q-sort proce-
dure where leaders were asked to group Army leadership tasks into a set of categories. The resulting categories and the assignment of tasks to these categories were assessed with respect to (1) use of principles, (2) organization of categories, (3) categories mapping onto research-based taxonomies of leader behavior, (4) coherence of task assignment to the categories, and (5) complexity, as indicated by the number of categories proposed.

With the exception of the “number of categories proposed” in the knowledge measure, all responses to the probe questions of the performance and skill measures were assessed using ratings. These ratings were obtained from three judges, with different pools of judges being used to obtain different ratings. On average, these judges, again all doctoral candidates, provided interrater agreement coefficients above .70 after training. Evidence for the construct and predictive validity of these ratings, and more detailed descriptions of the measures and rating dimensions have been provided by Zaccaro et al. (2000).

In a separate analysis, Mumford, Marks, Connelly, Zaccaro, and Reiter-Palmon (2000) used these scales to assess changes in requisite skills from lower to higher-level leadership positions. To accomplish this, they began by showing that scores on all these skills increased from junior-level positions (e.g., second lieutenant, first lieutenants, and junior captains) to mid-level positions (e.g., senior captains and majors) and from mid-level to more senior positions (e.g., lieutenant colonels and colonels). In a subsequent set of analyses, function scores were formulated using the scaled subscores on each measure by comparing high-performing junior officers to mid-level officers, and high-performing mid-level officers to more senior officers. The resulting discriminant function scores provided a set of cross-sectional skill change measures that might be used to examine changes in leadership skills at increasingly higher organizational levels. It is of note in this regard that scores on these skill change measures do not appear to be strongly distorted by the biases common in cross-sectional studies (Mumford, Marks, et al., 2000). The procedures used in forming these groups were explicitly intended to control for the effects of prior performance by contrasting high-performing junior officers with more senior officers using above average scores on the career achievement measure—the measure likely to be most closely related to promotion criteria.

Analyses

Initially, leader types were defined in the junior officer sample. Defining types using only lieutenants and junior captains was based on two considerations. First, these officers were in the beginning of their careers, providing an appropriate point for comparing the survival of types at the senior level. Second, the stability of this type structure could be assessed by determining whether more senior officers could be assigned to the junior officer type categories.

Types were identified in the junior officer sample using the procedures recommended by Owens and his colleagues (e.g., Brush & Owens, 1979; Mumford, Stokes, & Owens, 1990; Owens & Schoenfeldt, 1979). First, each sample member’s profile of scores on the personality, motivation, and ability measures was obtained. A $d^2$ index was used to assess the similarity of these profiles, and groups of more
or less similar individuals were identified by entering the resulting distance matrix into a Ward and Hook (1963) clustering. The Ward and Hook procedure is an iterative, hierarchical clustering procedure that begins by treating each individual as a type unto himself/herself. The two most similar types are then combined, a mean profile formed, and the intergroup distance is recalculated. This process is repeated until all individuals have been merged into distinct groups. The number of groups, or types, to be retained is determined by identifying the point at which further combinations result in a sharp increase in within-group heterogeneity. After the number of clusters or types to be retained has been identified, mean profiles for each type are obtained and used as seed points for a non-hierarchical $k$-means analysis. This procedure serves as a control for drift in early assignment into groups and provides the final assignment of individuals to types (Owens & Schoenfeldt, 1979). A discriminant analysis was then conducted in which final type assignment served as the criterion, and scores on the personality, motivation, and ability measures served as the predictors. The resulting discriminant functions were then used as a basis for assigning higher-level officers (senior captains, majors, lieutenant colonels, and colonels) to the types identified in the junior officer validation sample, based on their scores on the personality, motivation, and ability measures used in initial type identification.

After a stable set of clusters had been identified in the junior and senior officer samples, the primary analyses of concern in the present investigation were conducted. The first set of analyses was intended to provide basic descriptive data concerning the types that appeared in the junior and senior officer samples. Here, the nature of each type was assessed by identifying personality, motivation, and ability measures that yielded mean differences in excess of half of the pooled within-group standard deviations for those measures in the junior officer validation sample. It is of note that this mean differences procedure rather than significance testing was used in assessing type characteristics due to the fact that clustering intentionally induces wide variation in cluster cell size and different levels of within-group variance across clusters (Owens & Schoenfeldt, 1979; Schmidt, 1996). Based on the differences observed in this analysis, substantive interpretation was formulated describing the key characteristics of each type score with a brief label summarizing this interpretation.

Having described the officer types, the next set of analyses examined whether certain types of leaders found in the junior officer sample would be likely to be more prevalent than others in the senior officer sample. Here, the number of junior and senior officers assigned to each type in the discriminant analyses was determined. Additionally, the percentage of junior and senior officers assigned to each type was assessed relative to the total number of junior and senior officers assigned to the validation sample. This information was used to examine changes in type composition as a function of experience in Army leadership roles.

In the final set of analyses, an attempt was made to assess the relationship between changes in type composition and performance, as well as changes in the skills held to influence performance. To provide some initial evidence along those lines, mean scores on each of the performance measures were obtained for those members of the junior and senior officer validation samples assigned to each type.
Additionally, mean differences were assessed on the skill change functions identified by Mumford, Marks, et al. (2000).

RESULTS

Cluster Analysis

Inspection of the plot of incremental within-group variation indicated that a nine-cluster solution should be retained. This solution appeared to provide the smallest possible number of relatively homogeneous clusters. In the k-means analysis, it was found that the first seven clusters accounted for 96% of the sample, with the largest cluster containing 166 officers while the smallest cluster contained 67 officers. The two remaining clusters contained 26 and 10 officers, respectively. Because these two clusters were too small to permit meaningful analyses, they were dropped. Thus, in the discriminant analysis, scores on the personality, motivation, and ability measures were used to assign individuals to only the first seven types.

In the discriminant analysis, it was found that 91% of the officers were assigned \( p > .80 \) to the same cluster, or type, to which they were assigned in the k-means analysis. More centrally, when the discriminant functions were used to assign junior officers in the cross-validation sample to these types, a classification rate of 88% was obtained. Thus, this seven-cluster solution appeared to provide a stable description of the types found in the junior officer sample. When this discriminant function was used to assign senior officers to the seven types, 92% of the senior officers in the validation sample and 93% of the senior officers in the cross-validation sample could be unambiguously assigned \( p > .80 \) to a cluster. Thus, it appears that this same set of clusters provided a stable description of the senior officer, as well as the junior officer sample.

Type Characteristics

Table 1 presents, for each of the seven groups identified in the cluster analysis, the personality, motivation, and ability measures that yielded mean differences in excess of half of the pooled within-group standard deviations for junior officers. Members of the first type obtained high scores on achievement motivation and planning, but low scores on measures of openness, verbal reasoning, intuition, and perception. This pattern of characteristics paints a picture of a concrete, pragmatic, achievement-oriented leader, prompting us to label this type Concrete Achievers.

The second type to emerge in this analysis painted a picture consistent with stereotypical conceptions of leadership. Members of this type were extroverted, responsible, dominant, and achievement motivated. In addition, they obtained high scores on the verbal reasoning measures and two of the measures of writing skills, generation, and revision. Low scores occurred on measures of intuition, feeling, and perception. This externally focused, rather social achievement orientation suggested that type members might be aptly described by the label Motivated Communicators.

The third and fourth types obtained high scores on introversion. For members of the third type, this pattern of characteristics was accompanied by low reasoning and written ability scores resulting in the label Limited Defensives. The fourth type,
### Table 1. Summary of Type Characteristics

<table>
<thead>
<tr>
<th>Type Label*</th>
<th>Pattern of Scores on Ability, Personality, and Motivation Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Achievers</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Achievement, Planning</td>
</tr>
<tr>
<td>Low</td>
<td>Intuition, Perception, Openness, Verbal Reasoning</td>
</tr>
<tr>
<td>Motivated Communicators</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Extroversion, Responsibility, Achievement, Dominance, Verbal</td>
</tr>
<tr>
<td></td>
<td>Reasoning, Generation, Revision</td>
</tr>
<tr>
<td>Low</td>
<td>Intuition, Feeling, Perception</td>
</tr>
<tr>
<td>Limited Defensives</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Introversion, Sensing, Thinking, Judging</td>
</tr>
<tr>
<td>Low</td>
<td>Intuition, Verbal Reasoning, Planning, Revision</td>
</tr>
<tr>
<td>Disengaged Introverts</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Introversion, Intuition, Perception, Planning, Generation</td>
</tr>
<tr>
<td>Low</td>
<td>Responsibility, Achievement, Dominance, Extroversion</td>
</tr>
<tr>
<td>Social Adaptors</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Extroversion, Feeling, Perception, Openness, Verbal Reasoning</td>
</tr>
<tr>
<td>Low</td>
<td>Thinking, Judging, Sensing</td>
</tr>
<tr>
<td>Struggling Misfits</td>
<td>None</td>
</tr>
<tr>
<td>High</td>
<td>Introversion, Intuition, Thinking, Judging, Openness, Verbal</td>
</tr>
<tr>
<td></td>
<td>Reasoning, Planning, Generation, Revision</td>
</tr>
<tr>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Thoughtful Innovators</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Introversion, Intuition, Thinking, Achievement, Dominance, Openness</td>
</tr>
<tr>
<td></td>
<td>Verbal Reasoning, Planning, Generation, Revision</td>
</tr>
<tr>
<td>Low</td>
<td>Sensing, Feeling</td>
</tr>
</tbody>
</table>

Note: *High and Low indicates mean differences in excess of half of a standard deviation from junior officers as a group.

In contrast, obtained high scores on two measures of written skills, planning and revision, but low scores on virtually all of the motivational measures, including responsibility, dominance and achievement motivation. Based on the manifest lack of motivation, members of the fourth type were labeled *Disengaged Introverts*.

The fifth type identified in the Ward and Hook clustering had high verbal reasoning scores. This apparent intelligence was accompanied by openness and extroversion, suggestive of an open, effective pattern of social interaction. In keeping with the interpretation, type members obtained high scores on the feeling and perceiving scores of the Myers-Briggs, but low scores on the thinking, judging, and sensing scales. Accordingly, members of this type were labeled *Social Adaptors*.

Members of the sixth type failed to obtain high scores on any of the personality, motivation, or ability measures. Moreover, they obtained particularly low scores on the cognitive scales, both verbal and writing skills. Low scores were also obtained on measures of openness, thinking, intuition, judgment, and introversion. Based on the manifest lack of ability and openness, members of this type were described as *Struggling Misfits*.

In contrast, the members of the final type obtained high scores on both of the cognitive measures, as well as two measures of motivation, achievement, and dominance. This manifest motivation and capability, however, was accompanied by an inward, rather creative, and intellectual orientation as indicated by type
Table 2. Proportion of Type Members in Junior and Senior Positions

<table>
<thead>
<tr>
<th>Types</th>
<th>Jr. Officers</th>
<th>Sr. Officers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N (%)</td>
</tr>
<tr>
<td>Concrete Achievers</td>
<td>161</td>
<td>20</td>
</tr>
<tr>
<td>Motivated Communicators</td>
<td>136</td>
<td>17</td>
</tr>
<tr>
<td>Limited Defensives</td>
<td>118</td>
<td>15</td>
</tr>
<tr>
<td>Disengaged Introverts</td>
<td>83</td>
<td>10</td>
</tr>
<tr>
<td>Social Adaptors</td>
<td>100</td>
<td>12</td>
</tr>
<tr>
<td>Struggling Misfits</td>
<td>103</td>
<td>13</td>
</tr>
<tr>
<td>Thoughtful Innovators</td>
<td>85</td>
<td>11</td>
</tr>
</tbody>
</table>

members' high scores on the introversion, intuition, thinking, and openness scales, but low scores on the sensing and feeling scales. As a result, the label Thoughtful Innovators was used to described the leader type with this pattern of characteristics.

Type Survival

One of the central issues investigated in the present study is whether or not certain types are more likely than others to exist in senior leadership positions. Table 2 presents the number of officers in the junior and senior officer samples assigned to each type, along with the proportion of sample members drawn from each type.

All seven types had substantial representation in the junior officer sample with at least 10% and no more than 20% of the sample being drawn from a single type. Bearing in mind this uniform distribution, the Concrete Achievers (20%) and Motivated Communicators (17%) were the two largest types. In the senior officer sample, however, a different pattern of type assignments emerged. Few Limited Defensives, Disengaged Introverts, and Struggling Misfits were identified in the senior officer sample. In fact, in no case did members of these types account for more than 6% of the senior officer sample. Apparently, types lacking the motivation or the ability or both needed in senior leadership positions are less likely to exist in such positions. Along similar lines, fewer Concrete Achievers were observed in the senior officer sample (11%) than in the junior officer sample (20%), a finding suggesting that at least some individuals commonly attracted to an organization may not have the characteristics needed to progress to more senior leadership roles.

Three types, the Motivated Communicator, Social Adaptors, and Thoughtful Innovators appeared with greater or equal frequency in the senior officer sample. Of these three types, the Social Adaptors occurred in roughly equal proportions in both the junior (12%) and senior (10%) officer samples. However, the proportion of Motivated Communicators (17% vs. 40%) and Thoughtful Innovators (11% vs. 26%) increased in moving from the junior to senior officer samples.

Not only do these findings suggest that certain types of people tend to hold more senior leadership roles, they indicate that rather different types of people may be found in those roles. More specifically, the Motivated Communicators displayed a pattern of characteristics consistent with a stereotypical view of leaders' being
extroverted and achievement oriented. In contrast, the Thoughtful Innovators were introverted, apparently more intellectually oriented individuals who were less focused on status and more concerned with social systems than were the Motivated Communicators.

**Type Performance and Skill Development**

Another question arises at this point: Why do certain types of people tend to move into more senior leadership roles? One explanation for this pattern of effects is that people remain and progress in organizations or organizational roles that are consistent with their needs and values. Alternatively, one might argue that the progression of certain types is due to performance and the acquisition of requisite leadership skills. Some evidence bearing on this question may be found in Table 3, which presents the mean scores of type members on each of the performance measures.

The means presented in Table 3 provide some support for the notion that the movement of certain types into more senior leadership roles is contingent on performance. The types that had relatively few representatives in senior positions, the Limited Defensives, Disengaged Introverts, and Struggling Misfits, had lower averaged scores on measures of the quality of solutions to novel, ill-defined military problems than types such as the Motivated Communicators and Thoughtful Innovators, who had a larger number of representatives in senior leadership positions. It is of note that this pattern of differences was evident when type members were compared in both junior and more senior leadership positions.

This pattern of performance differences was not restricted to measures of leaders' capability in solving military problems. The critical incidents measure provided self-report descriptions of past performance, while the leader achievement measure asked leaders to report objective, verifiable achievements (e.g., medals won). As both junior and senior officers, the Motivated Communicators and Thoughtful Innovators obtained higher scores on the critical incidents and leader achievement measures than the Limited Defensives, Disengaged Introverts, and Struggling Misfits. Thus, it appears that leader types entering the more senior leadership roles were those who had evidenced better performance in junior-level positions, and indicated enhanced performance in the senior positions as well.

Connelly et al. (2000) found leadership skills to be significantly related to indices of leader performance. Thus, it is possible that the differences observed among types with respect to their performance may also be skill-related. Table 4 presents the scores of type members on the skill change functions identified by Mumford, Marks, et al. (2000).

The clearest finding to emerge in this analysis pertains to skill change for those types that were found to be poor performers. The Limited Defensives, Disengaged Introverts, and Struggling Misfits all displayed below average scores on the skill change functions obtained when contrasting high-performing junior officers with mid-level officers and high-performing mid-level officers with senior officers. Thus, poor performance is accompanied by below average increases in problem-solving, solution construction, and social judgment skills, as well as leader expertise. With
Table 3.  Mean Performance Measure Scores by Types in Junior and Senior Officer Samples

<table>
<thead>
<tr>
<th>Types</th>
<th>Solution Quality</th>
<th></th>
<th>Critical Incidents</th>
<th></th>
<th>Leader Achievement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Junior</td>
<td>Senior</td>
<td></td>
<td>Junior</td>
<td>Senior</td>
</tr>
<tr>
<td>Concrete Achievers</td>
<td>2.40</td>
<td>.58</td>
<td>3.04</td>
<td>.62</td>
<td>.52</td>
<td>.94</td>
</tr>
<tr>
<td>Motivated Communicators</td>
<td>2.60</td>
<td>.40</td>
<td>3.05</td>
<td>.61</td>
<td>1.14</td>
<td>1.18</td>
</tr>
<tr>
<td>Limited Defensives</td>
<td>2.19</td>
<td>.64</td>
<td>2.44</td>
<td>.59</td>
<td>.54</td>
<td>.77</td>
</tr>
<tr>
<td>Disengaged Introverts</td>
<td>2.29</td>
<td>.65</td>
<td>2.82</td>
<td>.62</td>
<td>.48</td>
<td>.71</td>
</tr>
<tr>
<td>Social Adaptors</td>
<td>2.52</td>
<td>.53</td>
<td>2.94</td>
<td>.70</td>
<td>.80</td>
<td>1.06</td>
</tr>
<tr>
<td>Struggling Misfits</td>
<td>2.23</td>
<td>.53</td>
<td>2.54</td>
<td>—</td>
<td>.60</td>
<td>.87</td>
</tr>
<tr>
<td>Thoughtful Innovators</td>
<td>2.71</td>
<td>.51</td>
<td>3.20</td>
<td>.60</td>
<td>.97</td>
<td>1.12</td>
</tr>
</tbody>
</table>

Note: — indicates N insufficient for analyses.
<table>
<thead>
<tr>
<th>Types</th>
<th>Problem Solving</th>
<th></th>
<th>Solution Construction</th>
<th></th>
<th>Social Judgment</th>
<th></th>
<th>Leader Expertise</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Junior to Mid-level</td>
<td>Mid-level to Senior</td>
<td>Junior to Mid-level</td>
<td>Mid-level to Senior</td>
<td>Junior to Mid-level</td>
<td>Mid-level to Senior</td>
<td>Junior to Mid-level</td>
<td>Mid-level to Senior</td>
</tr>
<tr>
<td>Concrete Achievers</td>
<td>.03</td>
<td>-.09</td>
<td>-.08</td>
<td>.15</td>
<td>-.09</td>
<td>-.19</td>
<td>-.10</td>
<td>.26</td>
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<tr>
<td>Motivated Communicators</td>
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<td>.06</td>
<td>.21</td>
<td>-.02</td>
<td>.20</td>
<td>.05</td>
<td>.03</td>
<td>-.09</td>
</tr>
<tr>
<td>Limited Defensives</td>
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<td>-1.30</td>
<td>-.79</td>
<td>-1.18</td>
<td>-.44</td>
<td>-1.54</td>
<td>-.22</td>
<td>-.89</td>
</tr>
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<td>Disengaged Introverts</td>
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<td>-.30</td>
<td>-.30</td>
<td>-.65</td>
<td>-.73</td>
<td>-.98</td>
<td>-.27</td>
<td>-.49</td>
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<tr>
<td>Social Adaptors</td>
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<td>-.15</td>
<td>.04</td>
<td>-.36</td>
<td>-.02</td>
<td>-.28</td>
<td>-.13</td>
<td>-.09</td>
</tr>
<tr>
<td>Struggling Misfits</td>
<td>-.07</td>
<td>—</td>
<td>-.58</td>
<td>—</td>
<td>-.24</td>
<td>—</td>
<td>-.66</td>
<td>—</td>
</tr>
<tr>
<td>Thoughtful Innovators</td>
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<td>.25</td>
<td>.47</td>
<td>.41</td>
<td>.17</td>
<td>.02</td>
<td>.41</td>
<td>.22</td>
</tr>
</tbody>
</table>

*Note:* — indicates N insufficient for analyses. Negative scores indicate below average performance.
the exception of problem-solving skills across junior and mid-level positions, the Social Adaptors also showed below average increases in these skills. The Concrete Achievers, although not as gifted as the Social Adaptors, did show above average increases in skill levels in leader expertise ($M = .26$) and solution construction skills ($M = .15$) across mid-level and more senior positions. However, increases on the other skills, particularly early at junior and mid-levels, was average or slightly below average.

In contrast, the two types of leaders who were found in more senior positions evidenced large skill increases. The Motivated Communicators showed their largest skill increase in moving from junior to mid-level positions, particularly with respect to problem-solving ($M = .23$), solution construction skills ($M = .21$), and social judgment skills ($M = .20$). The Thoughtful Innovators also evidenced skill increases in moving from junior to mid-level positions, producing above average scores on the change functions constructed for problem-solving skills ($M = .11$), solution construction skills ($M = .47$), social judgment skills ($M = .17$), and leader expertise ($M = .41$). In contrast to the Motivated Communicators, the Thoughtful Innovators continued to increase their skill levels in moving from mid-level to more senior positions. In moving from mid-level to more senior positions, the Thoughtful Innovators obtained above average scores on the functions exhibiting increases in problem-solving skills ($M = .25$), solution construction ($M = .41$) and leader expertise ($M = .22$). One implication of this pattern of findings is that different types of leaders may display different patterns of skill development. One might, moreover, argue that the progressive skill development observed for the thoughtful innovators suggests that in the long run, they may prove more successful than the Motivated Communicators in functioning within the high-level demands commonly associated with executive leadership positions (Zaccaro, 1996).

**DISCUSSION**

Before further consideration of the foregoing observations, several limitations of the present study should be mentioned. First, one limitation of this study is its cross-sectional design, for it limits the extent to which conclusions can be drawn towards the true progression from junior-level leadership to the senior level. Second, the examination of leaders and leader types was over a substantial but nonetheless limited range of organizational levels. It might be argued that if the present study had been extended to more senior general officer level positions, the Thoughtful Innovators may have become more predominant than the Motivated Communicators. The present study cannot directly address this or other related effects of not including executive-level leaders in the sample. The findings speak more to leadership and leader types, as they are manifest in junior, mid-level, and senior positions. It is possible that somewhat different results might have emerged if executive, general officer positions had been examined.

Along related lines, it should be recognized that the findings with regard to leader types were obtained in a single organization, the U.S. Army. Although the U.S. Army has a strong culture associated with clearly articulated values, it differs from many organizations in that it tends to have an “up or out” policy. This policy,
in turn, may have resulted in stronger effects for type progression than would be the case in other organizations. The existence of this policy, however, provides a more appropriate framework for assessing the effects of person type on leader progression.

Finally, it should be recognized that the types identified in the present study do not provide an absolute description of the kind of person-types found in organizational leadership positions. The types identified in this study were classified in a single organization. These types, moreover, were developed empirically using a limited set of personality, motivation, and ability measures. Thus, it can be expected that other types might be identified in different organizations using different measures.

Although it is important to bear these limitations in mind, it is believed that the present study has some important implications for understanding leadership in general and the application of person-job matching models in particular. Earlier, the literature review revealed two general matching models: the homogeneity model (e.g., Schneider, Goldstein, & Smith, 1995) and the role diversity model (e.g., Hart & Quin, 1993). Broadly speaking, the results seem to provide some support for the role diversity model, given that multiple leader types, in particular the Thoughtful Innovators and Motivated Communicators, were found in more senior leadership positions at proportions greater than the proportions characterizing these types in more junior positions.

Moreover, the types that evidenced higher proportions in more senior leadership positions did seem to display a pattern of characteristics consistent with the demands of Army leadership roles. The Motivated Communicators present a pattern of characteristics consistent with the demands of operational unit leadership roles, which tend to be more tactical in nature. The Thoughtful Innovators, however, presented a pattern of characteristics more consistent with the demand of staff planning roles, which are more strategic in nature. Thus, the type of leaders who remain seem to have a pattern of characteristics consistent with the demands of different primary leadership roles with different types of leaders being retained to support different role demands.

Although the findings appear to provide some support for the role diversity hypothesis, a cautionary note seems in order. As noted above, leaders were examined only in a limited number of roles. Given this point, and the fact that the Thoughtful Innovators were exhibiting greater skill increases in more senior positions of their careers, it is possible that greater homogeneity might be observed in executive, general officer positions. Thus, further research seems needed to confirm the initial support for the role diversity model.

In this regard, however, it is important to bear in mind another set of findings that emerged in the present study. Diversity models typically stress role performance as the basis for leader progression as opposed to affective fit to the organization. Although the present study did not examine perceptions of and relations to climate and culture, it was found that senior leader types in the organization tended to display above average performance and more rapid skill development. This pattern of findings suggests that the retention of certain types may be based on their capability to develop the skills needed to perform successfully in certain key leader-
ship roles as suggested by Mumford, Stokes, and Owens (1990) and Stokes, Mumford, and Owens (1989).

One implication of this finding is that person-job matching models may need to be extended to take into account performance and skill development as well as affective reactions to the organizational environment. Alternatively, performance and skill development may serve as key variables mediating between environmental perceptions and subsequent skill acquisition and eventual performance in organizational leadership roles (Kahn & Byosiere, 1992). Although there is a need to attend to these alternative explanations, the overall pattern of results obtained in the present investigation appears to argue for a skill acquisition, performance explanation.

More specifically, three types, the Disengaged Introverts, Struggling Misfits, and Limited Defensives, all failed to be substantially represented in more senior leadership positions. In examining the characteristics of these types, it was apparent that they either lacked requisite motivation, as was the case for the Disengaged Introverts, or lacked requisite ability, as was the case for the Struggling Misfits. Types lacking the ability and motivation needed for skill development (Snow, 1986) seemed to be less prevalent in the more senior leadership positions in the organization, a finding suggesting that those who are not capable of developing performance relevant skills tend to voluntarily leave or are forced to leave.

These observations, however, point to another conclusion stemming from the present study. Although prior studies indicated that discrete personality, motivation and ability did not evidence strong direct relationships with leader performance (Zaccaro, Mumford, Marks, Connelly, Threlfall, Gilbert, et al., 1996), patterns of personality, motivation and ability did exert somewhat stronger effects on skill development and performance. The reason that these patterns appeared to evidence somewhat stronger effects is illustrated by comparing those types who failed to attain more senior positions, the Disengaged Introverts, Struggling Misfits and Limited Defensives, with types such as the Concrete Achievers and Social Adaptors, who had somewhat higher rates of movement and more senior positions. This comparison suggests that a lack of one characteristic, such as intelligence, may be compensated for over time by other characteristics such as motivation. By providing a more comprehensive assessment of compensatory capacities, these patterns or types may therefore permit better long-term prediction of leader performance (Katzell, 1994).

Better long-term prediction of leader performance, however, is not the only practical implication of this kind of typological model. Models of this sort remind us that individuals act and develop as holistic, somewhat unique entities. Thus, different types of leaders may develop in different ways and at different times in response to various kinds of interventions. This point was illustrated in the differences observed between the Motivated Communicators and the Thoughtful Innovators in the nature and timing of skill development. Thus, general models of leadership and leader development, such as those proposed by Mumford, Zaccaro, Harding, Jacobs, and Fleishman (2000) and Mumford, Marks, et al. (2000), must be considered in terms of the individual’s unique needs and unique pattern of characteristics in designing optimal developmental interventions intended to develop requisite leadership skills.
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REFERENCES


