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A Person-Oriented Job Analysis for Identifying Skills and Personality Attributes to be Assessed in Officer Selection

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Summary
The purpose of the present research was to identify personality constructs to be assessed in the selection of officers in the Turkish Armed Forces using a personality-oriented job analysis approach. Personality-oriented job analytic interviews were conducted both with currently employed and former officers (N = 78). Content-analysis of the interviews led to the identification of a list of attributes presumed to be relevant. The attributes were then rated by a group of officers (N = 447) for relevance and importance. Principal component analysis of the weighted relevance ratings resulted in five personality dimensions as being relevant for the job of an officer: Conscientiousness/Self-Discipline, Military Factor, Self-Confidence, Agreeableness-Extraversion, and Leadership.

Introduction

Job analysis is believed to be the most central of all human resources management activities (e.g., Ghorpade, 1988). The goal of most job analytic techniques is to identify the tasks performed by the job incumbents, the qualities required on the job as well as the physical, technological and social conditions under which the job gets done. Traditionally, job analytic techniques are divided into two broad categories: job-oriented and person-oriented techniques. Job oriented techniques, sometimes referred to as task analyses, basically focus on the activities conducted by the job incumbents. Person-oriented techniques, on the other hand, focus on the knowledge, skills, abilities and other attributes needed to perform the job.

Most person-oriented job analytic techniques, such as the Position Analysis Questionnaire (McCormick, Jeanneret, & Mecham, 1972), analyze jobs in terms of the human attributes, basically, skills and abilities, needed on the job. However, personality characteristics, or attributes other than task related knowledge and abilities, have in general received much less attention in the person-oriented techniques. One recent exception to this general trend is the Personality-Related Position Requirements Form (PPRF) developed by Raymark, Schmit, and Guion (1997). Raymark and colleagues argue that selection strategies usually evolve from an understanding of jobs based on job analytic information. However, most common job analysis inventories focus on cognitive or psychomotor aspects of jobs, and hence lead to an overemphasis on cognitive and/or psychomotor predictors in selection. The PPRF consists of 112 items on 12 position requirements or subdimensions (e.g., general leadership, friendly disposition, general trustworthiness, emotional stability, and desire to generate ideas) framed by the Big-Five personality constructs. Empirical evidence, although limited at the moment, suggests that the 12 position requirements are useful in differentiating among jobs.

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Recent literature suggests that personality predicts job performance, and that validities of certain personality constructs, such as conscientiousness or integrity, generalize across situations (e.g., Barrick & Big-Five dimensions and job performance relationship indicated that Extraversion was a valid predictor of job performance for managerial and sales jobs and that Conscientiousness was a valid predictor of job performance for all occupations. In a meta-analysis of research on the Big-Five personality dimensions and job performance in the European Community, Salgado reported that conscientiousness and Emotional Stability were valid predictors of job performance across occupational groups. Furthermore, extraversion was a valid predictor for managers and police, whereas openness to experience and agreeableness made significant contributions to training performance in general.

Despite the mounting evidence concerning the potential of personality variables in predicting job performance, personality variables have in general been overlooked in personnel selection practices. One possible reason for this seems to be the commonly used job analytic procedures that do not encourage the consideration of personality variables. What most job analysis techniques target is to identify the criteria for effective "task performance." However, as emphasized in Borman, Hanson, and Hedge's (1997) review of personnel selection literature and Arvey and Murphy's (1998) review on performance evaluation literature, performance domain is expanding and task performance by itself seems to be deficient in representing the domain of job performance. Borman and Motowidlo (1993) made a distinction between task and contextual performance. Task performance refers to the proficiency with which activities that are prescribed and formally recognized for a job are performed. Contextual performance, on the other hand, refers to interpersonal and voluntary behaviors that contribute to the enhancement of social and motivational context in which the work gets done. Contextual performance comprises discretionary behaviors such as organizational citizenship, volunteer and cooperative behaviors, and helpful acts.

Empirical evidence suggests that different facets of performance have different predictors. Murphy and Shiarella (1997) emphasize the need for a multivariate framework in evaluating the validity of Mount, 1991; Borman, Hanson, & Hedge, 1997; Hogan, Hogan, & Roberts, 1996; Hough, et al., 1990; Ones, Viswesvaran, & Schmidt, 1993; Salgado, 1997). Barrick and colleagues' meta-analysis on the selection tests. Performance is multi-faceted in nature rather than being a unitary phenomenon, and multiple predictors are relevant for predicting job performance. Specifically, attributes that lead incumbents to do well in task performance are different from those that lead incumbents to do well in contextual aspects of performance (e.g., McCloy, Campbell, & Cudeck, 1994; Motowidlo & Van Scotter, 1994; Van Scotter & Motowidlo, 1996). For example, Motowidlo and Van Scotter's findings indicated that both task performance and contextual performance contributed independently to overall job performance, and that personality variables were more likely to predict contextual performance than task performance. Personality attributes such as work orientation, dependability, adjustment, cooperativeness and internal control predicted the supervisory ratings of contextual performance of air force mechanics better than the ratings of task performance. Personality measures used in the Motowidlo and Van Scotter study were from a version of the Assessment of Background and Life Experiences (ABLE) which was developed as a part of Project A for the U.S. Army (Hough et al., 1990).

Borman et al. (1997) argue that in majority of the studies examining the relationship between job performance and personality variables overall, job performance ratings have been used as indices of performance which weight both technical/task and contextual performance. Thus, validities of personality measures might be even higher when contextual elements of performance can be measured separately.

A recent discussion concerns the bandwidth of personality measures used in personnel selection (Asthon, 1998; Borman et al., 1997; Hogan & Roberts, 1996; Ones & Viswesvaran, 1996). Ones and Viswesvaran advocate the use of broader and richer personality traits, such as integrity, rather than narrower and fine-grained personality traits in personnel selection. They present evidence supporting the power of broader personality variables in predicting job performance. However, there exists empirical evidence suggesting that broader personality constructs are not necessarily better.

Hogan and Roberts discuss examples of narrower personality traits predicting specific job performance better than broad traits. Similarly, Asthon reports that two narrow measures of personality, responsibility and risk taking, have higher validities than the Big-Five dimensions. Borman and colleagues present studies further supporting the predictive power of narrow band traits even when global measures of performance are used.

Hogan and Roberts (1996) argue that the nature of performance dictates the choice (and the band) of predictors used in selection and validity is always enhanced when predictors and the criteria are matched. Consistent with this argument we believe that job specific personality attributes needs to be identified and taken into consideration in the process of selection. Job specific personality attributes could be discovered through an approach such as the PPRF. However, such an inventory approach may still fall short of embracing the domain of interest for especially non-civilian jobs. Most military jobs are carried out in situations that are physically and psychologically stressful and demanding. Properties such as order, discipline, secrecy, and respect for the chain of command are much more valued in military jobs than they are in most civilian jobs. It is our contention that along with personality variables that have been shown to possess generalizable validities, military jobs are likely to call for personality attributes that are job specific and not necessarily demanded by non military jobs. Thus, the purpose of the studies presented in this paper was to use a personality-oriented job analysis approach to identify potentially useful personality constructs for personnel selection purposes in the Turkish Armed Forces (TAF). One point needs clarification at this point. The term personality is not used rigidly in this paper; some knowledge and skill-based individual differences variables were also included under the same term.

The TAF recruits officers from two main sources: military schools and outside sources. Officers recruited from outside sources are in fact professionals with at least a B.S. or B.A. degree. In the selection of these officers, personality tests are in general used to supplement data obtained from the other selection devices. The personality test in use in the TAF are adopted versions of the tests that are Western in origin, and there is a growing need for both culture and job specific personality tests to be used in personnel selection. In two consecutive studies, personality variables to be considered in the selection of officers were identified. In the first study personality-oriented job analytic interviews were conducted with a group of currently employed officers and a small group of former officers who voluntarily left the military during their tryout period. Content analysis of these interviews led to the identification of personality variables as being relevant for the job of an officer. In the second study, a large group of officers of both kind rated the relevance and importance of each of the identified attribute for the job of a military officer. Resulting weighted relevance scores were subjected to a factor analysis with the purpose of identifying personality construct relevant for the job in question. These two studies represent the first step in the development of a personality test battery to be used in the selection of officers from outside sources in the TAF. Information obtained from these studies is currently being used as input in the development of a personality test battery.

Study I

Personality-oriented job analytic interviews, with both currently working and former officers who left the army at the end of their one-year tryout period, were conducted. The interviews were content analyzed. The results of the content analysis led to the identification of attributes thought to be relevant for the job of an officer.

Method

Participants. Sixty-two officers (52 males and 10 females), with a mean of 37.6 years of age and 134.5 months of experience, recruited from the civilian sources (N = 15 for the Army, Navy, Gendarme, and N = 17 for the Air Force), eight officers who graduated from military schools (all males) were interviewed. Moreover, interviews were conducted with eight officers who voluntarily left the army at the end of the one-year probationary period. Consequently, a total of 78 individuals participated in the first study. Except the former officers who were all at lower ranks, participants were roughly representative of the population of interest in terms of rank (ranging from lieutenant to colonel), gender, area of speciality (engineering, medicine, education, and administration), and performance. Average job satisfaction of the currently working officers

participated in this study was found to be 8.20 on a 10-point Likert scale (1 = Not satisfied at all; 10 = Very much satisfied).

Job Analytic Interviews. A semi-structured interview sheet, consisting of 16 open-ended questions, was developed to collect job analytic information. The sheet was initially developed by the authors and revised on the basis of the feedback received from the subject matter experts (i.e., the personnel officers from the Army, Air, and Naval Forces and the Gendarme). The sheet was composed of two parts. The first part included questions tapping into the routine and nonroutine responsibilities of the officers; materials, tools, equipment, and work aids used; and people worked in coordination. The second and the major part included questions dealing with attributes needed to be successful on the job, attributes that discriminate the successful from unsuccessful officers, profile of "ideal" officer, potential reasons for joining and leaving the army. The sheet used with the former officers included additional questions concerning the reasons for leaving the army.

Demographic Information Questionnaire. Demographic characteristics of the participants were assessed using a 14-item questionnaire. Information concerning gender, age, rank, tenure, area of specialization, and education level, current and former military personnel in the family, and parental education levels was collected using this questionnaire. In addition, participants were asked to rate their overall job satisfaction using a 10-point Likert scale (1 = Not satisfied at all; 10 = Very much satisfied).

Procedure. Interviews with the currently employed officers were conducted individually in the military headquarters. At the beginning of each interview, after introducing the purpose of the study and assuring confidentiality, the interviewers asked the subjects to fill out the demographic questionnaire. Following the completion of this questionnaire by the participants, interviews were conducted by two interviewers. One of the interviewers asked the questions and the other interviewer wrote the answers down on the job analysis sheet as verbatim as possible. Each interview lasted from 45 to 75 minutes.

As for the phone interviews, the appointments were arranged with eight former officers and a researcher interviewed the participants and recorded the answers on-line. An average session lasted about 30 minutes.

Content Analysis and Results

The second part of each interview was subjected to content analysis in order to identify the qualities required of the job of an officer. Each interview was analyzed by two researchers independently. The personality attributes, which were either directly stated by the interviewees or inferred by the researchers, were written down. In cases where an attribute was stated more than once by the same participant, only one tally was made for that attribute. Disagreements between the analyzers over the attributes inferred were resolved through discussion. The former officers' stated reasons for leaving the TAF were content analyzed to further identify attributes critical in staying with or leaving the TAF.

The content analysis revealed 79 personality and other attributes presumably relevant for the job of an officer. After merging conceptually similar attributes, the list consisted of 72 attributes, conscientiousness, respect for the chain of command, honesty, orderliness, adaptability, military discipline, and planning as being among the frequently mentioned attributes.

Study II

The purpose of Study II was to confirm whether the attributes identified in Study I were valid for the job of an officer in the TAF and to see how the attributes grouped together to form personality composites relevant for the job. Five more attributes were added to the list after a detailed examination of the written materials such as job descriptions and performance evaluation forms. Since majority of the attributes identified were positive in nature, six attributes with negative connotations were also included as the filler items to control for random responding. Therefore, the final list consisted of 83 attributes. Most frequently cited 20 attributes are presented in Table 1.

Method

Participants. The original sample of the second study consisted of 500 officers (250 from military schools and 250 recruited from outside sources). Among the returned 481 surveys, 34 were identified as having outlier values in at least three items and hence were

excluded from the analyses. Major analyses were conducted with remaining 447 surveys/participants. The final sample was representative of the population of interest with a mean age of 34.4 years and mean tenure of 139.6 months. Ninety-one percent of the participants in the final sample were males, and while 41.2% were recruited from outside sources, 58.8 % graduated from military schools.

Instrument. The questionnaire was composed of two parts. In the first part the respondents were asked to rate the extent to which each attribute was relevant for the job of an officer as compared to the other jobs using a 9-point Likert type scale (1 = Not relevant at all; 9 = Very much relevant). In the second part, the respondents were asked to rate each attribute in terms of its importance for the job of an officer as compared to the other attributes, again using a 9-point Likert type scale (1 = Not important at all; 9 = Very much important). Page order was counterbalanced to deal with potential ordering effects. In addition to these ratings, participants answered a series of demographic questions of interest.

Procedure. The questionnaire was sent to the participants with a cover letter by the Turkish General Staff using internal mail system.

Analysis. A weighted composite score was computed for each item by multiplying the relevance and importance rating scores on that item. A factor analysis was conducted on the composite scores. Prior to the analysis, the six filler items and three other items with extreme variance were eliminated from the analyses.

Results and Discussion

A principal component analysis with oblique rotation was performed using SPSS on the weighted composite scores of the remaining 74 attributes. In the initial analysis, 13 components were extracted with an eigenvalue over 1.00. However, examination of the solution indicated that some of the components had only a few items or were difficult to interpret. Investigation of the scree plot also indicated that the slope levelled off at the fifth component. As a result, the number of factors was set to five in the later analyses. Factor correlation matrix indicated the correlated factor structure (see Table 2), thus the use of an oblique rotation was further justified. Analyses were repeated for the relevance and importance scores of the same items individually. Analysis on the importance and the weighted composite score ratings yielded almost identical solutions but the factor structure of the relevance ratings were quite different and did not make sense.

The results of the principal component analysis with oblique rotation on the weighed composite scores are presented in Table 3 . Cut off level of .35 was accepted for the inclusion of an item in a given component. Table 3 also includes factor loadings, communalities for each item, factor eigenvalues, explained variance, and internal consistency measures for each factor. Identified five factors explained the 49.53 % of the total variance. The communalities tended to be moderately high, only 8 of the 74 items had a communality value lower than .40. Although items with low communality values were not excluded from the interpretation of the factors, two of these items with relatively low communality values did not load on any component.

The first factor consisted of 18 items and explained 37% of variance. Except "trusting others" all items were conceptually consistent with each other, resembling the components of Conscientiousness factor in the Big-Five taxonomy (Costa & McCrae, 1995). Accordingly, this factor was named Conscientiousness/Self-Discipline. "Trusting others" had a negative loading (-.39) on this factor. In military context, trusting others may insinuate a lack of self-discipline or work bearing discipline. In other words, conscientiousness in military context may require not trusting easily. It could be argued that "trusting others" might have been perceived as violating the military's preoccupation with secrecy. This item also had positive cross loadings on two other factors, one named Self-Confidence, the other Agreeableness-Extraversion.

Thirteen items loaded on the second factor, and these items were mostly specific to the military context, such as respect to military hierarchy, military discipline, orderliness, strength of character. Therefore, this factor was labelled Military Factor or M-Factor. M-Factor was very stable, almost the same structure emerged regardless of the rotation and the extraction method employed in the analyses. M-Factor explained the 4.51 % of variance.

The third factor contained five attributes that tapped mostly self-assurance, like courage, risk-taking, and discretion. This factor was labelled Self-Confidence, and explained 2.88% of variance.

The forth factor which included 11 items appeared to represent a combination of two of the Big-Five dimensions: Agreeableness and Extraversion, and therefore it was named Agreeableness-Extraversion. In military context extraversion and agreeableness may have similar meanings and functions with respect to performance. This factor explained 2.86% of the variance.
The final factor included nine attributes that were again context or job specific, such as leadership, achievement motivation, persuasiveness, and foresightedness. This factor explained only 1.95% of the variance. Since, most of the items loaded on this factor seemed to represent different aspects and/or functions of the military leaders, this factor was labelled Leadership.

Other than "trusting others" there were five other cross loading items. "Initiative" loaded on both Conscientiousness/Self-Discipline and Self-Confidence. Conceptually, initiative seems to be a product of self-confidence. At the same time, initiative could also be an indicator of the self-efficacy component of conscientiousness. Two other cross-loadings that made conceptual sense was the loading of "decision making" and "stress tolerance" on both Conscientiousness/Self-Discipline and Leadership. "Strength of character" was another attribute cross-loading on two factors, Conscientiousness/Self-Discipline and M-Factor. Finally, "determinedness" cross-loaded on both Self-Confidence and Leadership. The reason underlying the use of an oblique rotation was the expectation that identified attributes and hence the resulting factors would be related to each other. For that reason such crossloadings were not unanticipated.

Conclusion

Existing evidence supports the view that job performance is multidimensional and that specific predictors tapping different dimensions or components of performance must be employed in the process of selection. Furthermore, it is believed that the conceptualization of domain of performance should include contextual aspects of performance along with job specific task performance.

The primary goal of the studies presented here was to identify personality attributes for the job of an officer in the Turkish Armed Forces. Accordingly, personality-oriented job analytic interviews were first conducted to identify personality attributes necessary for the job in question. Content analysis of the interviews led to a list of attributes presumed to be relevant. The attributes were then rated by a larger group of officers for relevance and importance and the analyses of these ratings resulted in five personality dimensions as being relevant for the job of an officer: Conscientiousness/Self-Discipline, Military Factor, Self-Confidence, Agreeableness-Extraversion, and Leadership.

The resulting factors confirmed our assertion that military jobs require personality attributes that are quite unique, along with attributes that are more likely to be relevant for a wide range of jobs. M-Factor and Leadership seem to be specific to the jobs in question, whereas Conscientiousness/Self-Discipline, Agreeableness-Extraversion, and Self-Confidence seem to be relevant for a wider range of jobs. M-Factor included items such as respect to chain of command, commitment, military discipline, and pride in uniform, which were quite job and context specific. Leadership included items like achievement motivation, persuasiveness, monitoring task progress and foresightedness, and determinedness which likely to be determinants of job success for military officers. Although the other three factors do not sound as job specific as the M-Factor and Leadership factor up front, they emerged as important components of criterion domain for the job in question.

Conscientiousness explained more than two thirds of the variance in the factor analysis. Conscientiousness is among the most widely studied personality attributes in the area of personnel selection. Although it has been shown to be meaningfully related to different job performance criteria for a range of jobs (Mount & Barrick, 1998), conscientiousness has been shown to be more related to motivational aspects of performance than ability (Mount & Barrick, 1995). Compared to the other four factors that emerged in the present analyses, conscientiousness seems to be a relatively broad factor. Despite relatively low levels of variance explained by the other four factors, we do not think that a single factor solution would be appropriate.

We believe that the remaining four factors, especially M-Factor, which stayed completely stable across different solutions using different ratings (i.e., composite, relevance, and importance), are critical in understanding performance of officers in the TAF.

One could also argue that the reason Conscientiousness emerged so strongly was because of the nature of the job analyzed. The job of military officer is a broad category including a wide range of jobs differing in both content and requirements. Some of these jobs are traditional military positions, whereas others are basically regular jobs carried within a military environment. Number of participants in the second study did not permit for repeating the analyses for different subgroups of jobs. If analyses had been repeated for specific job groups, different factor structures could have been emerged. Consistent with the literature suggesting the generalizability of the predictor of conscientiousness across jobs, conscientiousness could well be one of the major common denominator of the different officer jobs in the TAF. Pooling of different jobs under the job of officer can also explain the relatively low amount of total variance explained in this research.

Despite these problems, however, resulting factor structure was rather parallel to the Borman and Motowidlo's (1993) conceptualization of soldier effectiveness. Borman and Motowidlo argued that "soldier effectiveness involves more than just performing assigned job duties effectively and that other elements contributing to soldier effectiveness are common to all or nearly all soldiering jobs in the army" (p. 78). As an earlier step in defining the criterion domain for Project A (Campbell, 1990), Borman and colleagues developed a model of soldier effectiveness which comprised of three dimensions: Determination, Teamwork, and Allegiance. Determination included behavioural indicators such as perseverance, reaction to adversity (stress tolerance), conscientiousness, initiative, and discipline. These indicators are very parallel to the attributes loaded under Conscientiousness/Self-Discipline factor in the present studies. Teamwork embraces cooperation, camaraderie, concern for unit goals, boosting unit morale, and leadership, indicators that are very congruent with the attributes that loaded on Agreeableness-Extraversion and Leadership factors in this paper. Finally, Allegiance included indicators like following orders, following regulations, respect for authority, military bearing, and adjustment to the army, indicators that are very similar to the personality attributes loading on M-Factor.

Inclusion of job specific attributes as predictors in the selection process can be expected to improve the effectiveness of a selection system. As Hogan and Roberts (1996) argued, the nature of performance determines the type, and perhaps the band width, of the personality predictors used in personnel selection. The accuracy of the inferences made is expected to improve as the predictors and performance criteria become congruent. The five personality dimensions identified in the present studies appear to be important for the performance of an officer in the Turkish Armed Forces and hence they need to be taken into consideration in the selection process.

We believe that personality attributes are important determinants of job performance and thus need to be taken into consideration in both job analyses and resulting personnel activities, especially selection. However, this is not to say that personality variables can replace other predictors. Inclusion of such individual differences variables that are known to be related to criterion of job performance variables is expected to add to the effectiveness of a given system.

Finally, the purpose of the studies presented here was to identify personality dimensions to be considered in personnel selection. Results of the factor analysis are going to be taken as a guide in the development of job specific personality tests. However, whether the identified personality dimensions will successfully predict job performance criteria depends largely on how these predictors and the criteria of performance are assessed.

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Table 1
Frequently Mentioned Attributes

Attribute	Frequency (N = 78)
Work discipline	46
Planning	43
Verbal communication	36
Openness to experience	34
Coordination	32
Written communication	31
Job-specific knowledge	31
Managerial talent	30
Respect to chain of command	29
Honesty	27
Interpersonal relations	26
Crisp appearance	25
Military discipline	25
Pride in occupation	22
Superior-subordinate relations	22
Hardworking	21
Adaptability	17
Emotional stability	16
Time management	15
Orderliness	15

Table 2
Factor Correlation Matrix

Factor	F1	F2	F3	F4	F5
F1. Conscientiousness	1.00				
F2. Military Factor	.44	1.00			
F3. Self-Confidence	.31	.25	1.00		
F4. Agreeableness-Extraversion	.40	.34	.34	1.00	
F5. Leadership	.44	.30	.18	.38	1.00

Note. Extraction Method: Principal Axis Factoring with Rotation Method of Oblimin with Kaiser Normalization.

Table 3
Results of Factor Analysis

Item	F1	F2	F3	F4	F5	h^2
Job-specific knowledge	.62					.55
Problem solving	.61					.61
Work discipline	.56					.47
Fairness	.53					.48
Time management	.52					.66
Planning	.47					.50
Perseverance	.46					.59
Initiative	.46		.44			.54
Verbal communication	.45					.47
Decision making	.45				.35	.54
Managerial talent	.45					.44
Team player	.44					.56
Openness to experience	.44					.53
Stress tolerance	.43				.37	.46
Mentoring	.42					.38
Trusting others	-.39		.39	.35		.33
Thriftiness	.37					.52
Secretiveness	.36					.35
Attentiveness	.35					.50
Self-control						.56
Intrinsic motivation						.54
Rationality						.50
Respect to chain of command		.79				.59
Commitment		.78				.59
Military discipline		.77				.57
Pride in uniform		.60				.53
Superior-subordinate relations		.57				.55
Morality		.56				.45
Crisp appearance		.55				.49
Honesty		.53				.38
Pride in occupation		.50				.47
Respect for family life		.46				.44
Orderliness		.42				.56
Strength of character	.36	.39				.50
Trustworthiness		.35				.40
Knowledge of rules and regulations						.50
Adaptability						.63
Frankness			.61			.49
Courage			.53			.54
Risk-taking			.52			.40
Self-confidence			.49			.44
Discretion			.43			.35
Interpersonal relations				.66		.73
Tolerance				.65		.54

Table 3 continued

Item	F1	F2	F3	F4	F5	h^2
Sociability				.65		.62
Egalitarian				.62		.49
Empathy				.61		.56
Agreeableness				.57		.57
Negotiating				.55		.55
Assertiveness				.53		.59
Culturedness				.51		.46
Consulting				.45		.58
Coordination				.44		.64
Feedback seeking				.38		.54
Self-monitoring				.37		.51
Participation				.37		.61
Practicality				.35		.42
Written communication						.51
Quality orientation						.51
Emotional stability						.29
Leadership					.53	.42
Achievement motivation					.49	.55
Persuasiveness					.44	.42
Monitoring task progress					.43	.40
Foresightedness					.42	.23
Critical thinking					.41	.49
Tolerance to frustration					.41	.50
Determinedness			.36		.37	.55
Making personal sacrifices					.35	.40
Patience					.35	.48
Tolerance to ambiguity						.14
Creativity						.59
Mannerism/Bearing						.40
Perfectionism						.43
Eigenvalues	27.63	3.34	2.13	2.12	1.44	
Explained Variance (%)	37.33	4.51	2.88	2.86	1.95	
Internal Consistency (α)	.93	.89	.75	.93	.83	

Note: Extraction method is Principal Component with Rotation Method of Oblimin with Kaiser Normalization. F1: **Conscientiousness/Self-discipline**; F2: **Military (M-) Factor**; F3: **Self-Confidence**; F4: **Agreeableness-Extraversion**; F5: **Leadership**.