Development and Validation of Measures for Selecting Soldiers for the Officer Candidate School

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The objectives of this project were to (a) develop and validate a predictor battery to identify OCS applicants with the most leadership potential, the best fit with the Army, and the greatest likelihood of staying in the Army and (b) investigate the outcomes of the two different avenues to OCS, namely the enlistment-option program (i.e., recruitment of civilians with a college degree) and the in-service program (i.e., the selection of enlisted Soldiers). The predictor battery (i.e., Officer Background and Experience Form, or OBEF) included measures of temperament, affectivity, values, and leadership judgment. The OBEF was validated against several criterion measures -- OCS class performance data, attitudinal data, and career intentions gathered at the beginning and end of each class. Results were remarkably similar for the enlistment-option and in-service candidates. The OBEF scales added significantly to the prediction of affective commitment, career intentions, and OCS scores for leadership, fitness, and the total score. Future research should cross-validate these results and develop guidelines for using the OBEF for OCS selection, including how and when it would be administered and what the cut scores should be.

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DEVELOPMENT AND VALIDATION OF MEASURES FOR SELECTING SOLDIERS FOR THE OFFICER CANDIDATE SCHOOL

EXECUTIVE SUMMARY

Research Requirement:

The U.S. Army's Officer Candidate School (OCS) has recently expanded in response to requirements to increase the size of the Army. This has involved greater use of an alternative avenue for entry into OCS, namely, the enlistment-option program in which civilians with college degrees are recruited to enter OCS after completion of Basic Combat Training. This program supplements the traditional route to OCS — the in-service program in which Soldiers are selected for OCS participation.

This effort seeks to assist in selecting OCS candidates for successful performance as Army officers. The specific objectives of the project reported were to (a) develop and validate a predictor battery for identifying OCS applicants with the most leadership potential, the best fit with the Army, and the greatest likelihood of staying in the Army and (b) investigate the outcomes of the two different avenues to OCS.

Procedure:

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) and the Human Resources Research Organization (HumRRO) designed a battery of measures of largely non-cognitive characteristics (the Officer Background and Experience Form, or OBEF) and administered it to 1,344 OCS candidates in 10 OCS classes. The OBEF built on measures having demonstrated promise in previous efforts. These core measures included (a) a variant of the Rational Biodata Inventory (RBI), a biographical instrument measuring temperament, and (b) a set of work values representing values/work preferences investigated in prior officer and enlisted selection research. Additional measures that were more experimental (in the sense of having theoretical or practical promise but having less well-established track records) were also administered. The experimental measures included expansions of core measures and addition of measures of such other non-cognitive attributes as organizational identity, affectivity, and job knowledge via a situational judgment test (SJT).

The OBEF measures were validated against several criterion measures obtained through self-reports made at the end of OCS training or through extractions from either OCS or Army administrative files. While a number of such measures were assembled, the criterion measures used throughout the effort consisted of either OCS class performance scores (academic, leadership, fitness, and total performance scores) or end-of-course self-ratings of commitment to the Army and intentions for a regular Army career. The validation data in this report are for the 600 ~ 650 candidates in six classes which had graduated from the 12-week OCS course and for whom criterion data could be obtained at the time of report preparation.

Findings:

Examination of the separate OBEF measures indicated that the core measures, in particular, demonstrated statistical properties necessary for valid prediction and for practical use. The core scales generally had acceptable levels of internal consistency. Moreover, the core scales were generally not strongly biased against such groups as females and minority ethnic populations. In addition, analyses suggested a strong potential for some of the more experimental scales.

The overall approach for examining validity sought to determine whether a measure increased the level of prediction of an outcome over the level provided by the only personnel test — the Armed Services Vocational Aptitude Battery (ASVAB) — now routinely used in the selection of individuals for OCS. Validity was examined separately for the each of the OBEF measures and for composites of the core measures.

Validity results pointed to a number of OBEF measures that could predict candidate commitment, Regular Army career intentions, and even OCS performance beyond the ASVAB in an operational setting. Two sets of OBEF measures consistently stood out: (a) the core RBI scales and (b) the core Work Values scales. While the patterns of results were generally similar, there were some differences for the in-service and enlistment-option candidates in the relative strength of the individual predictor measures. These differences guided development of separate (and somewhat different) composites for the in-service and enlistment-option candidates. Analyses indicated that like many of the individual measures, the composites (a) exhibited acceptable statistical properties (e.g., high reliability and few subgroup differences) and (b) predicted the targeted OCS outcomes at generally comparable levels of prediction for the two groups.

In-service and enlistment-option candidates differed in ways congruent with their paths into OCS, with in-service candidates more likely to have had prior military service, be older, and have had at least one child. In contrast, enlistment-option candidates were more likely to have received a college degree.

The magnitudes of differences between the two groups of candidates on the temperament, values, and other predictor attributes were typically not large. However, there were non-trivial differences between the two groups in terms of end-of-class (EOC) OCS performance and career intentions. The large and significant differences on the final Army Physical Fitness Test (APFT) score, leadership performance score, and the total OCS score favored in-service candidates. In-service candidates were also much more likely to indicate that they intend to stay in the Army.

Utilization and Dissemination of Findings:

The key conclusion about predicting OCS performance and attitudes is that, while the ASVAB is a useful predictor, the OBEF adds validity beyond that provided by the ASVAB for predicting important outcomes. The OBEF scales added significantly to the prediction of affective commitment, career intentions, and OCS course scores for leadership, fitness, and the total score.

The most important next step is to cross-validate the results reported here in the remainder of the OCS classes. Another important step is to develop guidelines for using the OBEF for OCS selection, including how and when it would be administered and what the cut scores should be.

DEVELOPMENT AND VALIDATION OF MEASURES FOR SELECTING SOLDIERS FOR THE OFFICER CANDIDATE SCHOOL

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Chapter 1. Overview

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Introduction

Officer Candidate School (OCS) is one of three sources of commissioned officers in the Army. Compared to the Reserve Officer Training Corps (ROTC) and the U.S. Military Academy (USMA), OCS traditionally has contributed a smaller proportion of the officers in a year. Historically, the Army has used OCS to fill accession gaps in officer requirements when other commissioning sources cannot meet force structure requirements. Compared to ROTC and USMA, OCS is flexible enough to increase or decrease its production of officers on short notice. Particularly in wartime, the Army must make the most of all officer accessioning sources to attract officers with strong propensities for retention and offset, as possible, projected officer shortages. Recently, OCS has been expanding in response to requirements to increase the size of the Army. One of the ways in which OCS has responded to Army mission needs has been by adding and expanding the use of an alternative avenue for entry into OCS, namely the enlistment-option program. This is the recruitment of civilians with a college degree who enter OCS after completion of Basic Combat Training. This program supplements the traditional route to OCS— the in-service program in which Soldiers are selected for OCS participation.

Whether candidates enter OCS from the in-service or enlistment-option, OCS needs to commission individuals who are likely to perform well as junior officers, fit well in the Army's culture, demonstrate leadership potential for higher ranks, and stay beyond their initial Active Duty Service Obligation (ADSO). Therefore, the expansion of OCS requires the selection of entry-level officers who (a) will remain in service; (b) have attitudes, values, and motivational characteristics that fit the Army's culture; (c) demonstrate strong performance capabilities as junior officers; and (d) develop capabilities needed for performance at more senior levels. In-service OCS officers have typically shown a strong propensity to remain in the Army. The track record for enlistment-option OCS officers has not yet been established. The performance of in-service and enlistment-option OCS officers relative to each other and to officers from other commissioning sources is also not well documented. Consequently, with the emerging significance of OCS as a commissioning source, it is important to examine the OCS selection process, to understand how selections are made, and to determine what types of selection characteristics should be used to choose those individuals who would develop into highly qualified officers.

Currently, other than the Armed Services Vocational Aptitude Battery (ASVAB) General Technical (GT) score and a pass on the Army Physical Fitness Test (APFT), the OCS selection process has relied on qualitative and descriptive materials such as interviews, documentation of educational requirements, recommendations from superiors and essays asking individuals why they want to become Army officers. The recent need for more officers, who intend to make the Army a career, have qualifications to be promoted and will be successful in senior ranks has prompted the Army to review the OCS selection process

and to consider selection measurements that will predict high performers, assist OCS with the selection process, and determine if the selection tools work well for both in-service and enlistment-option candidates.

Study Objectives

The objective of this study was the development and validation of a predictor battery that would be able to identify OCS candidates—both in-service and enlistment-option—who are most likely to stay in the Army, perform well in company grade command positions, and have good potential for performance at higher officer ranks. The research, designed as a longitudinal analysis following OCS candidates from the beginning to the end of the OCS 12-week course, sought to provide preliminary evidence on the utility and validity of selection tools by using currently available predictor and criterion measures as well as augmenting them with new measures. The data and information acquired from this project will be used to lay the foundation for future work that will also be structured as a longitudinal design and continue to follow candidates from their Commissioning at the end of OCS into junior officer training (such as the Basic Officer Leadership Course III [BOLC III] and the Captain's Career Course [CCC]) and beyond to determine whether or not the selection measures remained viable, valid, and productive for OCS officers as they progress further in their careers. As possible, the future research will also include a comparison of OCS officers to those of other commissioning sources (USMA and ROTC) using these measures. This comparison will potentially provide further evidence regarding the utility of the selection tools for the Army.

With these objectives in mind, the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) contracted with the Human Resources Research Organization (HumRRO) to conduct this research. ARI and HumRRO worked collaboratively to develop and test measures that ultimately could be instituted by OCS for pre-commissioning selection.

The History of OCS

Historically, OCS has been used as a resource to bolster and increase the size of the officer corps in the U.S. Army during times of war or international conflict. When the U.S. has had prolonged and major military endeavors, and is urgently in need of officers, OCS, which is relatively flexible and inexpensive compared to USMA and ROTC, was typically employed to commission officers quickly in support of the Army's need for leadership in a large combat force. This was the case for World War II, the Korean Conflict, and the Vietnam War. Once the conflicts were completed, OCS was dramatically reduced in size or simply closed down.

The first plan for an officer candidate school was submitted in 1938 by the Chief of Infantry, BG L. Singleton, Commandant of the Infantry School at Fort Benning, GA. The first officer candidate schools were established in 1941 for the infantry, artillery, and coastal artillery branches. Between 1941 and 1947 over 100,000 candidates were enrolled in Infantry OCS classes of which 67% were commissioned as second lieutenants. At the end of World

War II, the Infantry OCS was transferred to Fort Riley, KS as part of the Ground General School and all other officer candidate schools were closed. By 1947 the Infantry program was also suspended. Five years later, in 1951, when there was again a need for officers for the Korean Conflict, an Infantry OCS was opened at Fort Benning. The course, which had been 17 weeks, was lengthened to 22 weeks. The program was renamed the First Officer Candidate Battalion, Second Student Regiment, and had 29 companies, with a class graduating every week. During the war, approximately 7,000 infantry officers graduated from the Fort Benning OCS.

In 1953, after the Korean Conflict, only three OCS programs, Infantry, Artillery, and Engineering, remained open. Reductions continued until just before the Vietnam conflict by eliminating the Engineering program. When the Vietnam War was at its height and there was again an urgent need for more officers, OCS expanded to five programs to meet Army needs. Until 1973, at the end of the Vietnam conflict, OCS had been established as branch specific schools. When the war in Vietnam ended, a single generalized OCS replaced the multiple branch-specific OCS programs and was reduced to 14 weeks. From this point until the U.S. war began in Iraq and Afghanistan, OCS has remained open and functioning, but relatively small. Since the beginning of the U.S. war in Iraq, the subsequent "surge", and the new military actions were emerging in Afghanistan, OCS was again expanded, averaging approximately 120 students per 12-week class, and approximately 16 classes per year (depending on the number of slots and/or candidates available).

In summary, OCS has provided the Army with a flexible tool to supply qualified commissioned officers at relatively low cost and virtually on demand. It expands and contracts (or is even eliminated) on short notice based on personnel needs of the Army and whether the country is at war or peace. Although OCS has been and remains a critical factor in the Army's ability to supplement and grow a pool of high quality leaders, little work has been done, especially in recent years, to develop or assess selection tools that can assist the Army in choosing those individuals who could demonstrate strong capabilities for junior and eventually senior officer ranks and make the Army a career. This study is the first, since the late 1970s, to test and develop new personnel selection tests for OCS.

Early OCS Selection Tools

In a detailed review, Rumsey (2009) described the history of the development of OCS predictor and selection tools. According to Rumsey, the greatest emphasis on OCS selection research occurred between 1941, at the beginning of the U.S. involvement in World War II, and 1957. "During that time nearly 50 separate experimental or operational instruments [were] prepared and tried out…in research involving approximately 15,000 officers" (Rumsey, 2009). Even so, the development of OCS selection measurements could be characterized as sporadic and incomplete. The research ended in 1979 and was not continued until the OCS study described in this report was initiated. This section summarizes Rumsey's history of the earlier research on OCS predictor and selection tools.

Selection of individuals into OCS first became an issue when 18% of the OCS students failed to complete the OCS course. Furthermore, based on reports about OCS officer

performance in North Africa, it became apparent that OCS graduates were weak in combat leadership. Consequently, during World War II selection research for OCS began to grow and a large number of instruments were constructed and tested on approximately 15,000 officers. The first priority was the need to develop a selection test that would predict educational or academic success. The Army General Classification Test, a measure of general cognitive aptitude for enlisted Soldiers, was adapted for OCS selection in 1941. Individuals who tested in the top third of the OCS population were then qualified to take the Officer Candidate Test (OCT). The OCT tested three areas that were determined to be good predictors of OCS grades: interpretation of data, arithmetic reasoning, and reading comprehension. Between 1942 and 1955, the OCT was found to show prediction levels equal to those obtained for tests being administered to prospective enlisted Soldiers. Similar efforts were made to develop valid and reliable tests to predict leadership performance. However, until the end of World War II, no useful leadership instruments emerged from the research.

Nonetheless, just after the war, new approaches for selection measures focusing on junior officers were instituted: biographic self-reports, interviews, superior ratings, and recommendations from civilian acquaintances. These approaches were piloted at Fort Monmouth with Signal Corps officer candidates and found to be good predictors of personal leadership ratings by fellow OCS students and tactical officers. With the exception of the recommendations, the other three approaches were instituted in 1946.

In 1947, the development of selection tools was also being pursued for the Women's Army Corps. At that time the Army worked to adapt instruments developed for male OCS selection for use with female OCS candidates. Ultimately, in 1948, when a law was passed integrating women into the Regular Army, three instruments—a biographical self-report, an interview, and ratings from superiors—were established for selection of women OCS candidates (Rumsey, 2009).

During the Korean conflict in 1956, the Officer Leadership Qualification Inventory (OLI), a self-description questionnaire, was instituted. The OLI merged items from several prediction instruments that were assessed as having retained their effectiveness over time. The OLI was useful in predicting leadership and resignation from OCS. A revised version of the OLI was subsequently put into operational use. Further research led to the introduction of a pre-commissioning screening test, the Cadet Evaluation Battery (CEB), which was administered to incoming OCS candidates in 1975. It was found that those candidates with longer enlistment service performed better than would have been expected on many of the measures in the CEB such as Combat Leadership and Career Intent. After its validity was established, the CEB (renamed the Officer Selection Battery or OSB) was authorized for use in OCS officially in 1979 and continued to be used for a number of years. However, after the OSB was dropped from use, no other selection tool was put into use for screening OCS candidates. In recent years, the only scores used to select applicants for OCS have been derived from the ASVAB (a requirement of 110 on the GT or higher) and a passing score on the APFT. These quantitative screening measures continue to be in use for selecting both the in-service and the enlistment-option applicants.

Developing selection or predictor tools for OCS has become a more complicated process than it had been in the past mainly due to the fact that there are now two avenues for entering OCS. Traditionally, OCS candidates came from the enlisted ranks and early research on predictor tools focused on this OCS population. Recently, as a consequence of the Army's difficulty in retaining junior officers, OCS increased the number of enlistment-option candidates. To be accepted into OCS, a potential enlistment-option recruit goes through a very different process than those coming from in-service. They must complete an application packet consisting of college transcripts, letters of reference, and several Department of Army forms. Applicants then appear before a three-member board held by a Recruiting Battalion Commander and are rated on such things as demeanor, articulation in speaking, and how they look in business attire. If the panel recommends selection, an applicant is assigned an 09S Military Occupational Specialty (MOS) which is a specialty specifically for OCS and then sent to Basic Training with all other newly enlisted recruits, before going to the OCS program. The new recruits enter OCS at the rank of E4. This group of enlistment-option OCS candidates has not yet been studied—there is no information on their personality traits, attitudes, retention, or performance at OCS or as junior officers. As mentioned above, the objectives of this study have been to develop and identify the most promising predictors, ultimately, of officer performance and career intent and to assess the manner in which these measures performed for each subgroup within OCS.

Approach and Organization of Report

Using a longitudinal approach, the OCS study collected data from OCS candidates at the beginning of their 12-week course and then again at the end of the course. Data were collected from 10 classes. Chapter 2 describes the data collection plan and the data cleaning, screening, and processing procedures. Chapters 3-5 discuss the development of three types of predictors which were administered at the beginning of class (BOC) to OCS students—the Rational Biodata Inventory (RBI), measures of identity, affectivity, and values, and the Situational Judgment Test (SJT)—respectively. Chapter 6 describes the end-of-class outcome measures of performance and attitudes used as validation criteria. Chapter 7 provides the results of validity analysis—analyses designed to determine how well the different predictors predict important outcomes. Conclusions and recommendations appear in Chapter 8.

Chapter 2. Data Collection and Data Processing

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The ultimate objective of this research was to develop and validate a predictor battery that would be able identify OCS candidates — both in-service and enlistment-option — who are most likely to stay in the Army, perform well in company grade command positions, and have good potential for performance at higher officer ranks. This report presents preliminary evidence on the potential of these measures (both predictor and criterion), to include their likely utility, with further study, in helping the Army select the best candidates for OCS.

As mentioned in the first chapter, the study's design was longitudinal in nature; that is, individual OCS candidates were followed from the beginning of the 12-week OCS course to its end. These data and analyses will eventually be used to build the framework and methods for future study, extending the time line by tracking the OCS candidates identified in this study, past commissioning, into and beyond junior officer training.

In addition to the study design, this chapter describes the data collection and data cleaning, screening and processing employed in the study. It also includes a description of the initial meetings that provided information to build the framework of the study, the instruments, and the parameters used to process the final data set to ready it for analyses and final reporting.

Preliminary Planning

Information meetings were held with OCS, Human Resources Command (HRC), and Accessions Command (USAREC) personnel to determine what types of data on OCS candidates were available and what OCS leadership would find useful to have. Besides administering tests to the candidates, data from OCS and Army administrative archives would also be needed to develop a background database on each candidate and to access any performance data that might be available. Finally, the fact that OCS students currently enter from two different sources, college enlistment and in-service, meant that several different sources (namely USAREC and HRC, respectively) would be required to obtain full information on each OCS candidate in the study.

The first meeting took place at OCS at Fort Benning in Spring 2008. Discussions were conducted with the Commandant of OCS and his staff to learn about the information needs of OCS in regards to selecting and identifying individuals for OCS candidacy. For example, the research team wanted to learn whether or not attrition from the OCS course itself was an issue that OCS leadership might be interested in exploring. If the selection process were to be improved, what would the OCS leadership want to change? The meeting

also provided ARI and HumRRO with an opportunity to learn more about the structure and content of the OCS 12-week course, the availability of performance data, data storage and accessibility, the characteristics of the candidates, and selection procedures currently in use. The discussion also revealed the limited availability of computers to the candidates for completion of tests administered via the web.

Discussions were also conducted with the Deputy Chief, Officer Distribution Division, HRC, Alexandria, VA. HRC houses data on all current and past Army personnel which includes data on in-service OCS candidates. The purpose of the meeting was to determine the types of data HRC maintains on OCS in-service candidate applications. A list of variables that would be needed for the study was presented to HRC staff including: demographics, entrance measures (e.g. ASVAB scores, SAT scores, civilian education), prior enlistment history, performance in training courses (such as the Basic Officer Leadership Course), branch preference and assignment, awards, prior military education, and so forth.

Next, the research team met with representatives of USAREC at Fort Knox. USAREC receives its "mission" from the Army G1, The Deputy Chief of Staff for Personnel, which provides the directive not only on the number of OCS candidates that will be required by the Army, but also the proportions of in-service and enlistment-option recruits. USAREC personnel indicated that the overall mission number had been increasing recently. USAREC is also where application information for enlistment-option OCS recruits resides. The application packets usually have, at minimum, a paper-and-pencil application, a writing sample indicating why the applicant wants to be an officer, proof of citizenship, college degree, and the applicant's GT score (which is required to be 110 or higher).

Finally, to determine if there were other sources of data that might add value to this study, and to provide information for the future study following officers beyond OCS into junior officer training, ARI representatives met with individuals from the Basic Officer Leadership Courses (BOLC III) for Armor (Fort Knox) and for Infantry (Fort Benning). The purpose of these visits was to determine what types of performance data from the BOLC III courses might eventually be put to use in a future phase of the study.

Project Design

The project design for the analyses reported here was longitudinal, tracking individual OCS candidates from the beginning to the end of the 12-week OCS course. The design included collection of predictor data at the beginning of the OCS course and collection of performance or criteria data at the end of OCS when candidates graduate and are commissioned. The purposes of the analyses were twofold. First, they provided evidence about the validity of the predictor measures for criteria reflecting accomplishments in the first phase of OCS officer training. Second, they produced early findings on the psychometric properties of predictor measures. Achieving these purposes allows inferences about the promise of the predictor measures.

A new class started approximately every 3 weeks during the period of data collection, as illustrated in Figure 2.1. Thus, the data collection took about 10 months to complete for all 10 classes.

	W E E K																								
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

indicates beginning-of-class (BOC) data collection
indicates end-of-class (EOC) data collection
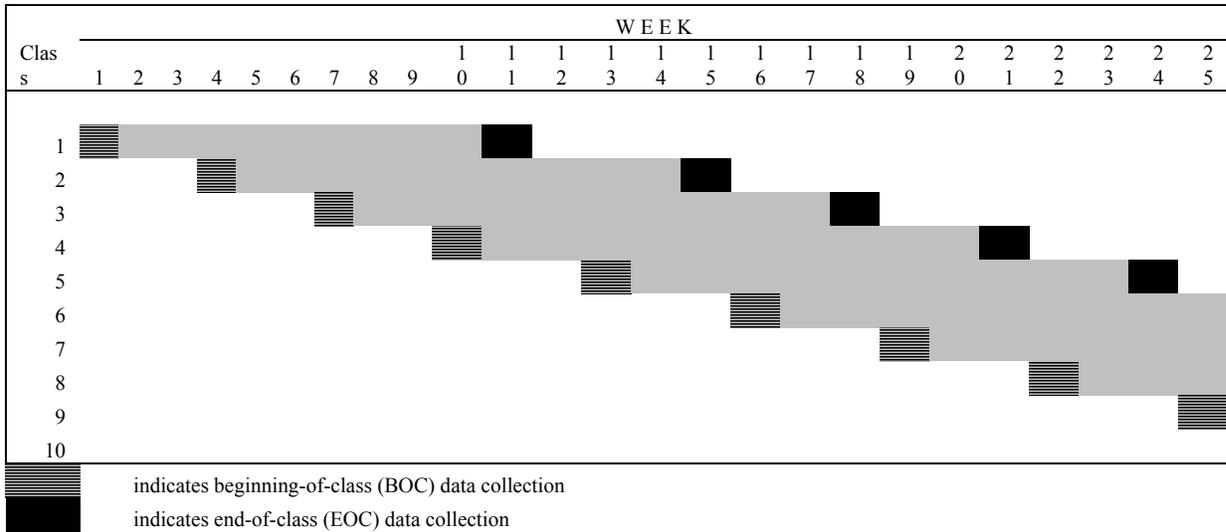
Figure 2.1. Beginning and end of class data collection.

As mentioned, plans for future work involve continued tracking of the original OCS candidate samples into the BOLC III where junior officers obtain their branch training and into Captains Career Courses (CCC) where they are prepared for leadership roles at the rank of Captain. The design calls for a web survey to be administered to OCS candidates approximately 5 months after their OCS graduation and commissioning. Similar instruments will also be administered to junior officers of different commissioning sources in BOLC III and CCC classes. These data collections will provide an opportunity to conduct comparative analyses that will offer more information about the power and validity of the measures.

In order to begin preparation for this second phase of the study, a pilot was conducted in which data were collected from Lieutenants at Fort Benning (where Infantry BOLC III resides) and at Fort Leonard Wood (where Chemical, Military Police, and Engineering BOLC III reside). Data were also collected from Captains in the CCC at these two locations. For these pilot data collections, a convenience sample of officers from all three commissioning sources—OCS, USMA, and ROTC— completed instruments similar to those used at OCS. The Captains in CCC were also asked to rate the performance of officers from different commissioning sources on technical/tactical competence, leadership competence, values, and retention likelihood. These data will be analyzed when the second stage of the study begins. Additional data collections are planned to sample the BOLC III and CCC courses more extensively, and to increase the number of junior officers surveyed.

Data Collection Process

Predictor data were collected from 10 OCS classes. The predictor measures were administered during the first week of a class and a self-report survey of attitudinal criterion (e.g., career intentions) was administered near the end of the 12-week class. Other data characterizing the candidates were drawn from the Army's Enlisted Master File (EMF) and the Military Entrance Processing Command's (MEPCOM) Integrated Resource System (MIRS) files. Besides the self-report attitudinal criteria, performance data were assembled from the official OCS databases. Although predictor data were collected for all 10 classes, only six classes had graduated at the time of report preparation. This report describes predictor data for all 10 classes and criterion data for the six classes that had graduated at the time it was assembled.

Predictor (Beginning-of-Class) Data Collection

At the end of the first week of each OCS class, a team of two or three researchers administered the battery of predictor measures at Fort Benning. This battery was labeled the Officer Background and Experience Form (OBEF). At the start of a session, the data collectors explained the purpose of the test, reviewed the Privacy Act Statement (PAS), and then asked the candidates to read the PAS on their own and sign a copy of it if they chose to take part in the effort. The PAS also requested the individual's social security number and an Army Knowledge On-Line (AKO) email address. These two pieces of private information were needed so that the candidate could be tracked at the end of OCS and in the future longitudinal phase of the OCS study. All items in each packet for each candidate were also marked with an identification number which would ultimately replace the social security number for the sake of confidentiality.

The test consisted of booklets with the items and a scantron sheet on which to mark responses to the items. At each data collection the entire class population was tested. The final response numbers for each class appear in Table 2.1.

One of the purposes of the OCS study was to determine which measures had the most power for selection of OCS candidates and as predictors of continuance and performance later in an officer's career. The 10 classes yielded a sample that was large enough to allow for modification of the content of the OBEF. Specifically, over the course of the predictor data collections there were four variations of the OBEF. Each variation contained "core" items/scales, that is, items/scales that, at the outset, were most likely candidates for measuring the constructs of interest for the study and for which we wanted to collect sufficient data for finalizing decisions about their use. Other items/scales in a variation were "experimental"; that is, they were new or had less proven track records. Having multiple data collections afforded us the opportunity to try these "experimental" items/scales.

Table 2.1. Total Number of Beginning-of-Class (BOC) Respondents

	# of Beginning-of-Class Respondents
Class 1	138
Class 2	106
Class 3	86
Class 4	152
Class 5	141
Class 6	156
Class 7	162
Class 8	117
Class 9	156
Class 10	130
TOTAL	1,344

Table 2.2 presents the scales used in each variation of the test. OBEF Version 1 was administered to four classes. OBEF Version 2 was administered to one class. OBEF Version 3 was administered to five classes. However, Version 3 had two variations. Each variation was administered to half of the candidates in each of the five classes.

Table 2.2. Breakdown of Measures by OBEF Variation

	Beginning-of-Class (BOC) OBEF Variation			
	1	2	3.1	3.2
Measure/Scale	($n = 447$)	($n = 152$)	($n = 371$)	($n = 374$)
Rational Biodata Inventory - Core	X	X	X	
Rational Biodata Inventory – Experimental		X[a]		X
Work Values - Core	X	X		X
Work Values - Experimental	X			
Situational Judgment Test — Experimental			X	X
Army Identification — Experimental	X			
Need for Organizational Affiliation - Experimental	X			
Army Affective Commitment — Core	X	X		X
Army Continuance Commitment — Core	X			
Army Career Intentions — Core	X	X	X	X

As the tables illustrate, the OBEF brought together different constructs. The RBI was adapted from the Cadet Background and Experience Form (CBEF) which was tested and validated in ROTC (Kilcullen, Robbins, & Tremble, 2009; Tremble, Kilcullen, DiFazio, & Putka, 2009). The RBI is a non-cognitive self-report measuring motivational attributes. Variations included core scales/items measuring constructs such as achievement orientation, Army identification, peer leadership, stress tolerance, self-efficacy, traditional values, affective commitment, continuance commitment, fitness motivation, and job knowledge (situational judgment test). The OBEF included experimental scales on Army identification, the need for organizational identification, and values which characterize global beliefs that underlie peoples' attitudinal processes, serving as the foundation for the behaviors they engage in and the choices they make. Army Affective Commitment (emotional attachment)

and Army Career Intentions items were asked of everyone at each administration and Army Continuance Commitment (the awareness of costs associated with leaving an organization (Tremble, Payne, Finch, & Bullis, 2003) was only included at the first data collection.

Criterion Data

Attitudinal Data

Attitudinal data were collected with the "End of Class" (EOC) survey which was administered towards the end of the 12-week OCS course for a class. Survey packets were prepared for each of the candidates who had participated as part of their class in the beginning-of-class (BOC) administration. Packets consisted of an envelope labeled with a candidate's name. The materials in the packet for a candidate were labeled with the identification code (ID code) assigned to the candidate at the BOC administration of the OBEF. The OCS cadre distributed the packets to their participating candidates by the names on the packets. Instructions in the packet asked candidates to return sealed envelopes to their Cadre. In this manner, candidates' names did not appearing directly on the materials containing their responses, helping to safeguard confidentiality. However, the ID Codes on the materials allowed the research team to associate BOC and EOC responses to the same individual. After the surveys in a class had been completed, the packets were returned to ARI for processing.

Like the BOC OBEF, the EOC survey included two types of measures—new experimental items/scales that had not been used in previous Army personnel research and core items/scales which had been used. These are reviewed in subsequent chapters. The new scales and items were (a) "Soldier breach of contract" which measured the extent to which Soldiers feel they have met their obligation to the Army; (b) "Army breach of contract," the extent to which the Army has met its obligations; and (c) "Army Identity Structure" indicating the degree to which a Soldier's identity is moving away from or closer to the Army. The core items included affective commitment, continuance commitment, morale, recalled initial career intentions, current career intentions, and the RBI identification scale. Additionally, candidates were asked to report the branch to which they were assigned and if they were satisfied with this assignment.

As was the case with the predictor instruments, there were two different versions of the EOC. Some classes received a longer version and others an abbreviated version. The abbreviated version, restricted to core items, was implemented with the later classes as there was concern that the length of the longer EOC survey might be detrimental to the response rate.

Performance Data

Each company commander completes the Order of Merit List (OML) at the end of the course. The OML is a rank order of the candidates in a class that is based on a final total course score. The final total course score reflects the combination of the final scores received in: academics, leadership, physical fitness score, and peer evaluations. The OML data for each class were assembled from official OCS data bases. These scores are described in detail in Chapter 6 of this report.

Army Data

In addition to the predictor and criteria data, background information was drawn for each candidate from the Army MIRS/EMF databases. The information included ASVAB scores, gender, race, and the date of birth. Although gender, race, and age were available on the demographic form, the data pulled from official files validated or filled in gaps in candidates' self-reports. We were unable to obtain GT scores for all candidates and chose to use the Armed Forces Qualification Test (AFQT) score as a proxy for GT. AFQT and GT scores correlated .95 and .96 (uncorrected for range restriction on AFQT) in recent, large-sample ARI research projects (Michael Ingerick, personal communication, June 18, 2009); therefore, we were confident that AFQT was a reasonable proxy for GT.

OCS Data Cleaning and Screening

Predictor (BOC) data from all 10 tested classes and EOC data for six classes were collected in time for inclusion in this report. Our first step was to prepare a master database of predictor data from the 10 classes. Next, we merged the end-of-class survey data with the predictor data according to subject ID codes. Administrative data were added last, again by merging by ID code.

Next we screened the database to eliminate participants who had too much missing data or data that were suspect for some other reason. OCS candidates missing more than 10% of their predictor or survey criterion data were flagged and dropped. The SJT was the last instrument in the OBEF and was treated slightly differently than the other instruments. We observed that some of the participants who appeared to complete earlier portions of the OBEF conscientiously, appeared to run out of time on the SJT. We did not want missing data on the SJT to result in elimination of all of a respondent's data. A missing data flag was computed separately for the SJT. We eliminated the candidate's SJT data if more than 10% of their SJT data was missing. Missing data checks resulted in the elimination of 24 (1.7%) cases. Also, we conducted a data quality check to identify candidates having zero or near-zero variance in response to the questions. This check resulted in the elimination of four (0.3%) cases.

Final Sample

As shown in Table 2.1, the final predictor sample had 1,344 OCS candidates from 10 classes. All data presented for measures in Chapters 3, 4, and 5 are based on this full sample of 1,344 candidates. BOC data presented in Chapters 6 and 7 are also based on this full sample. Within each chapter, sample sizes will vary depending upon (a) missing data for a particular instrument or (b) whether the scales were core or experimental.

Table 2.3 reports the candidates' demographic distribution. Over 500 candidates indicated that they had entered OCS from the enlisted Army ranks, and 521 candidates came to OCS after completing college without having served in the military. Another 231 candidates entered OCS after (a) having served in one of the other military Services or (b) having participated in, but not completed, ROTC or USMA. For the purposes of this report, we refer to these 231 individuals as having "hybrid" backgrounds.

Table 2.3. Officer Candidate School (OCS) Sample Demographics

Demographic	In-Service (N = 553)		Enlistment-option (N = 521)		Hybrid (N = 231)		Total (N = 1,344)	
	N	%	N	%	N	%	N	%
Gender								
Male	404	73.1	406	77.9	192	83.1	1,010	75.1
Female	124	22.4	88	16.9	27	11.7	240	17.9
Missing Values	25	4.5	27	5.2	12	5.2	94	7.0
Ethnicity								
Hispanic	95	17.2	51	6.3	35	15.2	183	13.6
Non-Hispanic	428	77.4	437	83.9	184	79.7	1,056	78.6
Missing Values	30	5.4	33	6.3	12	5.2	105	7.8
Race								
White	276	49.9	400	76.8	163	70.6	841	62.6
Am. Indian/Alaskan	3	0.5	0	0.0	0	0.0	3	0.2
Asian	21	3.8	30	5.8	10	4.3	61	4.5
Black/African Am.	193	34.9	38	7.3	38	16.5	273	20.3
Pacific Islander	0	0.0	5	1.0	1	0.4	6	0.4
Multiple	17	3.1	33	6.3	6	2.6	56	4.2
Missing Values	43	7.8	15	2.9	13	5.6	104	7.7
Education								
Some college	205	37.1	n/a	n/a	4	1.7	211	15.7
Bachelor's degree	244	44.1	409	78.5	166	71.9	825	61.4
Some graduate school	58	10.5	37	7.1	27	11.7	125	9.3
Master's degree	35	6.3	50	9.6	24	10.4	109	8.1
Doctorate or equivalent	3	0.5	13	2.5	8	3.5	24	1.8
Missing Values	8	1.4	12	2.3	2	0.9	50	3.7
Number of Children								
None	163	29.5	436	83.7	122	52.8	726	54.0
One	101	18.3	38	7.3	38	16.5	178	13.2
Two	144	26.0	19	3.6	38	16.5	202	15.0
Three or More	131	23.7	16	3.1	26	11.3	177	13.2
Missing Values	14	2.5	12	2.3	7	3.0	61	4.5
	M	SD	M	SD	M	SD	M	SD
Age	32.96	4.27	27.26	6.19	31.14	6.67	30.37	6.12
Time in Service (in months)	102.72	59.15	n/a	n/a	73.86	40.84	95.12	56.33
Time Deployed (in months)	14.57	18.51	n/a	n/a	8.75	12.38	13.11	17.28
Undergraduate GPA	2.97	0.89	2.90	0.89	3.08	0.73	2.97	0.86
AFQT	69.34	20.05	87.55	10.65	80.80	11.77	78.65	17.61
Reasons for Applying to OCS [a]								
Serve my country	2.95	1.06	3.26	0.97	3.12	1.01	3.10	1.02
Pay off debts	1.13	1.43	1.64	1.55	1.35	1.51	1.37	1.51
Lack civilian opportunity	0.96	1.27	1.17	1.31	1.34	1.29	1.11	1.30
Retirement benefits	2.51	1.34	1.67	1.29	2.58	1.24	2.20	1.37
Build a resume	2.34	1.35	2.28	1.31	2.10	1.38	2.28	1.35
Gain leadership experience	2.97	1.14	3.15	1.03	3.13	0.97	3.07	1.07
Please friends or family	0.83	1.23	0.66	1.02	0.68	1.08	0.73	1.12

Note. Thirty-nine candidates in the sample did not answer the pre-service status question; their data is reflected in the "Total" column. In-Service = Candidates who were Army Soldiers prior to OCS; Enlistment-option = Candidates who were civilians with no military service prior to OCS; Hybrid = Candidates with service from another military branch, with prior military service, or with experience from West Point or ROTC prior to OCS. Continuous variable sample sizes are as follows: In-Service n = 517-547, Enlistment-option n = 500-509, Hybrid n = 193-230, Total n = 738-1,293. [a] Scales range from 1 (Not at all Important) to 5 (Extremely Important).

Most of the OCS candidates were white males. However, there were other differences in the demographic characteristics of candidates having entered OCS by the in-service and college-options programs. These differences seem to have reflected likely differences in the populations from which these two programs select candidates. While, for example, enlistment-option and in-service candidates had about the same undergraduate grade point average, the enlistment-option sample tended to have higher Armed Forces Qualification Test (AFQT) scores. Additionally, the in-service Candidates were less likely to have completed college and more likely to have children than the enlistment-option Candidates. There were also differences in the racial compositions of candidates selected by the two programs, with relatively more of the in-service candidates having been Black. Regardless, all groups tended to report that a desire to serve the country and to gain leadership experience were the most important reasons for applying to OCS.

Criterion analyses for EOC measures presented in Chapter 6 and validity analyses for EOC measures in Chapter 7 are based on subsets of the full 1,344 sample. The numbers of respondents in each class with both BOC and EOC survey data appear in Table 2.4. This table does not reflect data collected through administrative records. Usable end-of-class data were obtained from administrative records for 768 candidates, 688 of whom had final school grades (i.e., total OCS scores). Chapter 6 provides details on the variables collected in the EOC survey and through administrative records.

Table 2.4. Number of Respondents with Beginning-of-Class (BOC) and End-of-Class (EOC) Survey Data

	# of Respondents in each class whose EOC data were usable
Class 1	96
Class 2	87
Class 3	37
Class 4	131
Class 5	119
Class 6	139
TOTAL	609

Summary

The overarching research plan for this project involves following OCS graduates from 10 OCS classes over the next few years of their military careers. Toward that end, we asked OCS candidates to complete an array of temperament, attitude, interest, values, and judgment assessments (i.e., the OBEF) at the beginning of each class and to complete an attitudinal survey at the end of their 12-week course. We also obtained administrative data from enlistment records and school performance data from OCS. Chapters 3 through 5 discuss the measures that formed the OBEF and chapter 6 describes data collected at the end of the class. Chapter 7 describes analyses conducted to determine which OBEF measures were most highly related to OCS performance and attitudes at the end of class.

Chapter 3. Development of the Rational Biodata Inventory (RBI)

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The Army is interested in commissioning OCS officers, as well as officers from other sources, who have a strong propensity for retention so that current and future force structure needs are met. As well, current promotion rates make it important that OCS commissioned officers have the potential for performance at more senior ranks. With this in mind, the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) developed the Rational Biodata Inventory (RBI), a non-cognitive test designed to predict indicators of retention and performance among OCS candidates.

Measure Development

We chose to use the RBI developed in previous research as a starting point for an OCS-related RBI because the RBI has an extensive track record in Army research. RBI scales predict cadet continuance in the ROTC program (Kilcullen, Robbins, & Tremble, 2009; Tremble, Kilcullen, DiFazio, & Putka, 2009; Waters & Putka, 2009) and enlisted Soldier job performance and attrition (Kilcullen, Putka, McCloy, 2007; Klopp, 2006; Putka & Bradley, 2008; Putka, Kilcullen, & White, 2003).

Initially, nine "core" temperament constructs were targeted for measurement with the OCS version of the RBI based on the previous research with the RBI. Subsequently, five "experimental" scales measuring attributes linked to leader job performance were added to the RBI, yielding a total of 14 predictor scores for analysis (see Figure 3.1). To create the RBI scales (core or experimental), panels of psychologists reviewed the construct definitions and independently generated items referring to past behaviors and life events thought to be indicative of each targeted construct. As a group, the panel then evaluated the candidate items using several criteria, including construct relevance, response variability, relevance to the intended population, readability, non-intrusiveness, and neutrality with respect to social desirability. A consensus was reached on the best items for each construct. A sample RBI item appears in Figure 3.2.

Also included in the RBI is a Response Distortion scale that is designed to detect whether respondents are describing themselves in an overly favorable light (i.e., in a way that may not reflect their true standing of the constructs of interest on the RBI).

Scoring of the RBI

The scoring of the RBI was straightforward. The test consists of multiple choice questions asking about the test-takers' prior behaviors, experiences, and reactions to life events. Candidates respond to each item using a 5-point response continuum scale. Unlike traditional empirically-keyed biodata tests, which score items based on the relationship of the response to an external criterion, rational biodata items are scored based on the relationship of the response to the intended psychological construct. Item scores are then aggregated to form

Peer Leadership: Seeks positions of authority and influence. Comfortable with being in charge of a group. Willing to make tough decisions and accept responsibility for the group's performance.

Achievement Orientation: The willingness to give one's best effort and to work hard towards achieving difficult objectives.

Fitness Motivation: Degree of enjoyment from participating in physical exercise. Willingness to put in the time and effort to maintain good physical conditioning.

Stress Tolerance: Ability to maintain one's composure under pressure. Remaining calm and in control of one's emotions instead of feeling anxious and worried.

Hostility to Authority: Being suspicious of the motives and actions of legitimate authority figures. Viewing rules, regulations, and directives from higher authority as punitive and illegitimate.

Self-Efficacy: Feeling that one has successfully overcome work obstacles in the past and that one will continue to do so in the future.

Traditional Values: Acceptance of societal values, authority, and the value of discipline.

Army Identification: The degree of personal identification with, and intrinsic interest in becoming, a U.S. Army Soldier.

Continuance Commitment: The degree of commitment to the Army because alternatives are less attractive or because the cost of leaving the Army is too great.

Micromanager: The proclivity for controlling another person or a situation by paying extremely close attention to small details.

Tolerance of Ambiguity: Ability to tolerate work situations where the right goal or the correct path to the goal is vague and ill-defined.

Social Acumen: The ability to understand the feelings and motives of others and the ability to take this information into account and respond appropriately when interacting with others.

Written Communication Skills: The ability to clearly communicate one's ideas in writing to others.

Oral Communication Skills: The ability to communicate one's ideas by speaking clearly and effectively to others.

Response Distortion: This scale is not a predictor scale. Its purpose is to detect and adjust for socially desirable responding.

Figure 3.1. RBI scales.

How often have you put off doing a chore that you could have taken care of right away?

      A. Very often
      B. Often
      C. Sometimes
      D. Seldom
      E. Never

Figure 3.2. Sample RBI item.

scale scores measuring the underlying psychological constructs. Previous research has indicates that scale scores developed using this methodology have good convergent and discriminant validity with personality "marker" scales measuring the same attributes and generally show less susceptibility to socially desirable responding compared to the personality measures (Kilcullen, White, Mumford, & Mack, 1995). As well, the Response Distortion scale demonstrated sensitivity to deliberate response distortion when respondents were instructed to fake good on the measure (Kilcullen, Putka, McCloy, & Van Iddekinge, 2005).

Psychometric Properties of the RBI

Reliability

RBI scale means, standard deviations, skewness, and internal consistency (inter-item) reliabilities appear in Table 3.1. For rational biodata scales, internal consistency estimates of .60 and above are considered adequate due to the heterogeneous nature of behaviorally-based biodata items. For the core RBI scales, a median scale alpha of .67 was obtained, with all but one of the scales yielding an internal consistency estimate of .60 or above. The exception was the Response Distortion scale. Items on this scale were not hypothesized to be reflective of a "response distortion" construct, but rather formative indictors of it (MacKenzie, Podsakoff, & Jarvis, 2005). As noted by previous researchers, notions of inter-item consistency for such formative measures have little meaning (Bollen & Lennox, 1991), and we report a reliability for the Response Distortion scale here only for purposes of contrasting its results with the other RBI scales. Among the RBI experimental scales, three had internal consistency estimates below .60, indicating that further work is needed on their development.

Table 3.1. RBI Descriptive Statistics

Scale/Predictor	N	M	SD	skew	alpha
Core Scales					
Peer Leadership	970	3.90	0.60	-0.40	.72
Achievement	970	4.14	0.51	-0.61	.61
Fitness Motivation	970	3.69	0.64	-0.21	.78
Stress Tolerance	970	3.18	0.52	-0.06	.69
Hostility to Authority	970	1.71	0.45	0.83	.56
Self-Efficacy	970	4.36	0.46	-0.63	.75
Army Affective Identification	970	3.64	0.62	-0.64	.78
Continuance Commitment	970	2.69	0.90	0.11	.65
Traditional Values	970	3.96	0.67	-0.31	.61
Response Distortion	1,344	0.12	0.17	1.66	.56
Experimental Scales					
Tolerance for Ambiguity	526	3.51	0.57	-0.18	.59
Micro-Management	374	3.55	0.62	-0.22	.50
Social Acuity	526	3.82	0.55	-0.16	.74
Verbal Communication	526	3.56	0.79	-0.33	.55
Written Communication	526	3.43	0.69	-0.06	.67

Scale Correlations

Examination of scale intercorrelations in Table 3.2 reveals seven correlations at the .40 level or above, indicating moderate to strong overlap (a) between Peer Leadership, Self-Efficacy, and Achievement Orientation and (b) between Social Acuity, Verbal Communication and Peer Leadership. The strongest correlation of .71 between Peer Leadership and Social Acuity indicates that these two scales largely measured the same construct. Other than this, scale intercorrelations were reasonably low, with most observed correlations below .30.

Subgroup Differences

A particularly important property of any measure being considered to select OCS candidates is whether scores on the measure exhibit mean differences across subgroups (e.g., Do males perform differently from females? Do Black applicants perform differently from White applicants?). To the extent that sizable differences exist, the measure may be perceived as unfair; thus, we examined the possibility of subgroup differences on the RBI.

Subgroup differences are described in terms of Cohen's d effect sizes (Cohen, 1988). Cohen's d reflects the mean difference in scores on a given measure (e.g., the RBI) across subgroups (e.g., males, females) and is expressed in standard deviation units. Cohen (1988) suggests that a d of .20 in magnitude represents a small difference between groups, .50 a moderate difference, and .80 a large difference. The formula for Cohen's d used in the sections that follow is:

$$d = (M_{\text{Non-referent group}} - M_{\text{Referent group}})/\text{Pooled } SD,$$

where the "referent group" is males for gender comparisons and whites for racial/ethnic comparisons.

Accessioning Source Subgroup Differences

RBI scale means, SDs, and Cohen's d effect sizes for accessioning source comparisons appear in Table 3.3. As shown, effect sizes for accessioning source on the RBI predictor scales (excluding the Response Distortion scale) ranged from (a) -.39 to .69 for Enlistment-option-In Service comparisons (*Mean d* = .16), (b) -.20 to .49 for Hybrid-In Service comparisons (*Mean d* = .10), and (c) -.43 to .29 for Hybrid-Enlistment-option comparisons (*Mean d* = -.06). Overall, differences between candidates sorted by accessioning source were typically small and not statistically significant. An examination of the effect sizes that did achieve statistical significance revealed that Enlistment-option and Hybrid candidates tended to score moderately higher than the In-Service candidates.

Race/Ethnicity Differences

RBI scale means, SDs, and Cohen's d effect sizes for race/ethnicity comparisons appear in Table 3.4. As shown, effect sizes for race/ethnicity on the RBI predictor scales (excluding the Response Distortion scale) ranged from (a) -.61 to .33 for Black-White comparisons (*Mean d* = .16), (b) -.23 to .34 for Hispanic-White comparisons (*Mean d* = .09), and (c) -.41 to .07 for Asian-White comparisons (*Mean d* = -.18). Most comparisons showed no significant differences in scale scores between whites and non-whites. For those scales with significant effect sizes, Blacks and Hispanics tended to score higher than Whites.

Table 3.2. RBI Intercorrelations

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Core Scales														
1. Peer Leadership														
2. Achievement	**.50**													
3. Fitness Motivation	**.32**	**.28**												
4. Stress Tolerance	**.13**	**.09**	**.21**											
5. Hostility to Authority	**-.10**	**-.24**	.03	**-.34**										
6. Self-Efficacy	**.49**	**.50**	**.36**	**.28**	**-.22**									
7. Army Affective Identification	**.29**	**.34**	**.15**	**.15**	**-.18**	**.29**								
8. Continuance Commitment	**-.14**	**-.09**	**-.18**	**-.12**	**-.09**	**-.19**	.04							
9. Traditional Values	**.16**	**.13**	**.12**	**-.10**	.02	**.12**	**.16**	-.04						
10. Response Distortion	**.20**	**.24**	**.12**	**.28**	**-.33**	**.28**	**.17**	.01	.02					
Experimental Scales														
11. Tolerance for Ambiguity	**.36**	.08	.12	**.29**	**-.06**	**.23**	.05	**-.20**	**.19**	**.15**				
12. Micro-Management	--	--	--	--	--	--	--	--	--	**.10**	.04			
13. Social Acuity	**.71**	**.29**	.14	.06	-.07	**.34**	**.17**	**-.21**	**.17**	**.17**	**.45**	**.20**		
14. Verbal Communication	**.41**	.07	.03	**.24**	-.15	**.23**	.07	**-.20**	.06	**.12**	**.30**	.08	**.41**	
15. Written Communication	**.26**	**.25**	.07	.10	.05	.02	-.01	**-.18**	.08	.08	**.22**	.09	**.32**	**.27**

Note. Correlations in bold are statistically significant ($p < .05$, two-tailed). n = 152-970.

Table 3.3. RBI Entry Status Subgroup Differences

Scale/Predictor	In-Service (I) M	In-Service (I) SD	Enlistment-option (C) M	Enlistment-option (C) SD	Hybrid (H) M	Hybrid (H) SD	C-I d	H-I d	H-C d
Core Scales									
Peer Leadership	3.85	0.59	3.95	0.58	3.87	0.62	**0.17**	0.03	0.14
Achievement	4.13	0.52	4.16	0.51	4.15	0.50	0.06	0.04	0.03
Fitness Motivation	3.62	0.63	3.74	0.65	3.73	0.65	**0.19**	0.16	0.02
Stress Tolerance	3.09	0.51	3.23	0.52	3.28	0.50	**0.27**	**0.37**	0
Hostility to Authority	1.68	0.43	1.77	0.48	1.67	0.44	**0.22**	0.00	**0.20**
Self-Efficacy	4.38	0.45	4.34	0.47	4.35	0.45	0.08	0.07	0.01
Army Affective Identification	3.65	0.60	3.64	0.65	3.63	0.59	0.02	0.04	0.02
Continuance Commit	2.83	0.85	2.50	0.92	2.77	0.89	**0.39**	0.07	**0.29**
Traditional Values	3.82	0.69	4.14	0.62	3.95	0.67	**0.46**	**0.19**	**0.30**
Response Distortion Scale	0.13	0.17	0.12	0.17	0.11	0.16	0.10	0.10	0.01
Experimental Scales									
Tolerance of Ambiguity	3.45	0.53	3.55	0.58	3.61	0.59	**0.20**	**0.32**	0.10
Micro-Management	3.50	0.54	3.66	0.62	3.39	0.66	**0.30**	0.20	**0.43**
Social Acuity	3.80	0.51	3.85	0.57	3.84	0.60	0.10	0.08	0.02
Verbal Communication	3.53	0.79	3.59	0.82	3.58	0.73	0.08	0.06	0.01
Written Communication	3.21	0.63	3.64	0.69	3.52	0.70	**0.69**	**0.49**	0.17

Note. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where In-Service is the first referent group, and Enlistment-option is the referent group for the C-H coefficient. Sample sizes: In-Service $n = 151\text{-}553$; Enlistment-option $n = 147\text{-}521$; Hybrid $= 58\text{-}231$. Coefficients in bold are statistically significant using an independent samples *t*-test ($p < .05$).

Table 3.4. RBI Race and Ethnicity Subgroup Differences

	Ethnicity					Race						B-W	A-W
	White, Non-Hispanic (WNH)		Hispanic (H)		H-WNH	White (W)		Black (B)		Asian (A)			
Scale/Predictor	M	SD	M	SD	d	M	SD	M	SD	M	SD	d	d
Core Scales													
Peer Leadership	3.85	0.58	3.84	0.66	-0.01	3.86	0.58	4.02	0.59	3.71	0.67	**0.28**	-0.25
Achievement	4.10	0.50	4.18	0.54	0.16	4.10	0.51	4.27	0.48	4.13	0.51	**0.33**	0.07
Fitness Motivation	3.73	0.65	3.64	0.68	-0.13	3.73	0.64	3.60	0.66	3.54	0.50	**-0.20**	**-0.29**
Stress Tolerance	3.19	0.50	3.07	0.58	-0.23	3.18	0.51	3.23	0.54	3.08	0.49	0.09	-0.20
Hostility to Authority	1.75	0.45	1.73	0.47	-0.03	1.75	0.45	1.59	0.46	1.76	0.46	**-0.35**	0.02
Self-Efficacy	4.32	0.47	4.48	0.42	**0.34**	4.33	0.46	4.47	0.42	4.14	0.46	**0.31**	**-0.41**
Army Affective Identification	3.65	0.64	3.65	0.53	0.01	3.65	0.63	3.65	0.55	3.61	0.55	-0.01	-0.06
Continuance Commit	2.64	0.93	2.92	0.76	**0.29**	2.62	0.92	2.86	0.81	2.64	0.77	**0.26**	0.02
Traditional Values	4.07	0.65	3.95	0.62	-0.20	4.06	0.64	3.67	0.71	3.98	0.62	**-0.61**	-0.12
Response Distortion	0.10	0.15	0.18	0.20	0.58	0.10	0.15	0.17	0.18	0.14	0.21	**0.48**	**0.29**
Experimental Scales													
Tolerance of Ambiguity	3.57	0.56	3.63	0.65	0.10	3.55	0.56	3.44	0.57	3.39	0.55	-0.21	-0.29
Micro-Management	3.52	0.62	3.76	0.62	0.39	3.52	0.61	3.62	0.56	3.42	0.51	0.17	-0.16
Social Acuity	3.81	0.56	3.99	0.59	0.32	3.79	0.56	3.96	0.52	3.63	0.50	**0.31**	-0.29
Verbal Communication	3.57	0.81	3.72	0.78	0.19	3.55	0.80	3.63	0.77	3.17	0.66	0.10	**-0.47**
Written Communication	3.45	0.71	3.49	0.63	0.06	3.45	0.71	3.28	0.65	3.35	0.70	**-0.25**	-0.14

Note. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where White, Non-Hispanic and White are the referent groups. Sample sizes: Hispanic n = 23-87; White, Non-Hispanic n = 186-699; White n = 243-841; Black n = 68-273; Asian n = 12-61. Coefficients in bold are statistically significant using an independent samples *t*-test ($p < .05$)

Gender Differences

RBI scale means, SDs, and Cohen's *d* effect sizes for gender comparisons appear in Table 3.5. As shown, effect sizes for gender on the RBI scales ranged from -1.01 to .32 (*Mean d* = -.12). A large effect size was seen for Fitness Motivation, with males scoring higher. Other significant differences were relatively smaller (-.36 < d < .32), with females scoring higher on some scales and males scoring higher on others. The smaller differences favoring males were observed on the Stress Tolerance, Hostility to Authority, Traditional Values, and Verbal Communication scales. In contrast, the scale scores for Achievement Orientation and Continuance Commitment were higher for females. The gender differences observed in this sample are fairly comparable to past research involving the rational biodata scales. For example, Kilcullen, Putka, and McCloy (2007) found that first-term male Soldiers tended to have higher Fitness Motivation and Stress Tolerance scores relative to their female counterparts, and female Soldiers tended to have higher Achievement Orientation scores relative to their male counterparts. Thus, the findings here regarding gender differences tended to be fairly consistent with past research.

Table 3.5. RBI Gender Subgroup Differences

Scale/Predictor	Male (M)		Female (F)		F-M
	M	*SD*	*M*	*SD*	*d*
Core Scales					
	3	0	3	0	-
Peer Leadership	.90	.59	.89	.61	0.02
	4	0	4	0	**0**
Achievement	.12	.51	.28	.50	**.32**
	3	0	3	0	**-**
Fitness Motivation	.80	.61	.19	.53	**1.01**
	3	0	3	0	**-**
Stress Tolerance	.22	.50	.04	.56	**0.36**
	1	0	1	0	**-**
Hostility to Authority	.73	.44	.61	.47	**0.29**
	4	0	4	0	-
Self-Efficacy	.37	.46	.32	.48	0.12
Army Affective	3	0	3	0	0
Identification	.64	.61	.67	.62	.06
	2	0	2	0	**0**
Continuance Commit	.64	.91	.93	.79	**.31**
	4	0	3	0	**-**
Traditional Values	.01	.67	.81	.68	**0.30**
	0	0	0	0	0
Response Distortion Scale	.12	.17	.13	.17	.03
Experimental Scales					
Tolerance of Ambiguity	3	0	3	0	-
	.52	.58	.45	.55	0.12
Micro-Management	3	0	3	0	0
	.54	.60	.61	.63	.11
Social Acuity	3	0	3	0	-
	.83	.55	.80	.55	0.06
Verbal Communication	3	0	3	0	-
	.60	.76	.42	.92	**0.24**
Written Communication	3	0	3	0	0

| | .41 | .68 | | .44 | .73 | .05 |

Summary

The RBI, which has a strong track record for predicting important criteria in Army research, was modified for use in this project. The RBI used in this project consists of several temperament scales judged likely to predict OCS performance and career continuance, plus other temperament scales previously linked to leader job performance. A total of 14 temperament constructs are measured by the RBI. The test also includes a Response Distortion scale that detects whether respondents are describing themselves in an overly favorable manner. The majority of the RBI scales yielded good internal consistency estimates, and most scale intercorrelations were below .30. Subgroup analyses reveal no significant differences between whites and non-whites on most scales. For those scales with significant race difference scores, Black and Hispanic candidates tended to score higher than Whites. Gender subgroup analyses revealed that the majority of scales showed either no significant differences or differences favoring females.

Chapter 4: Identity, Affectivity, and Values

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Needs, values, temperament, and cognition all represent important motivators for work attitudes and behaviors (Pinder, 1998). Needs serve as the fundamental forces that compel individuals towards action (Murray, 1938). Values are a cognitive representation of peoples' needs that directly impact their preferences for what they find rewarding in the workplace (Pinder, 1998; Rokeach, 1979). Finally, both temperament and cognition relate to processes through which people make sense of the world around them and both involve processes that can filter how they perceive and react to their environment (e.g. Schacter & Singer, 1962; Watson, Clark, Tellegen, 1988). In this chapter, we present some theoretically important motivators that can impact performance behaviors, commitment, and turnover decisions that officers may experience. As such, we focus our attention on cognitions regarding the structure of one's identity, needs regarding one's need for organizational identification, temperament regarding one's affectivity, and values regarding the work place.

Construct Definitions

Identity Structure

Identity can be used to understand who an individual is, where they belong, and how they fit into a group (Oyserman, 2001). At the most basic level, organizational identification represents an individual's perception of oneness with their group, in which the group is embedded within his or her self-concept (Ashforth & Mael, 1989; Riketta & Van Dick, 2005; Tajfel, 1978; Turner, 1999).

According to social identity theory, an individual's identity is formed through a process of intergroup comparisons and self-categorization (Ashforth & Mael, 1989; Tajfel, 1978; Tajfel & Turner, 1979; Turner, 1999; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). This process causes individuals to classify themselves and others into ingroups and outgroups and allows them to maintain or enhance their self-esteem by forming a positive social identity, typically through their identification with the ingroup (Tajfel, 1978). Thus, identification provides the foundation from which organizational commitment first forms, strengthening as individuals start to derive a sense of pride and esteem from their associations with a group (Ashforth & Mael, 1989; Pinder, 1988; Turner, 1999).

While this approach has generally viewed identities as being largely contextual in nature, recent work has postulated that people differ in terms of the degree to which their identity is deeply embedded in their self-concept (Meyer, Becker, & Van Dick, 2006; Rousseau, 1998). According to this work, those with situated social identities will alter their identification with a group when contextual cues prime them to recognize either their shared characteristics with a

group (in the case of social identity) or their difference from the group (in the case of personal identity). Those with deep-structured identities on the other hand will have fundamentally modified the core of their self-concept by integrating new information regarding their group memberships into their self-concept (Rousseau, 1998). Meyer and colleagues (Meyer et al., 2006) have suggested that this difference may differentially impact the way in which an individual becomes committed to a group having serious consequences for future performance and behaviors.

Identifying with an organization has widespread implications, directly affecting group members' perceptions about the group, intra- and inter-group relations, while also impacting member behaviors, intentions, and performance (Ashforth & Mael, 1989; Haslam, 2004). From an employment testing perspective, identification with the Army may be particularly useful because it describes the way one psychologically associates with a group, potentially developing before one enrolls in OCS. Simply perceiving oneself as similar to other members of the group (i.e., Officers) is sufficient to elicit perceptions of identification (Ashforth & Mael, 1989; Tajfel, 1978). While identity and organizational commitment are closely related constructs, identity is conceptually a more appropriate selection tool than commitment which describes one's reasons to remain in a group of which they are already a part (Meyer & Allen, 1997; Meyer et al., 2006).[1]

Need for Organizational Identification

Theorists have argued that people differ in their generalized tendency to identify with social objects or groups (Glynn, 1998; as cited in Kreiner & Ashforth, 2004). This concept is more commonly referred to as the need for identification (NOID).

It is reasonable to assume that individuals high in NOID will be inclined to favor social exchange relationships. Social exchange relationships are characterized by a long-term orientation, with high levels of trust and investment (Blau, 1964; Shore, Tetrick, Lynn, & Barksdale, 2006). These are important consequences of organizational identification, in particular for those with deep structured identities (Ashforth & Mael, 1989; Meyer et al., 2006; Rousseau, 1998). As such, we suggest those high in NOID will direct their efforts towards the Army and socially integrate themselves within the Army regardless of the contextual factors impacting their identity. Individuals low in NOID may still identify with the Army, but they are more likely to do so due to contextual cues, rather than a deep seated internal motivation.

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[1] Organizational commitment, by definition, describes the nature of individuals' relationship with an organization, and how this bond effects their decision to remain within that organization (Meyer & Allen, 1991a, 1991b; 1997). As such, this construct necessitates some prior experience with the organizational to be conceptually meaningful. It is difficult to suggest that an individual can persist in their membership in a group of which they are not yet apart of. On the other hand, organizational identification represents a precursor to organizational commitment that can exist as long as one psychologically associates with a group (Meyer et al., 2006). Research suggests that prior experience with a group is not needed for identification to occur; simply perceiving similarities between oneself and members of a group is sufficient to elicit social identification (Tajfel, 1978; Tajfel, Billig, Bundy, & Flament, 1971). Furthermore, organizational identification acts as the social glue that promotes loyalty to a group and keeps its members together in the face of strife or threat (Van Vugt & Hart, 2004). Perceptions of belongingness and similarity help create an emotional bond (i.e. affective commitment) between the individual and the organization (Ashforth & Mael, 1989). Thus, the extent to which an individual chronically indentifies with an organization prior to joining it, the higher we would expect their levels of commitment to be after an individual becomes a member employee.

Consequently, these individuals will likely form far more tenuous bonds with the organization with lower levels of trust and involvement.

Trait Affectivity

Research suggests that positive and negative affectivity represent two independent, pervasive, and stable cognitively explanatory styles that color how people view the world around themselves (Watson & Clark, 1984; Watson, Clark, McIntyre, & Haymaker, 1992; Watson, Clark & Tellegen, 1988; Watson & Tellegen, 1985). At the most fundamental level, positive affectivity refers to a tendency to experience positively activated emotions, while negative affectivity represents the tendency towards negative emotions (Thorsen, Kaplan, Barsky, Warren, & deChermont, 2003; Watson et al., 1988).

These dispositions have a profound impact on how individuals interpret and react to their experiences at work. People high in positive affectivity tend to engage in more social and socializing activities, are more attuned to nurturance and appetition needs, and are more likely to have pleasurable engagements with their environments, experiencing feelings of enthusiasm, alertness, and energy (Larsen, McGraw, & Cacioppo, 2001; Watson et al., 1992; Watson & Clark, 1984; Watson et al., 1988). Those high on negative affectivity on the other hand tend to be more introspective, dwell on problems, be more likely to attend to negative situational cues, avoid threats, and thus be less satisfied and have a less favorable self-view (Larsen et al., 2001; Watson & Clark, 1984; Watson et al., 1992; Watson & Pennebaker, 1989). While this suggests that people with low levels of positive affectivity will likely be less engaged and committed to the Army, having moderately high levels of negative affectivity may actually be useful in certain positions where careful thought and self-reflection are required. As such, this work suggests that each form of affectivity may have important consequences for retention and performance issues in the Army.

Work Values

Values represent the global beliefs that underlie peoples' attitudinal processes, serving as the foundation for the behaviors they engage in and the choices they make (Connor & Becker, 1994; Pinder, 1998). In the work context, these values represent the beliefs one has regarding their jobs and the work environment; typically these beliefs relate to their needs, priorities, and desires (Nord, Brief, Atieh, & Doherty, 1988; Pine & Innis, 1987). As such, work values can be assessed by examining the importance individuals place on various reinforcers that may or may not be supplied by the work environment (Dawis & Lofquist, 1984; Van Iddekinge, Putka, & Sager, 2005).

From a selection standpoint, work values can have many important consequences. In general, value congruence or fit among individuals can facilitate work performance, satisfaction, and commitment (O'Rielly, Chatman, & Caldwell, 1991), while the failure of the organization to provide the reinforcers deemed important by the individual can adversely impact commitment, performance, and satisfaction (Morrison & Robinson, 1997; Rousseau, 1995).

Measure Development

Identity Structure

The notion of deep-structured and situated identities suggest that identity can be structured according to three components: (a) the magnitude to which the group is embedded within one's self-concept, (b) whether this magnitude is increasing or decreasing in strength, and (c) the stability of this embeddedness. The magnitude factor is in essence a traditional measure of identification, while the later two components can be used to understand how deeply structured or situated one's level of identification is.

A central problem in the identity and commitment literatures is that the two frameworks were developed simultaneously and independently of one another (Meyer et al., 2006). As such, some measures of identity include items that can also be reflective of commitment (e.g. Ashforth & Mael, 1989). To obtain a less confounded measure of Army identification, identity magnitude was evaluated using a measure adapted from Shamir and Kark (2004). This was a single item geometrical representation that displayed increasing or decreasing amount of overlap between two circles, one representing the individual and one representing the Army (see Figure 4.1). The more the circles overlap, the stronger is the magnitude of one's identity.

Prior to this research, no measure of deep-structured identity existed. According to Rousseau (1998), those with a deep structured identity should have relatively stable levels of identification with a group, actively embedding the group into one's self-concept. To assess this construct, Robbins, Tremble, and Kilcullen (2008) devised two new geometrical measures which were variations of that used by Shamir and Kark (2004). The measure of identity movement presented participants with overlapping circles that were moving either apart or away from each other at different rates (Figure 4.2). The greater the movement together, the more actively one is embedding the Army in their self concept. The greater the movement apart, the more actively one is trying to separate themselves from the Army.

The measure of identity stability presented participants with seven geometric depictions of a split circle that represents how much conflict one experiences in identifying with and disassociating themselves from the Army (Figure 4.3). The closer together the two halves are, the greater the stability in one's identification.

Movement toward one another indicates that individuals are actively embedding the organization within their self-concepts, while movement apart indicates that they are distancing themselves from the group. An unpublished validation study demonstrated that these scales had good convergent validity with the related constructs of disidentification and ambivalent identification as well as, good predictive validity with theoretically related criteria (Robbins et al., 2008).

Scoring. Participants responded to the measure of identity magnitude by choosing which of the seven geometric representation best captured the extent to which they identified with the Army. Identity movement had participants choose which of the seven geometric representations

PART II. Army identification refers to the extent to which the Army is important in how you see yourself. The greater your identification, the more you view the Army's goals, values, and beliefs as being personally meaningful and descriptive of you. The following charts examine different aspects of your identity. In each chart you will find 7 rectangles. Within each there are 2 circles. One represents you and the other one the Army.
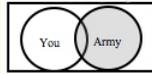
1. In this chart, each rectangle displays circles that overlap differently.
The greater the overlap the more strongly you identify with the Army.

Choose the rectangle that most highly represents the extent to which you identify with the Army.

Example 1:
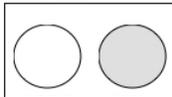
These **circles are totally separate**, indicating you **do not identify at all with the Army**.

Example 2:
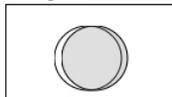
These **circles are nearly totally overlapping**, indicating you **very strongly identify with the Army**.

Figure 4.1. Identity magnitude.

best captured the extent to which their level of identification with the Army was becoming stronger, weaker, or remaining the same. Identity stability was examined by having participants choose the geometric representation that best captured the level of consistency in their identification with the Army. Each item had the geometric representations ordered such that the first geometric representation indicated the lower ratings on that scale and the last picture indicated the highest ratings on that scale.
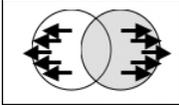
28
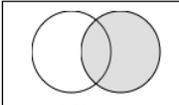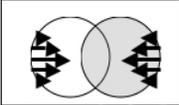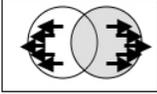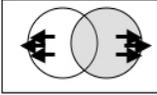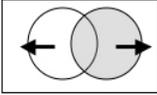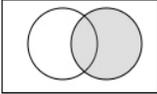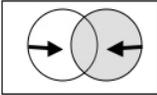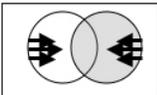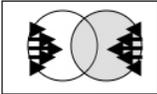
Figure 4.2. Identity movement.

Identity structure represents a composite of the three geometrical identity measures. It is important to note, however, that the identity movement item is conceptually a bipolar construct, ranging from a strongly weakening identity to a strongly strengthening identity; thus, this item was recoded onto a bipolar scale with endpoints of -3 (i.e. strongly weakening) and 3 (strongly strengthening). By taking the product of this recoded measure of identity movement, identity magnitude, and identity stability, we produced an index of deep-identity structure that could range from -147 (i.e., weakly structured Army identification) to 147 (i.e., deep structured Army identification).

Need for Organizational Identification

Need for organizational identification was assessed using Kreiner and Ashforth's (2004) Need for Organizational Identification scale. This measure assessed the extent to which individuals seek out a group to identify with in general.

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3. One can have contradictory feelings about the Army, regardless of how much one identifies with it.

These boxes display a circle only for you, which is split in half. **The distance between the two halves indicates the amount of conflict you experience, torn between identifying with and disassociating yourself from the Army.** The greater the distance, the greater the conflict.

Example 1:
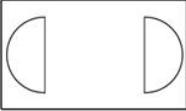
Two halves that are very far apart suggest that you have **very mixed feelings about the Army**.

Example 2:
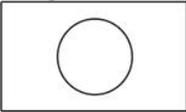
Two halves that are indistinguishable suggest **absolutely no mixed feelings about the Army.**

Choose the rectangle that most accurately represents the level of consistency in your identification with the Army

A
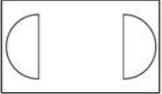
B
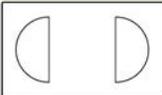
C
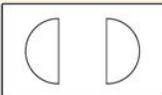
D

E

F
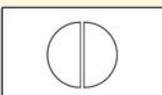
G
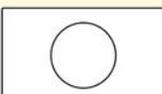
Figure 4.3. Identity stability.

Scoring. Participants were asked to indicate their agreement with seven statements on a five-point Likert scale with endpoints of "strongly disagree" and "strongly agree." NOID was computed by taking the average of these seven responses. Higher scores indicate higher need for organizational identification.

Trait Affectivity

Positive and negative affectivity was measured using a modified version of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). In order to reduce the burden on the officer candidates, we followed the methods used by Jones, O'Connor, Conner, McMillan, and Ferguson (2007) and selected a subset of 10 items reflecting positive and negative affect from the larger PANAS. The trait-version of the PANAS' instructions was used.

Scoring. Participants were asked to indicate the extent to which they generally felt interested, distressed, excited, upset, inspired, scared, enthusiastic, afraid, determined, or jittery

on a five-point scale ranging from "very slightly or not at all" to "very much." Participants' average responses to the distressed, upset, scared, afraid, and jittery items were used to assess negative affectivity, while participants' average responses to the excited, inspired, enthusiastic, and determined items were used to assess positive affectivity. A prior study has found that these reduced scales correlated highly with the original measure (Jones et al., 2007).

Work Values

An initial list of work value items was derived from the 16 elements of the employment relationship that Turnley and Feldman (1999) suggested are commonly studied in the psychological contract literature. This list of items was then elaborated on and refined using the well-established taxonomies of work values created by Schwartz (1992) and Dawis and Lofquist (1984) as a guiding framework. Specifically, the vast majority of items were drawn or adapted from three main sources: (a) the Cadet Background Information Form-2 developed for selecting Army ROTC 4-year college scholarship winners (Putka, 2009); (b) the Select21 project's Work Values Inventory (WVI) (Knapp & Tremble, 2007); and (c) the work values measures presented by Cable and Edwards (2004) and Edwards, Cable, Williamson, Lambert, and Shipp (2006). A small number of items were newly written for the current effort. The aforementioned process resulted in a set of 53 values items that were administered to all officer candidates in early data collections (collections involving OBEF v1), and yielded 13 scales (what we have labeled as "experimental" scales in Table 4.1). Due to constraints on administration time, only 29 of the 53 work value items were used in all subsequent data collections (collections involving OBEF v2 and OBEF v3.2), and yielded seven scales (which we have labeled as "core" scales in Table 4.1).[2] We refer to these scales as "core" because they could be calculated for every OCS class to which work values items were administered.

We should note that neither the experimental nor core scales were designed to provide complete coverage of the values taxonomies provided by Schwartz (1992) and Dawis and Lofquist (1984). Rather the aforementioned taxonomies were used as starting points to help ensure that work value constructs of potential interest were not overlooked. The parts of those taxonomies that we used in this effort reflect work values that we hypothesized provide a good balance between (a) values that would be supported by the work environment experienced by Army officers or (b) values that would not clearly be supported by the work environment experienced by Army officers. The rationale behind including such contrasting sets of values in the same measure is that officers who place more importance on work values that are supported by the Army work environment would be more likely to experience positive outcomes (e.g., staying beyond ADSO, making the Army a career) compared to officers who place more importance on work values that are not clearly supported by the Army work environment (who in turn would be expected to experience more negative outcomes).

Scoring. Participants rated each item on a five-point scale that ranged from "not at all important" to "very important". Identification of the core and experimental work values scales was largely based on past empirical work with work value constructs from Project A, Select21,

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[2] Two of the seven core scales (Job Security and Altruism/Benevolence) were identical to two of the 15 experimental scales. The reminder of the core scales reflected sets of items drawn from multiple experimental scales.

and work on the ROTC 4-year scholarship application (Knapp & Carter, 2003; Putka, 2009; Putka & Bradley, 2008). Items that comprised a given scale were averaged to form each of the core and experimental work values scale scores. This rationale scoring approach is preliminary in nature and will be validated in future work.

Reliability and Convergent Validity

Identity magnitude, movement, and stability are each single item constructs that are hypothesized to change over time. As such, it was not possible to compute reliability estimates for these items. These items do, however, display good convergent validity with conceptually related identity measures such as the OBEF Army Identification scale and NOID (Table 4.2). As described in Chapter 3 of this report, the OBEF Army Identification scale represents a relatively stable individual difference in temperament, and this chapter defines NOID as a generalized tendency to seek out and identify with groups. As expected, identity magnitude, movement, and stability, and identity structure were moderately associated with both the OBEF measure of Army Identification and NOID.

It is important to note that, when operationalized, identity is sometimes confounded with commitment (Meyer et al., 2006). Nonetheless, the above pattern of results remained the same, although somewhat weaker, even when controlling for traditional measures of affective and continuance commitment (see Table 4.3), suggesting that the new geometrical identity measures are not redundant with commitment. As shown in table 4.4, Need for Organizational Identification, Positive Affectivity, and Negative Affectivity yielded high levels of reliability.

In general, most of the work value scales demonstrated moderate to high levels of reliability (see Table 4.5). Four scales (i.e. stimulation-stability, comfort, team-individual, variety) had questionable levels of reliability, suggesting further refinements may be needed. The intercorrelations among the work value scales appear in Table 4.6. Except for Rugged Team Leadership and its component values, the correlations between the core values tended to be weak to moderate. A similar pattern was obtained for the correlations between the experimental values. Interestingly, there did appear to be high levels of colinearity between several of the core and experimental scales. This was most pronounced for the associations between Support and Flexibility/Choice; Leader-Benevolence and Rugged Leadership; Self-Development and Skill Development; Challenge and Skill Development; Social and Teamwork; and Structure-Autonomy and Structure/Recognition. The remaining eight supplemental scales do, however, appear to be sufficiently different from the core scales to warrant further investigation.

Table 4.1. Work Value Scale Definitions

Scale	Definition
Core Scales	
Rugged Leadership[a]	Preference for a work environment in which one is responsible for leading others under physically challenging circumstances
Teamwork[a]	Preference for a work environment in which one can establish close ties with co-workers and work as part of a team
Flexibility/Choice	Preference for a flexible work environment that respects one's time and personal needs and in which one can work independently
Job Security[b]	Preference for a work environment that offers job security
Structure/Recognition	Preference for a highly structured work environment in which one is recognized and admired by others
Altruism/Benevolence[b]	Preference for a work environment in which one can help others
Skill Development	Preference for a work environment that makes full use of one's skills and abilities and offers opportunities for learning and developing new skills
Experimental Scales	
Structure-Autonomy	Preference for engaging in highly structured work, or for working autonomously
Support	Preference for a flexible work environment that respects one's time and personal needs
Leader-Benevolence	Preference for a work environment in which one is responsible for the well-being and success of others
Compensation	Preference for a work environment in which one receives good salary and benefits
Challenge	Preference for a challenging work environment that makes full use of one's skills and abilities
Leader-Power	Preference for a work environment in which one has authority over others
Stimulation-Stability	Preference for adventure and travel, or working under stable conditions, close to home
Prestige	Preference for a work environment in which one will be recognized and admired by others
Self-Development	Preference for a work environment that offers opportunities for learning and development
Comfort	Preference for a calm, relaxed work environment
Social	Preference for a work environment in which one can establish close ties with co-workers
Team-Individual	Preference for working alone, or as part of a team
Variety	Preference for a work environment that offers opportunities to do a variety of different things

[a] For the purposes of this paper we also examined a higher-order composite of the rugged leadership and team work variables that we called rugged team leadership.
[b] This scale was also included as a experimental scale.

Table 4.2. Convergent Validity Evidence for Identity Items

	Scale/Predictor	1	2	3	4	5	6
1.	Identity Magnitude						
2.	Identity Movement	.41					
3.	Identity Stability	.54	.47				
4.	Identity Structure	.52	.88	.59			
5.	Need for Organizational Identification	.31	.24	.22	.26		
6.	OBEF: Army Identification	.48	.38	.47	.45	.42	

Note. All correlations are statistically significant (*p* < .05, two-tailed). *n* = 446-447.

Table 4.3. Convergent Validity Evidence for Identity Items Controlling for Affective and Continuance Commitment

	Scale/Predictor	1	2	3	4	5	6
1.	Identity Magnitude						
2.	Identity Movement	**.31**					
3.	Identity Stability	**.43**	**.36**				
4.	Identity Structure	**.43**	**.86**	**.48**			
5.	Need for Organizational Identification	**.19**	**.12**	.07	**.14**		
6.	OBEF: Army Identification	**.33**	**.21**	**.27**	**.26**	**.26**	

Note. Correlations in bold are statistically significant (*p* < .05, two-tailed). *n* = 441.

Table 4.4. Descriptive Statistics for Measures of Cognitions, Needs, and Temperament

Scale/Predictor	N	M	SD	skew	alpha
Identity Magnitude	446	5.43	1.17	-1.28	--
Identity Movement	446	1.40	1.34	-0.98	--
Identity Stability	446	5.15	1.50	-0.92	--
Identity Structure	446	48.09	45.29	0.25	.84[a]
Need for Organizational Identification	447	3.64	0.65	-0.27	.74
Positive Affectivity	447	3.78	0.79	-0.63	.84
Negative Affectivity	447	1.80	0.74	1.44	.83

[a]Because identity structure is the multiplicative combination of the three components of identity, the coefficient alpha is not completely appropriate descriptor of the internal consistency of the score. However, it is generally diagnostic, yielding support the combination of the three items.

Table 4.5. Work Values Descriptive Statistics

Scale/Predictor	N	M	SD	skew	alpha
Core Scales					
Rugged Team Leadership	973	3.62	0.69	-0.41	.83
Rugged Leadership	973	3.62	0.69	-0.39	.74
Teamwork	971	3.61	0.92	-0.48	.79
Flexibility/Choice	973	3.67	0.79	-0.32	.69
Job Security	971	3.94	1.07	-0.96	.90
Structure/Recognition	973	3.25	0.77	-0.25	.70
Altruism/Benevolence	970	4.11	0.90	-1.13	.87
Skill Development	973	4.30	0.65	-1.35	.81
Experimental Scales					
Structure-Autonomy	447	2.49	0.59	-0.02	.63
Support	971	3.81	0.81	-0.56	.72
Leader-Benevolence	971	3.85	0.82	-0.51	.76
Compensation	445	4.19	0.83	-1.14	.76
Challenge	971	4.05	0.72	-0.80	.60
Leader-Power	446	2.71	0.91	0.13	.73
Stimulation-Stability	446	3.09	0.77	0.13	.49
Prestige	446	3.54	0.96	-0.43	.73
Self-Development	973	4.12	0.68	-0.96	.71
Comfort	446	2.93	0.83	0.06	.51
Social	447	3.55	1.01	-0.46	.89
Team-Individual	971	3.24	0.69	-0.28	.33
Variety	446	3.56	0.83	-0.27	.55

Table 4.6. Work Values Scale Intercorrelations

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Core Scales														
1. Rugged Team Leadership														
2. Rugged Leadership	.94													
3. Teamwork	.85	.61												
4. Flexibility/Choice	.28	.28	.23											
5. Job Security	.33	.26	.37	.31										
6. Structure/Recognition	.50	.43	.47	.38	.41									
7. Altruism/Benevolence	.58	.53	.50	.21	.22	.35								
8. Skill Development	.58	.55	.50	.30	.35	.39	.55							
Experimental Scales														
9. Structure-Autonomy	-.58	-.55	-.48	-.56	-.42	-.74	-.40	-.50						
10. Support	.28	.26	.25	.91	.36	.39	.21	.31	-.55					
11. Leader-Benevolence	.84	.87	.59	.24	.30	.40	.55	.54	-.52	.25				
12. Compensation	.41	.35	.39	.43	.71	.42	.23	.48	-.41	.58	.38			
13. Challenge	.69	.70	.50	.23	.19	.33	.55	.80	-.49	.20	.54	.31		
14. Leader-Power	.48	.55	.25	.30	.23	.41	.12	.19	-.37	.29	.38	.24	.26	
15. Stimulation-Stability	.11	.14	.04	-.22	-.27	-.13	.12	.07	.11	-.32	.01	-.29	.26	-.05
16. Prestige	.55	.51	.48	.42	.44	.83	.41	.41	-.58	.44	.47	.43	.39	.47
17. Self-Development	.59	.52	.55	.33	.45	.63	.49	.85	-.58	.36	.53	.56	.58	.24
18. Comfort	-.11	-.17	.01	.47	.28	.24	-.12	-.01	-.24	.47	-.03	.31	-.18	.14
19. Social	.72	.51	.87	.22	.34	.46	.44	.39	-.45	.28	.51	.35	.44	.23
20. Security	.33	.26	.37	.31	**	.41	.22	.35	-.42	.36	.30	.71	.19	.23
21. Service	.58	.53	.50	.21	.22	.35	**	.55	-.40	.21	.55	.23	.55	.12
22. Team-Individual	.55	.36	.68	-.28	.19	.19	.30	.27	.07	-.09	.38	.15	.28	-.05
23. Variety	.56	.56	.42	.40	.23	.50	.40	.50	-.55	.39	.46	.23	.55	.33

Table 4.6. (Continued)

Scale	15	16	17	18	19	20	21	22
Core Scales								
1. Rugged Team Leadership								
2. Rugged Leadership								
3. Teamwork								
4. Flexibility/Choice								
5. Job Security								
6. Structure/Recognition								
7. Altruism/Benevolence								
8. Skill Development								
Experimental Scales								
9. Structure-Autonomy								
10. Support								
11. Leader-Benevolence								
12. Compensation								
13. Challenge								
14. Leader-Power								
15. Stimulation-Stability								
16. Prestige	**-.11**							
17. Self-Development	**-.01**	**.55**						
18. Comfort	-.48	.18	.10					
19. Social	**.06**	**.43**	**.44**	**.05**				
20. Security	**-.27**	**.44**	**.45**	**.28**	**.34**			
21. Service	**.12**	**.41**	**.49**	**-.12**	**.44**	**.22**		
22. Team-Individual	**.04**	**.07**	**.31**	**-.24**	**.41**	**.19**	**.30**	
23. Variety	**.16**	**.48**	**.52**	**-.04**	**.37**	**.23**	**.40**	**.00**

Note. Correlations in bold are statistically significant ($p < .05$, two-tailed) $n = 444\text{-}973$.

Subgroup Differences

While the identity, needs, affect, and value items in this chapter generally demonstrated good psychometric properties, it is important to examine whether they were biased for or against different groups before putting them into use (i.e., do the measures exhibit meaningful differences between these subgroups). For the purposes of this report, we discuss subgroup difference using Cohen's *d* effect size (Cohen, 1988). According to Cohen (1988), a *d* value of .20 represents a small difference between groups; .50 represents a moderate difference; and .80 represents a large difference.

Tables 4.7 and 4.8 show the mean scale scores by race and ethnicity. In general, the differences were relatively small and non-significant for identity, needs, and affectivity. The differences were far more pronounced for work values where a ½ standard deviation difference was seen between Hispanics and White-Non-Hispanics for 8 of the 21 scale scores, and a ¾ standard deviation difference was seen for 4 of the 21 scales. While the differences between Whites and Blacks and Whites and Asians were smaller in magnitude, Blacks and Asians did tend to score approximately ¼ to ½ standard deviations higher on 10 of the 21 scales.

In general, there were fewer reliable differences when examining gender (Tables 4.9 and 4.10). The identity measures were very similar for both males and females. Although females did score higher than males on NOID, positive affectivity, and negative affectivity, these differences were relatively small. The differences between males and females were also relatively small for the work values, with the two groups not differing by more than 1/3 of a standard deviation for any of the values.

Tables 4.11 and 4.12 show the mean scores separated by differences in candidate entry status. In general, the differences between the in-service, enlistment-option, and hybrid group were relatively small, exceeding 1/2 standard deviations for only one scale (i.e. stimulation-stability), with in-service candidates receiving higher mean scores. In all, the three groups are remarkably similar in terms of reported identity, affectivity, and values.

Summary

The measures of identity structure were derived from the work of Shamir and Kark (2006) and Robbins et al. (2008). Identity structure had convergent validity with other conceptually related measures of identity and did not differ by subgroup membership. Existing measures of affectivity and need for organizational identification were drawn from the psychological literature. As expected, these measures demonstrated good reliability and relatively few subgroup differences. Finally, the work values in this study were derived from a number of sources including the Cadet Background Information Form-2 (Putka, 2009); the Select21 project's Work Values Inventory (WVI) (Knapp & Tremble, 2007); and Cable and Edwards (2004) and the Edwards et al. (2006) work values measures. While a number of statistically significant subgroup differences were found for these values, they tended to be relatively small in size for most values.

Interestingly, while they tended to be relatively small, most significant subgroup differences tended to favor minority groups and females. If combined with a cognitive predictor, this could potentially offset some of the adverse impact that tends to occur when measures of cognitive ability are used for selections purposes. Furthermore, while subgroup differences may be found in the individual component scales examined in this chapter, a selection instrument would be using composites of these measures. As such, further work is needed to examine subgroup differences using these composites. In the meantime, these analyses suggest that the measures were reasonably reliable and are good candidates for inclusion in the validation analyses.

Table 4.7. Measures of Cognitions, Needs, and Temperament Race and Ethnicity Subgroup Differences

	Ethnicity					Race							
	White, Non-Hispanic (WNH)		Hispanic (H)		H-WNH	White (W)		Black (B)		Asian (A)		B-W	A-W
Scale/Predictor	M	SD	M	SD	d	M	SD	M	SD	M	SD	d	d
Identity Magnitude	5.48	0.98	5.24	1.56	0.21	5.45	1.03	5.59	1.42	5.21	1.22	0.11	0.22
Identity Movement	1.36	1.29	1.53	1.50	0.10	1.35	1.28	1.48	1.46	1.75	1.45	0.07	0.24
Identity Stability	5.07	1.47	5.29	1.40	0.10	5.09	1.46	5.36	1.66	5.04	1.52	0.12	0.02
Identity Structure	45.49	42.54	48.76	46.70	0.00	45.44	42.50	55.40	53.79	57.25	43.12	0.00	0.01
NOID	3.66	0.67	3.72	0.63	0.14	3.67	0.67	3.54	0.59	3.69	0.53	0.31	0.05
Positive Affectivity	3.72	0.74	3.95	0.83	0.41	3.74	0.75	3.89	0.89	3.76	0.70	0.24	0.04
Negative Affectivity	1.82	0.71	2.11	.98	0.52	1.80	0.70	1.70	0.77	1.98	0.98	0.19	0.34

Note. d values in bold are based on differences that are statistically significant ($p < .05$, two-tailed); $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where White, Non-Hispanic and White are the referent groups. Sample sizes: Hispanic $n = 34$; White, Non-Hispanic $n = 243$; White $n = 277$; Black $n = 92$-93; Asian $n = 24$.

Table 4.8. Work Values Race and Ethnicity Subgroup Differences

| | Ethnicity | | | | | Race | | | | | | | |
| | White, Non-Hispanic (WNH) | | Hispanic (H) | | H-WNH | White (W) | | Black (B) | | Asian (A) | | B-W | A-W |
Scale/Predictor	M	SD	M	SD	d	M	SD	M	SD	M	SD	d	d
Core Scales													
Rugged Team Leadership	3.56	0.67	4.07	0.56	**0.77**	3.57	0.66	3.67	0.74	3.60	0.67	0.15	0.04
Rugged Leadership	3.58	0.68	4.00	0.58	**0.61**	3.60	0.67	3.66	0.72	3.52	0.66	0.09	-0.11
Teamwork	3.50	0.91	4.22	0.69	**0.79**	3.53	0.90	3.71	0.98	3.75	0.90	**0.21**	0.25
Flexibility/Choice	3.57	0.77	3.97	0.79	**0.52**	3.57	0.77	3.85	0.81	3.85	0.69	**0.37**	**0.37**
Job Security	3.82	1.11	4.30	0.96	**0.43**	3.84	1.09	4.16	0.98	3.95	0.86	**0.29**	0.10
Structure/Recognition	3.16	0.73	3.60	0.73	**0.60**	3.18	0.74	3.35	0.80	3.47	0.77	**0.23**	**0.39**
Altruism/Benevolence	4.03	0.93	4.51	0.75	**0.52**	4.06	0.92	4.14	0.90	4.06	0.87	0.09	0.00
Skill Development	4.23	0.65	4.54	0.59	**0.48**	4.25	0.64	4.39	0.68	4.33	0.56	**0.22**	0.12
Experimental Scales													
Structure-Autonomy	2.57	0.55	2.14	0.57	**-0.80**	2.57	0.57	2.40	0.65	2.21	0.56	**-0.29**	**-0.63**
Support	3.71	0.80	4.12	0.80	**0.52**	3.71	0.79	3.98	0.83	3.96	0.68	**0.34**	**0.31**
Leader-Benevolence	3.73	0.80	4.35	0.67	**0.79**	3.75	0.78	4.04	0.87	3.86	0.71	**0.37**	0.14
Compensation	4.12	0.85	4.63	0.48	**0.60**	4.11	0.84	4.41	0.80	4.20	0.59	**0.35**	0.11
Challenge	4.04	0.70	4.27	0.74	**0.33**	4.05	0.71	4.06	0.75	3.83	0.69	0.02	**-0.31**
Leader-Power	2.76	0.87	2.75	0.80	-0.01	2.74	0.89	2.62	1.00	2.82	0.92	-0.14	0.09
Stimulation-Stability	3.15	0.79	2.99	0.76	-0.21	3.13	0.80	2.96	0.70	2.96	0.65	-0.21	-0.22
Prestige	3.51	0.95	3.83	0.88	0.34	3.53	0.94	3.47	1.03	3.65	0.92	-0.07	0.13
Self-Development	4.01	0.67	4.44	0.60	**0.63**	4.04	0.67	4.26	0.71	4.19	0.59	**0.34**	0.22
Comfort	2.76	0.81	3.17	0.81	**0.50**	2.78	0.80	3.24	0.82	3.17	0.79	**0.58**	**0.49**
Social	3.45	1.02	4.15	0.74	**0.68**	3.47	0.99	3.61	1.04	3.74	1.08	0.14	0.27
Team-Individual	3.19	0.71	3.43	0.53	**0.34**	3.22	0.71	3.31	0.66	3.20	0.58	0.13	-0.02
Variety	3.51	0.85	3.94	0.73	**0.51**	3.51	0.83	3.61	0.84	3.42	0.94	0.12	-0.11

Note. *d* values in bold are based on differences that are statistically significant (*p* < .05, two-tailed); $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where White, Non-Hispanic and White are the referent groups. Sample sizes: Hispanic *n* = 34-64; White, Non-Hispanic *n* = 242-510; White *n* = 276-615; Black *n* = 92-201; Asian *n* = 23-45.

Table 4.9. Criterion Score Gender Subgroup Differences

Scale/Predictor	Male (M) M	Male (M) SD	Female (F) M	Female (F) SD	F-M d
	5	1	5	1	-
Identity Magnitude	.46	.13	.36	.26	0.08
	1	1	1	1	-
Identity Movement	.42	.30	.39	.40	0.02
	5	1	5	1	-
Identity Stability	.16	.47	.12	.53	0.02
	4	4	4	4	0
Identity Structure	8.28	4.84	8.50	6.56	.00
	3	0	3	0	**0**
NOID	.62	.66	.79	.55	**.41**
	3	0	3	0	**0**
Positive Affectivity	.74	.78	.97	.85	**.37**
			2	0	
Negative Affectivity	1.76	0.72	.01	.78	**0.47**

Note. *d* values in bold are based on differences that are statistically significant ($p < .05$, two-tailed); $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where Males are the referent group. Sample sizes: Male n = 365-366; Female n = 74.

Table 4.10. Work Values Gender Subgroup Differences

Scale/Predictor	Male (M) M	Male (M) SD	Female (F) M	Female (F) SD	F-M d
Core Scales					
Rugged Team Leadership	3.61	0.69	3.59	0.70	-0.03
Rugged Leadership	3.62	0.69	3.56	0.72	-0.08
Teamwork	3.60	0.93	3.64	0.91	0.05
Flexibility/Choice	3.66	0.79	3.74	0.80	0.11
Job Security	3.89	1.08	4.16	0.98	**0.25**
Structure/Recognition	3.23	0.78	3.30	0.76	0.09
Altruism/Benevolence	4.07	0.92	4.22	0.86	0.16
Skill Development	4.27	0.65	4.41	0.63	**0.21**
Experimental Scales					
Structure-Autonomy	2.50	0.59	2.40	0.59	-0.15
Support	3.81	0.81	3.83	0.84	0.03
Leader-Benevolence	3.82	0.83	3.93	0.77	0.14
Compensation	4.15	0.84	4.43	0.80	**0.33**
Challenge	4.04	0.72	4.02	0.73	-0.04
Leader-Power	2.73	0.88	2.60	1.03	-0.15
Stimulation-Stability	3.09	0.79	3.10	0.69	0.02
Prestige	3.54	0.95	3.54	1.04	0.00
Self-Development	4.09	0.69	4.23	0.64	**0.22**
Comfort	2.88	0.81	3.16	0.91	**0.34**
Social	3.55	1.01	3.57	1.04	0.02
Team-Individual	3.23	0.69	3.22	0.71	-0.01
Variety	3.53	0.85	3.65	0.78	0.14

Note. *d* values in bold are based on differences that are statistically significant ($p < .05$, two-tailed); $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where Males are the referent group. Sample sizes: Male n = 364-746; Female n = 74-173.

Table 4.11. Criterion Score Entry Status Subgroup Differences

Scale/Predictor	In-Service (I) M	In-Service (I) SD	Enlistment-option (C) M	Enlistment-option (C) SD	Hybrid (H) M	Hybrid (H) SD	C-I d	H-I d	H-C d
Identity Magnitude	5.64	1.25	5.32	1.09	5.29	1.12	**-0.23**	**-0.24**	-0.02
Identity Movement	1.41	1.33	1.54	1.34	1.23	1.26	0.07	-0.11	-0.18
Identity Stability	5.39	1.44	5.08	1.46	4.91	1.53	**-0.15**	**-0.22**	-0.08
Identity Structure	50.33	48.32	50.99	43.88	40.30	41.57	0.00	0.00	0.00
NOID	3.66	0.68	3.67	0.66	3.57	0.57	0.02	-0.22	-0.25
Positive Affectivity	3.76	0.86	3.82	0.72	3.73	0.78	0.10	-0.04	-0.16
Negative Affectivity	1.83	0.82	1.84	0.62	1.67	0.77	0.02	-0.25	-0.37

Note. d values in bold are based on differences that are statistically significant ($p < .05$, two-tailed); $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where In-Service is the first referent group, and Enlistment-option is the referent group for the C-H coefficient. Sample sizes: In-Service $n = 166$-167; Enlistment-option $n = 177$; Hybrid $= 97$.

Table 4.12. Work Values Entry Status Subgroup Differences

Scale/Predictor	In-Service (I)		Enlistment-option (C)		Hybrid (H)		C-I	H-I	H-C
	M	*SD*	*M*	*SD*	*M*	*SD*	*d*	*d*	*d*
Core Scales									
Rugged Team Leadership	3.67	0.68	3.59	0.71	3.54	0.69	-0.12	**-0.18**	-0.07
Rugged Leadership	3.67	0.68	3.60	0.71	3.53	0.69	-0.11	**-0.21**	-0.10
Teamwork	3.66	0.91	3.57	0.96	3.56	0.89	-0.10	-0.11	-0.01
Flexibility/Choice	3.77	0.78	3.61	0.79	3.57	0.80	**-0.21**	**-0.25**	-0.04
Job Security	4.08	1.02	3.75	1.16	3.99	0.92	**-0.32**	-0.09	**0.20**
Structure/Recognition	3.27	0.80	3.24	0.73	3.18	0.81	-0.05	-0.11	-0.08
Altruism/Benevolence	4.06	0.91	4.22	0.90	3.98	0.91	**0.18**	-0.08	**-0.27**
Skill Development	4.32	0.61	4.27	0.71	4.29	0.60	-0.08	-0.05	0.02
Experimental Scales									
Structure-Autonomy	2.44	0.62	2.49	0.53	2.56	0.63	0.09	0.19	0.13
Support	3.89	0.79	3.74	0.81	3.77	0.86	**-0.19**	-0.15	0.03
Leader-Benevolence	3.98	0.81	3.74	0.82	3.76	0.79	**-0.30**	**-0.27**	0.03
Compensation	4.32	0.80	4.00	0.91	4.33	0.68	**-0.40**	0.01	**0.36**
Challenge	4.02	0.71	4.08	0.75	4.01	0.70	0.09	-0.02	-0.10
Leader-Power	2.69	0.97	2.77	0.86	2.61	0.85	0.09	-0.08	-0.18
Stimulation-Stability	2.89	0.70	3.25	0.81	3.15	0.72	**0.52**	**0.38**	-0.12
Prestige	3.53	0.98	3.56	0.93	3.50	0.97	0.02	-0.03	-0.06
Self-Development	4.17	0.64	4.07	0.71	4.06	0.68	**-0.15**	-0.17	-0.02
Comfort	3.12	0.86	2.73	0.79	2.96	0.77	**-0.45**	-0.18	**0.29**
Social	3.51	1.03	3.63	0.98	3.49	1.00	0.12	-0.01	-0.13
Team-Individual	3.22	0.66	3.22	0.73	3.31	0.67	-0.01	0.13	0.12
Variety	3.55	0.87	3.61	0.77	3.45	0.88	0.06	-0.12	-0.20

Note. d values in bold are based on differences that are statistically significant (p < .05, two-tailed); $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where In-Service is the first referent group, and Enlistment-option is the referent group for the C-H coefficient. Sample sizes: In-Service *n* = 166-398; Enlistment-option *n* = 176-369; Hybrid = 97-181.

Chapter 5. Situational Judgment Test

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Situational judgment tests (SJTs) are designed to measure candidates' effectiveness of judgment about appropriate courses of action in various work-related situations. In its most common format, each SJT item provides a brief verbal or written description of a typical work-related scenario or situation, followed by a list of potential actions that could be taken in response to that situation. Candidates are asked to evaluate the effectiveness of the potential actions. SJTs are usually scored by comparing candidates' responses to expert judgments. Ever since the publication of the first SJT, there has been a debate about what SJTs actually measure and why they work (cf. Moss & Hunt, 1926; Thorndike, 1936), a debate that continues today (Schmitt & Chan, 2006). One point of agreement is that an SJT is a measurement method — a format of a test — that may assess a variety of constructs or content domains. What it measures specifically, beyond a general judgment construct, is a function of design and content choices made by developers in any given SJT application.

SJTs have become increasingly popular in employment testing in recent years because they (a) address knowledge and skills that are difficult to measure with traditional multiple-choice test formats, (b) yield reasonably high estimated validities for predicting job performance (average $r = .34$, uncorrected) and incremental validity over general cognitive ability ($\Delta r = .08$, corrected) (McDaniel, Morgeson, Finnegan, Campion, & Braverman, 2001), and (c) typically produce only small to moderate race/ethnic subgroup differences (Hough, Oswald, & Ployhart, 2001). These subgroup differences are considerably smaller than those generally observed in cognitive ability tests—albeit the magnitude of such difference varies with the cognitive load of the SJT (Whetzel, McDaniel, & Nguyen, 2008). Additionally, they appear to be less vulnerable to faking than personality measures (Hooper, Cullen, & Sackett, 2006), and their job-related content and realism ("face validity") make them more likely to be acceptable to applicants than more abstract trait or construct measures.

Measure Development

Our approach to SJT development involved creating a "new" (for this project) SJT by selecting and revising items from previous ARI instruments. Capitalizing on the fundamental characteristic of SJTs as measures of judgment in some form, our goal was to develop an SJT aimed at measuring the target construct of "leadership judgment," which we defined broadly as "effectiveness in influencing and motivating others toward the achievement of group/team goals." A review of Army OCS training materials, Army leadership manuals, and various Army leadership models and frameworks (e.g., Department of the Army, 2006) revealed this construct to be a central and pervasive theme underlying many specific facets of Army leadership. Constraints on time precluded development of an instrument from scratch. We

identified SJTs developed for previous projects, as well as an SJT-like questionnaire — Tacit Knowledge for Military Leadership (TKML) (Platoon Leader Questionnaire) — developed as part of an ARI project on development of leadership behavior (Hedlund et al., 1999). After reviewing the instruments associated with those projects, we turned our attention on the TKML and the SJT from the NCO21 project as they contained items that best matched our definition of leadership judgment and were most appropriate for our population in other ways (for example, use of Army-oriented scenarios).

NCO21 and TKML SJTs

The NCO21 SJT (Knapp et al., 2002) was developed and validated for use in predicting the performance of Army non-commissioned officers (NCOs). It has 24 items — three items aimed at each of the following eight skill, attribute, or content domains:

- Directing, monitoring, and supervising individual subordinates
- Training others
- Team leadership
- Concern for Soldiers' quality of life
- Cultural tolerance
- Motivating, leading, and supporting individual subordinates
- Relating to and supporting peers
- Problem-solving/decision making skill

Each NCO21 item consists of a two- to four-sentence situation followed by four possible actions. Examinees are asked to indicate (a) which action is *most* effective and (b) which action is *least* effective. The scoring key is based on input from a panel of subject matter experts (i.e., their mean effectiveness rating for each action). The score for an item is computed by subtracting the keyed effectiveness of the action selected by the examinee as *least* effective from the keyed effectiveness of the action selected as *most* effective. There are two forms of the NCO21 SJT, one for Sergeants and those eligible to be promoted to Sergeant (pay grades E4 and E5) and one for Staff Sergeants (pay grade E6). Information about this test appears in a development report (Knapp et al., 2002), a validation report (Waugh, 2004), and several conference papers (Putka, Waugh, & Sager, 2002; Waugh, 2002; Waugh, Putka, & Sager, 2002).

The purpose of the TKML project was to develop measures of the practical, action-oriented knowledge of leadership that Army officers acquire on the job. SJT-like questionnaires were developed for each of three different ranks of Army leadership: Platoon Leader, Company Commander, and Battalion Commander. We determined that the Platoon Leader SJT was most appropriate for our population; scenarios in the other SJTs would have required substantial revision to make them appropriate for OCS candidates.

The TKML Platoon Leader SJT is comprised of 15 scenarios. A number of potential courses of action follow each scenario; the number of possible actions varies (from seven to 20) across scenarios. The instructions ask the respondent to rate each of the actions using the rating scale shown in Figure 5.1.

1	2	3	4	5	6	7	8	9
Extremely Bad		Somewhat Bad		Neither Bad Nor Good		Somewhat Good		Extremely Good
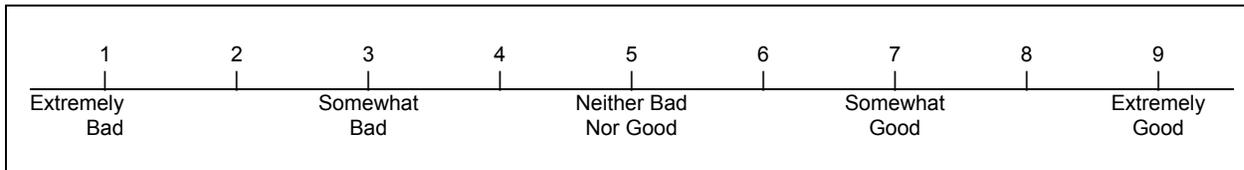
Figure 5.1. TKML response rating scale.

The development of the TKML was part of a family of projects described in several reports (Hedlund, Antonakis, & Sternberg, 2002; Hedlund, Sternberg, & Psotka, 2000; Hedlund et al., 1998, 1999).

Item Selection and Revision

We reviewed each of the NCO21 and TKML SJT items according to three criteria: (a) fit with target construct — leadership judgment, (b) little or no specialized or Army knowledge required to understand the dynamics of the scenario and make judgments about the response options, and (c) relatively simple language and brief wording. We also took into account ARI and HumRRO staff comments on the item sets. Application of these criteria resulted in four usable TKML SJT items and 11 items from the NCO21 SJTs.

Recall that each NCO21 item had four response options, while the original TKML SJT items contained at least seven (and up to 20) response options. We therefore sought to winnow down the number of response options for the TKML SJT items, so that our new SJT would have a consistent item format of four response options per item. We carried out this process in a manner designed to (a) either maximize or optimize the range of effectiveness ratings among the selected response set, (b) minimize redundancy of content across response options, and (c) include responses reflecting specific, concrete actions or behaviors ("Tell the Soldier to...") rather than states of mind or being ("Recognize that...").

Finally, we made minor wording changes to many of the items, in an attempt to maximize their accessibility and comprehensibility to our sample of both in-service and enlistment-option candidates, without changing the basic context or meaning of the scenario or response options.

The OCS SJT

The OCS SJT consists of 15 scenarios and four potential courses of action for each scenario. Respondents are asked to rate the effectiveness of each action on the 7-point rating scale shown in Figure 5.2, where higher ratings represent greater judged effectiveness.

Effectiveness of the Action		
Ineffective Action	**Moderately Effective Action**	**Very Effective Action**
The action is likely to lead to a bad outcome	The action is likely to lead to an okay or mixed outcome	This action is likely to lead to a good outcome
—— **Low** ——	—— **Moderate** ——	—— **High** ——
1　　　2	3　　4　　5	6　　　7

Figure 5.2. OCS SJT response rating scale.

Scoring

There are numerous ways to score SJTs, many of which have been studied extensively in prior ARI projects (e.g., Legree, Martin, & Psotka, 2000; McDaniel Psotka, & Legree, 2009; Waugh, Putka, & Sager, 2002). Most recently, two issues have been explored in SJT research: (a) the level of expertise needed for key development and (b) whether to standardize data within-person.

Level of Expertise Required for Key Development

One issue has to do with the level of expertise needed for the development of the SJT scoring key. Some studies comparing scoring keys based on the judgments of experts to those based on a consensus of the examinees have indicated that the two resulting keys are highly correlated (Legree, Psotka, Tremble, & Bourne, 2005). Other researchers (Motowidlo & Beier, 2009) found that the expert key yielded stronger validity for predicting performance. We decided to compare results for a subject matter expert (SME) key and a key based on the consensus of OCS candidates.

SMEs were 130 Army Captains from four branches (engineering, military police, chemical, and infantry) participating in the Captain's Career Course who completed the SJT. Usable data were obtained from 127 of these Captains. We computed intraclass correlation coefficients (ICCs) to assess inter-rater agreement among raters for the two groups, SMEs and candidates. It is important to note that these ICCs are <u>not</u> ICCs for the scored data; they are ICCs for the raw SME and consensus judgments used to create the SME and consensus scoring keys. As shown, in Table 5.1 the single-rater estimate was higher for the SME raters, suggesting that if only a small sample of raters can be used for scoring, the sample should be SMEs. Captains agreed with each other more than candidates agreed with each other. However, given the large number of candidates and SMEs included, both of the vectors of means, based on their full samples, were highly reliable.

Table 5.1. Interrater Agreement on Subject Matter Expert and Consensus Raw Data

Raters	N	ICC single-rater	ICC all-raters
Subject Matter Experts	127	.39	.99
Candidates	740	.28	.99

Accordingly, we computed two leadership judgment scores for each response option, using the equations below. (In these equations, the absolute value of the difference between the candidate rating and the keyed effectiveness value for each response is subtracted from 7, so as to yield response option scores that will always be positive, and for which higher values reflect better scores.)

$$\textit{Consensus-Based Judgment Score}_{Option\ x} = 7 - |\,\textit{Candidate Rating}_{Option\ x} - \textit{Consensus keyed Effectiveness}_{Option\ x}\,|$$

$$\textit{SME-Based Judgment Score}_{Option\ x} = 7 - |\,\textit{Candidate Rating}_{Option\ x} - \textit{Expert keyed Effectiveness}_{Option\ x}\,|$$

Within-Person Standardization

Within-person standardization, profile scoring, is a method intended to reduce subgroup differences while retaining validity (McDaniel, Psotka, & Legree, 2009). It is based on the finding that Black respondents tend to use extreme responses more than white respondents (Bachman & O'Malley, 1984) and on the idea that standardizing raw responses within individuals (i.e., profile scoring) should reduce or eliminate this response tendency. McDaniel et al. reported substantial reductions in subgroup differences and *improvement* in validity for predicting turnover intentions. In our data, we found that Black and female respondents did tend to use the extreme points on the scale more than whites and males (see Table 5.2) and decided that it could be useful to compare within-person standardization to unstandardized responses in our research.

Table 5.2. Number of Extreme Responses by Racial and Gender Subgroup

	# 7s (sum)	# 1s (sum)	# Extreme (sum)	Total # of Responses	% extreme
Overall	5,573	4,600	10,173	44,400	22.91%
Ethnicity					
White, Non-Hispanic	2,445	2,036	4,481	22,440	19.97%
Hispanic	397	372	769	2,760	27.86%
Race					
White	3,104	2,599	5,703	28,020	20.35%
Black	1,359	1,023	2,382	8,340	28.56%
Asian	228	183	411	1,680	24.46%
Gender					
Male	3,929	3,043	6,972	31,620	22.05%
Female	1,043	1,017	2,060	7,680	26.82%

We computed the standardized versions of the SME and consensus keys by standardizing each person's data (within-person standardization). Then, for the consensus scoring key, we simply computed the mean of the standardized consensus data. For the SME key, we standardized Captains' data, within person, and computed the mean of the standardized data. Finally, we computed leadership judgment scores using the follow formulas:

$$Standardized\ Consensus\text{-}Based\ Judgment\ Score_{Option\ x} = 7 - |\ StandardizedCandidateRating_{Option\ x} - StandardizedConsensuskeyedEffectiveness_{Option\ x}\ |$$

$$Standardized\ SME\text{-}Based\ Judgment\ Score_{Option\ x} = 7 - |\ StandardizedCandidateRating_{Option\ x} - StandardizedExpertkeyedEffectiveness_{Option\ x}\ |$$

Psychometric Properties

Reliability

As shown in Table 5.3, the SME- and consensus-keyed responses were very highly correlated, $r = .99$. Both methods yielded reasonably reliable test scores (.84 and .85, respectively). In contrast, the within-person standardization reduced reliability substantially (to .54 and .50, respectively). McDaniel et al (2009) contend that standardizing, which eliminates variance due to response tendencies, is eliminating variance that is not relevant to the criterion and therefore will not result in lower estimated validities. Therefore, we retained the standardized scores for validity analyses in Chapter 7.

Table 5.3. Situational Judgment Test Descriptive Statistics and Intercorrelations

| | | | | | | intercorrelations (r) | | |
Scoring Method	*N*	*M*	*SD*	Skew	alpha	1	2	3
1. SME-Keyed	740	5.72	0.31	-1.42	.84			
2. Consensus-Keyed	740	5.74	0.32	-1.51	.85	.99		
3. Standardized SME-Keyed	740	6.35	0.11	-1.65	.54	.56	.56	
4. Standardized Consensus-Keyed	740	6.36	0.10	-1.95	.50	.56	.59	.97

Note. SME = Subject Matter Expert. Standard Error of skew = .09 for all four score computations. All correlations are significant at $p < .01$.

Subgroup Differences

Table 5.4 compares OCS SJT means based on the respondents' experiences prior to OCS. As shown, differences between the In-Service and Enlistment-option groups were small, with effect sizes of less than .30. It is interesting to note that the SME-based scoring method did yield a slightly higher In-Service/Enlistment-option difference than the consensus-based scoring method.

Table 5.5 compares respondent means based on ethnicity and race. There was approximately a ¾ SD mean score difference between Whites and Blacks (.73 and .74 for the SME- and consensus-keyed responses, respectively) which dropped substantially (to .32 and

.38, respectively) when the keys were standardized. The Hispanic-White difference was virtually eliminated using the standardized key. Table 5.6 shows a similar pattern for male-female differences. Males scored higher than females by .44 *SD* using both the unstandardized keys, SME and the consensus keys, and this effect size dropped considerably (to .16 and .12, respectively) using the standardized keys.

Summary

The OCS SJT was developed based on items drawn from the NCO21 SJT and the TKLM Questionnaire for Platoon Leaders. Items were selected based on our definition of leadership judgment, and on their appropriateness for the population of OCS candidates. Four methods of scoring the SJT were explored: (a) expert-based and consensus-based scoring and (b) standardized and unstandardized scoring. The expert and consensus methods were highly correlated with each other and yielded essentially identical results. Standardized scores were considerably less reliable than standardized scores but yielded substantially smaller subgroup differences.

Table 5.4. OCS Situational Judgment Test Entry Status Subgroup Differences

	In-Service (I)		Enlistment-option (C)		Hybrid (H)		C-I	H-I	H-C
Scoring Method	M	SD	M	SD	M	SD	d	d	d
SME-Keyed	5.71	0.31	5.79	0.27	5.75	0.30	**0.26**	0.14	-0.14
Consensus-Keyed	5.69	0.31	5.75	0.26	5.73	0.30	**0.19**	0.13	-0.07
Std SME-Keyed	6.36	0.10	6.35	0.11	6.37	0.11	-0.11	0.05	0.16
Std Consensus-Keyed	6.36	0.10	6.36	0.10	6.37	0.11	0.05	0.11	0.06

Note. SME = subject matter expert. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where In-Service is the first referent group, and Enlistment-option is the referent group for the C-H coefficient. Sample sizes: In-Service $n = 305$; Enlistment-option $n = 298$; Hybrid = 107. Coefficients in bold are statistically significant using an independent samples *t*-test ($p < .05$).

Table 5.5. Situational Judgment Test Race and Ethnicity Subgroup Differences

	Ethnicity				H-WNH	Race								B-W	A-W
	White, Non-Hispanic (WNH)		Hispanic (H)			White (W)		Black (B)		Asian (A)					
Scoring Method	M	SD	M	SD	d	M	SD	M	SD	M	SD			d	d
SME-Keyed	5.78	0.27	5.66	0.34	**-0.45**	5.78	0.27	5.58	0.29	5.71	0.30			**-0.73**	-0.27
Consensus-Keyed	5.80	0.27	5.69	0.33	**-0.43**	5.80	0.27	5.60	0.31	5.73	0.29			**-0.74**	-0.24
Stdz'd. SME-Keyed	6.36	0.11	6.37	0.08	0.03	6.36	0.11	6.33	0.11	6.35	0.10			**-0.32**	-0.09
Stdz'd. Consensus-Keyed	6.37	0.10	6.37	0.07	0.03	6.37	0.10	6.33	0.11	6.36	0.09			**-0.38**	-0.05

Note. SME = subject matter expert. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where White, Non-Hispanic and White are the referent groups. Sample sizes: Hispanic $n = 46$; White, Non-Hispanic $n = 374$; White $n = 467$; Black $n = 139$; Asian $n = .28$. Values in bold are statistically significant using an independent samples *t*-test ($p < .05$).

Table 5.6. Situational Judgment Test Gender Subgroup Differences

Scoring Method	Male (M)		Female (F)		F-M
	M	*SD*	*M*	*SD*	*d*
	5	0	5	0	**-**
SME-Keyed	.74	.29	.63	.30	**0.39**
	5	0	5	0	**-**
Consensus-Keyed	.77	.29	.65	.31	**0.39**
	6	0	6	0	-
Stdz'd. SME-Keyed	.36	.10	.34	.12	0.16
	6	0	6	0	-
Stdz'd. Consensus-Keyed	.36	.10	.35	.12	0.12

Note. SME = subject matter expert. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where Males are the referent group. Sample sizes: Male $n = 527$; Female $n = 128$. Values in bold are statistically significant using an independent samples *t*-test ($p < .05$).

Chapter 6. End-of-Class Data Collection Measures

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This chapter presents the measures administered at the end of class. Some of these measures were used as criteria to validate the Officer Background Experience Form (OBEF) for recruiting and selecting potential Officers for OCS. Two types of data were collected:

1. Performance Data — Performance measures, such as physical fitness and academic performance, were collected for participating candidates from administrative databases maintained by OCS.

2. Attitudinal Data — Attitudinal measures, such as affective commitment to the Army and current Army career intentions, were administered to candidates at the beginning and the end of class (see Chapter 2 for data collection details). As with previously-described OBEF measures, Core and Experimental types of attitudinal measures were administered.

The remainder of this chapter describes: (a) measure development, (b) measure scoring, and (c) the psychometric properties of the measures.

Measure Development

Performance Measures

A primary purpose of the present research is to determine whether the experimental measures in the OBEF predict candidate performance beyond the level of prediction afforded by Armed Forces Qualification Test (AFQT) scores. While "performance" is operationalized in a variety of ways, OCS records focus on three areas: (a) physical fitness, (b) academic performance, and (c) leadership. Candidates are assessed during OCS by tests, observations during exercises, and through the collection of supervisor and peer ratings. The following summarizes the most pertinent metrics gathered during OCS.

1. Academic Examinations — Candidates complete a total of nine academic tests with a possible total of 900 points. The passing requirement is 70% on each test. Candidates can retest once on failure to obtain 70%; however, only three total retests (in the nine tests) are allowed. The tests are in the following areas: (a) tactics and operations (three tests), (b) call for fire, (c) history (two tests), (d) supply and training management, (e) military intelligence, and (f) leadership, military justice, and ethics.

2. Leadership — Candidates serve in a number of leadership roles (from Team Leader to Company Commander) both in garrison and during field leadership exercises (FLX). Evaluations are conducted by instructors and cadre for leadership occurrences. Candidates must receive a minimal "Satisfactory" rating on 50% of their leadership evaluations. The dimensions of leadership on which candidates are evaluated include demonstrations of (a) Army Values, (b) leadership attributes (emotional, mental, physical), (c) leadership skills (interpersonal, conceptual, technical, tactical), and (d) actions (influencing, improving, operating).

3. Physical Fitness — Candidates must receive a passing score on a variety of physical fitness events, including a score of at least 60 on each event in the Army Physical Fitness Test (APFT), runs of multiple distances, foot marches with full gear of multiple distances, an obstacle course, and formation runs.

In addition to these formal evaluations, candidates also rate each other periodically on the above dimensions, with a particular emphasis on leadership. OCS staff also complete these ratings. Both the peer and staff ratings are factored into a candidate's dimension score. These scores are recorded and maintained locally at the OCS in Fort Benning, GA. A unit-weighted sum of the three dimension scores (academic, leadership, and physical performance) make up the candidate's overall OCS performance score. Candidates' rank order on their overall OCS performance score makes up their class rank on the Order of Merit List (OML). The top 33% of each class are designated Distinguished Military Graduates (DMG).

In addition to the above scores, one more criterion metric for evaluation was extracted from the OCS-maintained databases:

4. Recycles — Candidates can be dropped from a course or recycled for medical or compassionate reasons. They can also recycle based on "whole person" evaluations of the following:

- Failure to progress
- Physical fitness and aptitude
- Lack of intellect, maturity, drive, and desire expected of an officer
- Lack of selflessness
- Poor teamwork
- Failure to meet academic (test) standards
- Disciplinary reasons
- Failure to achieve 50% pass in leadership ratings

Archival performance data were obtained for candidates in six of the 10 OCS classes included in this study. In total, 935 individual records were obtained from OCS. However, 56 of these records were duplicate records of the same candidate. In most cases, the reason for the duplication was the recycling of a candidate to another class. In these cases, the duplicate records were reconciled by combining the relevant records from the two cases into one record. Data for six other candidates were excluded because they did not have a usable social security number in the database and could not be linked to the predictor dataset.

An examination of the descriptive statistics for each of the performance scores revealed some outlier data. Specifically, candidates that had performance scores more than four standard deviations above or below the mean were examined for anomalous patterns. For example, one candidate had scores above the class mean for academic and leadership performance, but a fitness score that was more than five standard deviations below the mean. The most likely explanation for a pattern such as this is a missing score on one of the tests. The data did not indicate that this candidate had recycled due to poor physical performance. In all, data for seven candidates were excluded from further analysis due to anomalous results patterns.

Once these issues were resolved, the performance data were merged with the study sample data. The performance data for 98 candidates were excluded from further analysis because they had not completed the OBEF instruments. This left usable data for 768 candidates. Note that not all of these candidates had full performance data. For example, some candidates recycled and did not have any performance data. It is not known whether these recycles attrited or completed OCS at a later date. A summary of the measures maintained by OCS and used in the present study can be found in Table 6.1.

Table 6.1. End-of-Class OCS Performance Measures

Scale	Description
Academic Performance	Archival score maintained by OCS that was a unit-weighted sum of the candidates' academic course scores, academic performance peer ratings, and trainer ratings. The raw scores were standardized within class to a mean of 0 and a standard deviation of 1.
Leadership Performance	Archival score maintained by OCS that was a unit-weighted sum of the candidates' leadership exercise scores and peer/trainer ratings of leadership. The raw scores were standardized within class to a mean of 0 and a standard deviation of 1.
Physical Performance	Archival score maintained by OCS that was a unit-weighted sum of the candidates' last Army Physical Fitness Test (APFT), their scores on fitness exercises, and their peer/trainer ratings of physical fitness. The raw scores were standardized within class to a mean of 0 and a standard deviation of 1.
Final Army Physical Fitness Test (APFT) Score	Candidates completed the APFT twice during OCS. Both the initial and final APFT scores were retained by OCS. The candidates' raw final APFT was used as a criterion score in the present study. Scores on the APFT typically range from 0-300, but can exceed 300 if the candidate attained a perfect score on all of the test components.
Total OCS Performance Score	A unit-weighted sum of each candidate's academic, leadership, and physical performance scores. These scores make up the candidate's rank on the Order of Merit List (OML). The raw score was standardized within class.
Recycled — Yes or No	A dichotomous criteria conveying whether a candidate recycled (i.e., had to retake a portion of the course), or did not recycle, as maintained by OCS. This was scored on a 0 (no recycles) to 1 (one or more recycles) scale.

Attitudinal Measures

Previous research has demonstrated that Soldier attitudes, such as their emotional commitment to the Army and their intentions to make the Army a career, predict their rates of attrition (Strickland, 2005) and, to a lesser extent, their performance (Karrasch, 2003). For this reason, a number of attitudinal scales were created or adapted from previous studies and administered twice — once at the beginning and again at the end of class. Administering these measures at multiple points allowed for a number of data analysis options. For example, we could examine the change in scores from beginning to the end of class (BOC to EOC) or examine the predictor-criterion relationships concurrently and longitudinally. The attitudinal measures were further broken down into two types:

1. Core Attitudinal — Core attitudinal scales had items and content administered in previous Army studies.

2. Experimental Attitudinal — The experimental attitudinal scales were more experimental in nature and had not been administered in previous Army studies.

The Core Attitudinal scales are summarized in Table 6.2. Two of these scales were more retention-focused (continuance commitment and career intentions), while the other two were more pure attitudinal (morale and affective commitment). The affective commitment and continuance commitment scales were derived from the work of Meyer and his colleagues (Meyer, Allen, & Gellatly, 1990; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002), who found the two scales to represent distinct constructs. Affective commitment in particular was related to a number of positive work outcomes, such as task performance (Meyer et al., 2002). The items used in the Core Attitudinal scales have all been used in previous Army studies (see, for example, Ingerick, Allen, Weaver, Caramagno, & Hooper, 2008; Knapp, Sager, & Tremble, 2005).

The Experimental Attitudinal scales included two scales related to psychological contract breach, one related to Army identity Structure, and one related to candidates' satisfaction with branch assignment. These are summarized in Table 6.3. The two breach of contract items were based on previous work suggesting employees formulate perceived expectations (i.e., a "contract") about what is owed to them from the organization and what they themselves owe to the organization (Gakovic & Tetrick, 2003a; 2003b). Perceived breaches in these contracts by the organization were associated with increased feelings of emotional exhaustion and decreased feelings of job satisfaction (Gakovic & Tetrick, 2003a). While not supported empirically in the literature, previous authors have also suggested that employee's fulfillment of their end of the perceived contract (i.e., low breach) may be indicative of their commitment to the organization through the norm of reciprocity (Gakovic & Tetrick, 2003b). Stated differently, candidates who fill their end of psychological contract do so because they feel the organization has demonstrated its support and commitment to the candidate.

Table 6.2. Core Attitudinal Measures

Scale	Description
Continuance Commitment	Four-item scale measuring the extent to which the candidate was committed to completing the current term of service. An example item is "It would be too costly for me to leave the Army in the near future." Items were scored on a 1 to 5 scale ranging from "Strongly Disagree" to "Strongly Agree." Administered with Version 1 of the OBEF and both end-of-class surveys.
Affective Commitment	Four-item scale measuring the extent to which a candidate felt emotionally attached to the Army. An example item is "I feel like 'part of the family' in the Army." Items were scored on a 1 to 5 scale ranging from "Strongly Disagree" to "Strongly Agree." Administered with all versions of the OBEF and both end-of-class surveys.
Morale	A single-item measure of a candidate's current level of morale (i.e., "What is your current level of morale?"). The item was scored on a 1 to 5 scale ranging from "Very Low" to "Very High." Administered with both versions of the end-of-class surveys.
Career Intentions	A single-item measure of a candidate's active duty career intentions (i.e., "What are your current active duty career intentions?"). The item was scored on a 1 to 5 scale ranging from "I will definitely quit the Army upon completion of my obligation" to "I plan to stay in the Army beyond 20 years or until retirement." Administered with all versions of the OBEF and both versions of the end-of-class surveys.

Table 6.3. Experimental Attitudinal Measures

Scale	Description
Soldier Breach of Contract	Two-item scale measuring the extent to which candidates feel they have met their obligations to the Army. An example item is "In most instances, I have not met my obligations to the Army." Items are scored on a 1 to 5 scale ranging from "Strongly Disagree" to "Strongly Agree." Administered at the beginning and end of class.
Army Breach of Contract	Two-item scale measuring the extent to which candidates feel the Army has met its obligations to them. An example item is "In most instances, the Army has not met its obligations to me." Items are scored on a 1 to 5 scale ranging from "Strongly Disagree" to "Strongly Agree." Administered in both versions of the EOC survey.
Army Identity Structure	A three-graphical item measure of a candidate's "deep structure identification" with the Army. The scale ranges from -147 to +147. Negative numbers indicate the candidate's identity is moving away from the Army, while positive numbers indicate that identity is moving toward the Army. The three component items, Army Identity Magnitude, Army Identify Stability, and Army Identity Movement, were also treated as individual criteria.
Satisfaction with Branch Assignment	A single-item measure of the candidate's satisfaction with their assigned branch. Item is scored on a 1 to 5 scale ranging from "Very dissatisfied" to "Very satisfied." Administered in version two of the EOC survey.

The Army Identity Structure scale used graphical items to measure candidates' "deep structure identification" with the Army (Rousseau, 1998). One graphical item measuring identification with the Army was adapted from Shamir and Kark (2004). Two more items were added to form a more complete picture of a candidate's identification with the Army—one measuring the extent to which a candidates' identity with the Army was strengthening or weakening (i.e., identity movement), and the other measuring the amount of conflict they were experiencing about their (i.e., identity stability). Because these three items were conceptualized

as independent, but interrelated, constructs, the three graphical items were examined both individually and in combination as an overall Army Identity Structure scale. For more information about the development of these items and this scale, see the discussion of identity structure in Chapter 4.

Finally, one item measuring candidates' satisfaction with their branch assignment was added to the end-of-class (EOC) survey. This item could also be used as a predictor for some analyses.

Scoring

Closer examination of the archival data suggested different scoring procedures were being used across classes to create the performance composites for the selected dimensions. The minimum, maximum, mean, and median scores across each class were large enough to suggest that the inter-class differences reflected different procedures rather than actual differences in performance. For example, the mean leadership composite score in Class 1 was 800.79 (Range = 660-970), while the mean score on the same dimension in Class 7 was 473.18 (Range = 192-700). Because component scores such as class grades and exercise scores were unavailable to re-compute the composites, the composite scores within each class were standardized to a mean of zero and a standard deviation of one. For some classes, the overall OCS performance score needed to be computed by combining the raw academic, leadership, and fitness scores because they were not computed in the records received from OCS. These scores were also standardized within class. The "final APFT" and "recycled — yes or no" variables were retained "as is."

The attitudinal measures were scored by scaling the items to be consistent with the scale label and then computing a unit-weighted mean of each of the item scores. The exception to this was the Army Identity Structure scale, which was computed by multiplicatively combining the three graphical items, magnitude (scaled from 1 to 7), stability (also scaled from 1 to 7), and movement (scaled from -3 to +3).

Psychometric Properties

Reliability and Descriptive Statistics

The descriptive statistics and reliabilities for the end-of-class measures are reported in Table 6.4. Internal consistency reliability could only be computed for one of the performance scales — the total OCS performance score. While the reliability for this score was low, this was not problematic to the interpretation of the score as the criterion was a combination of three heterogeneous performance dimensions. The low reliability suggested that three dimensions that make up the overall performance scores were distinct and should be treated as such.[3] Results further suggested that the Recycled — Yes or No criterion is strongly positively skewed. This is not surprising, as only 15.2% of the candidates with performance data (117 out of 768) had a

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[3] The more appropriate index of reliability would be the reliability of a composite score, as described in Nunnally (1967). However, composite reliability indices rely on internal consistency estimates for the individual components that make up the composite — in this case, academic, leadership, and physical performance. This information was unavailable in this study, therefore only the coefficient alpha is reported here.

record of recycling. Academic performance was also skewed slightly left. Because they were standardized within class, the means and standard deviations for each of the performance scores approached 0 and 1, respectively.

For the attitudinal variables, aside from the Soldier breach of contract scale, the reliabilities for all of the scales were acceptable for research purposes. The Army breach of contract scale was also somewhat low. Two of the scales, the end-of-class Army Identity Magnitude graphical item and the satisfaction with branch assignment scale, deviated substantially from normality. The mean end-of-class affective commitment and career intentions scores were higher than the beginning-of-class administrations. The reverse was true for the continuance commitment scale.

Table 6.4. Attitudinal and Performance Outcome and Criterion Variable Descriptive Statistics

Scale/Predictor	*N*	*M*	*SD*	skew	alpha
Performance Variables					
Recycled - Yes or No	758	0.15	0.36	1.95	--
Academic Performance	688	0.04	0.87	-0.66	--
Leadership Performance	688	0.03	0.95	0.02	--
Physical Performance	688	0.03	0.88	-0.24	--
Final APFT Score	358	267.19	24.08	-0.04	--
Total OCS Performance Score	688	0.05	0.87	0.00	.53
Attitudinal Variables					
Core					
Affective Commitment - BOC	966	3.59	0.97	-0.69	.89
Affective Commitment - EOC	609	3.72	0.76	-0.70	.85
Continuance Commitment - BOC	446	2.85	1.15	0.09	.86
Continuance Commitment - EOC	609	2.77	1.01	0.03	.85
Career Intentions - BOC	1,298	3.48	1.30	-0.29	--
Career Intentions - EOC	608	3.52	1.32	-0.31	--
Morale	609	3.93	0.79	-0.69	--
Experimental					
Soldier Breach of Contract	607	1.62	0.70	0.99	.47
Army Breach of Contract	608	2.34	0.81	0.54	.68
Army Identity Magnitude — EOC	215	5.36	1.29	-1.02	--
Army Identity Movement — EOC	216	1.26	1.37	-0.76	--
Army Identity Stability — EOC	213	5.22	1.39	-0.76	--
Army Identity Structure — EOC	213	47.38	0.58	0.58	.84
Satisfaction with Branch Assignment	387	4.45	0.86	-1.88	--

Note. APFT = Army Physical Fitness Test, BOC = beginning of class, EOC = end of class. With the exception of recycles and APFT, the performance variables are standardized within class.

Scale Correlations

Table 6.5 shows scales correlations. The moderate to strong correlations were within the type of measure. For example, performance measures generally correlated most highly with each other. While there were some high correlations between scales, none were large enough to warrant combining the measures into larger overall composites. We concluded that the measures should be analyzed individually rather than combining them into composite scales. The other high correlations tended to be between the beginning-of-class and end-of-class administrations of the same measure. For example, the correlation between the beginning-of-class and end-of-class administration of continuance commitment was .60. Affective commitment also tended to be significantly correlated with a number of attitudinal and performance criteria. This is consistent with previous research (Meyer et al., 2002).

Further examination of Table 6.5 suggested that, for the overall candidate population in OCS, the attitudinal and performance criteria were at best weakly correlated. Only 9 of 84 correlations were significant.

Subgroup Differences

Subgroup differences are described in terms of Cohen's *d* effect sizes (Cohen, 1988). Cohen's *d* reflects the mean difference in scores on a given measure across subgroups and is expressed in standard deviation units. Cohen (1988) suggests that a *d* of .20 in magnitude represents a small difference between groups, .50 a moderate difference, and .80 a large difference. The subgroup differences are presented in Tables 6.6 to 6.8.

Performance Criteria

For performance criteria, the results presented in Table 6.6 suggested that in-service candidates perform as well as or better than their enlistment-option and hybrid counterparts. Enlistment-option candidates, by contrast, tended to have the lowest performance scores across the three groups. The most conspicuous differences were on the leadership performance and fitness dimensions, where scores for the in-service candidates tended to be one to three quarters of a standard deviation higher than their counterparts in the other groups. Due to the magnitude of these differences, we decided to conduct validity analyses separately for these groups (see Chapter 7).

There were a few racial and ethnic performance measure differences of note (see Table 6.7). First, White, non-Hispanic candidates tended to score about half a standard deviation higher on academic performance than Hispanic candidates. White candidates also had significantly higher academic performance than Black candidates, but significantly lower final APFT scores. Asian candidates had significantly lower leadership performance and total OCS performance scores than White candidates. Finally, White candidates were somewhat less likely to recycle than Black candidates.

Table 6.5. Attitudinal and Performance Outcome and Criterion Intercorrelations

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Performance Variables																		
1. Recycled - Yes or No																		
2. Academic Performance	**-.08**																	
3. Leadership Performance	**-.14**	**.24**																
4. Physical Performance	**-.13**	**.16**	**.42**															
5. Final APFT Score	.01	**.11**	**.44**	**.82**														
6. Total OCS Score	**-.17**	**.45**	**.87**	**.74**	**.65**													
Attitudinal Variables																		
Core																		
7. Affective Commit BOC	-.02	-.01	-.02	.00	.02	-.02												
8. Affective Commit EOC	.07	-.05	**.12**	-.01	.01	.06	**.43**											
9. Continuance Commit BOC	**.11**	.01	**-.11**	**-.15**	**-.22**	**-.13**	.09	.09										
10. Continuance Commit EOC	.07	-.03	-.05	-.01	-.04	-.03	.03	**.13**	**.60**									
11. Career Intentions BOC	-.01	-.06	**.14**	.05	.09	**.10**	**.20**	**.34**	**.14**	**.14**								
12. Career Intentions EOC	.08	.00	.09	-.06	.05	.03	**.19**	**.40**	**.16**	**.13**	**.69**							
13. Morale	.01	-.01	.05	.03	.04	.04	**.23**	**.43**	.04	.02	**.15**	**.30**						
Experimental																		
14. Soldier Breach	-.04	-.08	-.04	-.03	-.05	-.06	-.07	**-.19**	.00	**.10**	-.02	-.04	**-.18**					
15. Army Breach	-.08	.04	-.02	-.03	-.04	-.02	**-.21**	**-.36**	.02	-.03	**-.13**	**-.21**	**-.31**	**.25**				
16. Army Identity Magnitude	.03	.01	**.19**	-.07	-.01	.09	**.37**	**.55**	.11	-.02	**.29**	**.40**	**.41**	**-.34**	**-.34**			
17. Army Identity Movement	.05	-.03	.08	-.09	-.02	.01	**.23**	**.50**	.10	.05	**.22**	**.37**	**.44**	**-.24**	**-.32**	**.70**		
18. Army Identity Stability	-.04	.04	.08	-.09	-.04	.02	**.35**	**.45**	.03	-.06	**.25**	**.35**	**.43**	**-.26**	**-.38**	**.66**	**.56**	
19. Army Identity Structure	.03	-.02	.11	-.07	-.00	.04	**.35**	**.51**	.04	-.02	**.30**	**.41**	**.40**	**-.25**	**-.36**	**.69**	**.89**	**.63**
20. Satis w/ Branch Assign	.02	.01	-.14	.04	.02	-.08	.07	**.18**	--	.00	.03	.08	**.15**	-.02	**-.15**	--	--	--

Note. APFT = Army Physical Fitness Test, BOC = beginning of class, EOC = end of class, Commit = Commitment, Satis w/ Branch Assign = Satisfaction with Branch Assignment, Soldier Breach = Soldier Breach of Contract, Army Breach = Army Breach of Contract. Correlations in bold are statistically significant ($p <$ .05, two-tailed). n = 137-928.

Table 6.6. Criterion Score Entry Status Subgroup Differences

Scale/Predictor	In-Service (I) M	In-Service (I) SD	Enlistment-option (C) M	Enlistment-option (C) SD	Hybrid (H) M	Hybrid (H) SD	C-I d	H-I d	H-C d
Performance Variables									
Recycled - Yes or No	0.14	0.34	0.13	0.34	0.22	0.41	-0.02	**0.24**	**0.27**
Academic Performance	0.02	0.86	0.08	0.89	0.03	0.88	0.07	0.01	-0.06
Leadership Performance	0.30	0.99	-0.27	0.85	0.05	0.87	**-0.58**	**-0.26**	**0.37**
Physical Performance	0.20	0.88	-0.09	0.85	-0.07	0.90	**-0.33**	**-0.30**	0.03
Final APFT Score	275.09	22.00	259.35	23.64	264.00	23.04	**-0.72**	**-0.50**	0.20
Total OCS Score	0.28	0.88	-0.17	0.80	0.01	0.83	**-0.51**	**-0.31**	**0.22**
Attitudinal Variables									
Core									
Affective Commit BOC	3.63	1.04	3.58	0.91	3.58	0.92	-0.05	-0.04	0.01
Affective Commit EOC	3.73	0.78	3.63	0.77	3.86	0.66	-0.13	0.16	**0.29**
Continuance Commit BOC	2.98	1.08	2.71	1.18	2.94	1.16	**-0.25**	-0.04	0.19
Continuance Commit EOC	2.80	1.06	2.69	0.99	2.86	0.93	-0.10	0.06	0.17
Career Intentions BOC	3.95	1.19	2.91	1.25	3.66	1.15	**-0.88**	**-0.24**	**0.60**
Career Intentions EOC	3.91	1.27	2.80	1.21	3.92	1.07	**-0.87**	0.01	**0.93**
Morale	3.94	0.77	3.86	0.78	4.01	0.76	-0.10	0.09	0.19
Experimental									
Soldier Breach	1.65	0.74	1.59	0.62	1.65	0.76	-0.08	0.00	0.10
Army Breach	2.39	0.84	2.30	0.79	2.34	0.78	-0.12	-0.06	0.06
Army Identity Magnitude	5.48	1.40	5.11	1.30	5.45	1.03	-0.26	-0.02	0.26
Army Identity Movement	1.26	1.38	1.19	1.50	1.35	1.16	-0.05	0.07	0.11
Army Identity Stability	5.26	1.44	4.99	1.43	5.44	1.20	-0.19	0.12	0.32
Army Identity Structure	49.83	53.24	42.59	45.92	47.60	47.50	-0.14	-0.04	0.11
Satis w/ Branch Assign	4.36	0.99	4.52	0.75	4.52	0.75	0.17	0.16	-0.01

Note. APFT = Army Physical Fitness Test, BOC = beginning of class, EOC = end of class, Commit = Commitment, Satis w/ Branch Assign = Satisfaction with Branch Assignment, Soldier Breach = Soldier Breach of Contract, Army Breach = Army Breach of Contract. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where In-Service is the first referent group, and Enlistment-option is the referent group for the H-C comparison. Sample sizes: In-Service n = 92-534; Enlistment-option n = 70-509; Hybrid n = 50-222. Coefficients in bold are statistically significant using an independent samples t-test ($p < .05$).

Table 6.7. Criterion Score Race and Ethnicity Subgroup Differences

	Ethnicity					Race							
	White, Non-Hispanic (WNH)		Hispanic (H)		H-WNH	White (W)		Black (B)		Asian (A)		B-W	A-W
Scale/Predictor	M	SD	M	SD	d	M	SD	M	SD	M	SD	d	d
Performance Variables													
Recycled - Yes or No	0.12	0.33	0.17	0.38	0.15	0.12	0.32	0.22	0.41	0.09	0.29	**0.31**	-0.09
Academic Performance	0.23	0.83	-0.31	0.93	**-0.64**	0.20	0.82	-0.38	0.84	-0.06	0.88	**-0.71**	-0.32
Leadership Performance	0.05	0.94	0.04	0.99	-0.02	0.06	0.93	0.03	0.99	-0.39	0.97	-0.03	**-0.48**
Physical Performance	0.03	0.92	0.06	0.84	0.04	0.04	0.90	-0.01	0.90	-0.15	0.80	-0.05	-0.20
Final APFT Score	263.83	24.85	270.52	16.97	0.27	264.34	24.91	276.84	22.97	259.67	22.09	**0.50**	-0.19
Total OCS Score	0.10	0.86	-0.02	0.94	-0.14	0.10	0.85	-0.06	0.88	-0.27	0.82	-0.19	**-0.44**
Attitudinal Variables													
Core													
Affective Commit BOC	3.57	0.97	3.74	1.04	0.17	3.57	0.98	3.67	0.94	3.46	0.79	0.10	-0.11
Affective Commit EOC	3.70	0.76	3.67	0.61	-0.04	3.71	0.76	3.81	0.73	3.64	0.78	0.13	-0.10
Continuance Commit BOC	2.95	1.16	3.02	1.01	0.07	2.92	1.17	2.65	1.10	2.78	1.00	-0.23	-0.12
Continuance Commit EOC	2.82	0.98	2.78	1.15	-0.04	2.79	0.99	2.70	1.04	2.73	1.10	-0.09	-0.06
Career Intentions BOC	3.31	1.30	3.92	1.15	**0.47**	3.32	1.29	4.02	1.17	3.11	1.11	**0.54**	-0.17
Career Intentions EOC	3.41	1.33	3.74	1.29	0.24	3.44	1.31	3.89	1.27	3.16	1.14	**0.34**	-0.22
Morale	3.89	0.74	3.95	0.77	0.07	3.90	0.74	4.08	0.79	3.81	0.74	**0.24**	-0.12
Experimental													
Soldier Breach	1.56	0.68	1.66	0.80	0.15	1.58	0.70	1.62	0.71	1.92	0.64	0.05	**0.49**
Army Breach	2.37	0.81	2.33	0.86	-0.06	2.37	0.81	2.24	0.81	2.58	0.83	-0.16	0.26
Army Identity Magnitude	5.21	1.37	5.41	1.18	0.15	5.26	1.34	5.63	1.27	5.07	1.14	0.27	-0.14
Army Identity Movement	1.17	1.45	1.12	1.54	-0.03	1.19	1.42	1.61	1.17	0.93	1.33	0.30	-0.19
Army Identity Stability	5.03	1.44	5.53	1.18	0.35	5.07	1.40	5.51	1.41	4.93	1.59	0.31	-0.10
Army Identity Structure	44.73	47.56	42.53	54.72	-0.05	45.57	48.03	58.60	53.58	33.93	43.44	0.27	-0.24
Satis w/ Branch Assign	4.48	0.81	4.57	0.68	0.11	4.45	0.85	4.56	0.81	3.94	1.03	0.13	**-0.60**

Note. APFT = Army Physical Fitness Test, BOC = beginning of class, EOC = end of class, Commit = Commitment, Satis w/ Branch Assign = Satisfaction with Branch Assignment, Soldier Breach = Soldier Breach of Contract, Army Breach = Army Breach of Contract. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where White, non-Hispanic and White are the referent groups. Sample sizes: Hispanic n = 17-83; White, Non-Hispanic n = 113-686; White n = 129-823; Black n = 47-260; Asian n = 14-57. Values in bold are statistically significant using an independent samples t-test ($p < .05$).

Table 6.8. Criterion Score Gender Subgroup Differences

| Scale/Predictor | Male (M) | | Female (F) | | F-M |
	M	SD	M	SD	d
Performance Variables					
Recycled - Yes or No	0.12	0.33	0.25	0.44	**0.40**
Academic Performance	0.11	0.88	-0.21	0.82	**-0.36**
Leadership Performance	0.11	0.95	-0.40	0.83	**-0.54**
Physical Performance	0.05	0.89	-0.04	0.84	-0.10
Final APFT Score	265.08	24.14	278.23	20.56	**0.54**
Total OCS Score	0.11	0.87	-0.28	0.78	**-0.45**
Attitudinal Variables					
Core					
Affective Commit BOC	3.56	0.99	3.81	0.83	**0.25**
Affective Commit EOC	3.76	0.75	3.54	0.75	**-0.29**
Continuance Commit BOC	2.85	1.17	2.92	1.06	0.06
Continuance Commit EOC	2.77	1.01	2.77	1.03	0.00
Career Intentions BOC	3.46	1.32	3.58	1.20	0.09
Career Intentions EOC	3.53	1.32	3.42	1.34	-0.08
Morale	3.96	0.75	3.70	0.87	**-0.35**
Experimental					
Soldier Breach	1.58	0.69	1.81	0.73	**0.34**
Army Breach	2.33	0.81	2.42	0.83	0.11
Army Identity Magnitude	5.46	1.20	4.82	1.63	**-0.54**
Army Identity Movement	1.33	1.30	0.91	1.67	-0.32
Army Identity Stability	5.36	1.32	4.47	1.54	**-0.67**
Army Identity Structure	49.41	50.50	36.66	45.65	-0.25
Satis w/ Branch Assign	4.42	0.88	4.58	0.67	0.18

Note. APFT = Army Physical Fitness Test, BOC = beginning of class, EOC = end of class, Commit = Commitment, Satis w/ Branch Assign = Satisfaction with Branch Assignment, Soldier Breach = Soldier Breach of Contract, Army Breach = Army Breach of Contract. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where Males are the referent group. Sample sizes: Male n = 180-984; Female n = 32-229. Coefficients in bold are statistically significant using an independent samples t-test ($p < .05$).

There were also a number of gender differences in the performance measure scores (see Table 6.8). Male candidates tended to achieve significantly higher scores than Female candidates in academic performance, leadership performance, and total OCS performance. Female candidates on the other hand achieved significantly higher final APFT scores, but were significantly more likely to recycle. Previous research has yielded either no difference between enlisted males and females on APFT or higher scores for males (e.g., Knapp et al., 2005), which may suggest some systematic gender differences between the OCS candidate population and the enlisted population.

Attitudinal Criteria

A comparison of the entry status subgroups in Table 6.6 in terms of attitudinal end-of-class measures showed that in-service candidates tended to be more closely identified with the Army and have longer career intentions than either the enlistment-option or hybrid candidates at

the beginning of class. However, hybrid and enlistment-option candidates had the same career intentions at the end of class due to an increase in career intentions for the hybrid candidates. Enlistment-option candidates also tended to have lower continuance commitment, affective commitment, and morale than the in-service and hybrid candidates.

Results suggested few racial and ethnic subgroup differences in terms of attitudinal measures. Hispanics tended to have longer-term career intentions than White, non-Hispanics at the beginning of class. However, these differences disappeared at the end of class as the mean for Whites went up from beginning to the end of class and the mean for White, non-Hispanics went down. Black candidates also had longer-term career intentions (both at the beginning and end of class) and higher morale than White candidates.

There were a few notable differences in the attitudinal scores for males and females (see Table 6.8). Males tended to identify more closely with the Army and rated themselves as having higher morale than females. Females on the other hand tended to rate themselves higher on Soldier breach of contract.

Taken together, these results suggested some systematic end-of-class measure differences in the three subgroups examined (race, gender, entry status). The most notable differences that require further examination include (a) the systematic performance differences between in-service and enlistment-option candidates and (b) the change in affective commitment to the Army from the beginning of class to the end of class.

Summary

The instruments used in the present study included both performance and attitudinal measures. The performance measures included archival information provided by OCS to ARI for the purposes of this research. The attitudinal measures included scales and items that had been used in previous Army studies (i.e., the Core scales) and others that were used for the first time in an Army application (i.e., the Experimental scales). For validation purposes, the Core attitudinal scales and archival performance measures were the focus. However, the Experimental scales were also used to inform our understanding of the entry status subgroups. While item-level information was unavailable for the performance criteria, the item statistics for the Core attitudinal scales were promising enough to warrant their inclusion in the validation analyses.

Chapter 7. Validation Analyses

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HumRRO

This chapter describes the analyses conducted to validate the Officer Background and Experience Form (OBEF) as a predictor of candidate performance, Army career intentions, and commitment to the Army at the end of class. Four questions guided these analyses, and thus provided an organizing framework for the remainder of the chapter:

1. Which OBEF measures best predicted candidate performance, retention intentions, and affective commitment beyond the Armed Forces Qualification Test (AFQT)?

2. Would a composite score, comprised of OBEF scales, have practical utility in predicting candidate performance, retention intentions, and affective commitment beyond the AFQT?

3. What non-OBEF factors (e.g., reasons for entering OCS) predicted candidate performance, retention intentions, and affective commitment?

4. How did candidate attitudes change from the beginning to the end of class?

OBEF Criterion-Related Validity Evidence

We conducted ordinary least squares (OLS) regression analyses to determine which OBEF measures best predicted candidate performance, retention intentions, and affective commitment. For the sake of parsimony, validation analyses focused on three critical areas — attitudes towards the Army, retention intentions, and OCS performance. The following criterion measures were used: (a) Affective Commitment (beginning-of-class [BOC] and end-of-class [EOC]), (b) Career Intentions (BOC and EOC), (c) Academic Performance, (d) Leadership Performance, (e) Fitness Performance, and (f) Overall OCS Performance. Affective Commitment represented the candidate attitudes toward the Army. Career Intentions represented candidate retention intentions, and the four archival measures represented candidate OCS performance.

Method of Estimating Incremental Validity

Incremental validity is an estimate of the change in the multiple correlation (ΔR) when a new predictor is added to a regression equation. New predictors that add validity beyond that already afforded by AFQT are more likely to prove useful for selection purposes.[4] Therefore, we computed raw and corrected/adjusted incremental validities for each predictor in this report.

Chapter 2 presented data showing that candidates' AFQT scores are restricted in range, that is, AFQT score standard deviations were very low (see Table 2.5). Table 7.1 illustrates this

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[4] We were unable to obtain GT scores for all candidates and chose to use the AFQT score as a proxy for GT. AFQT and GT scores correlated .95 and .96 (uncorrected for range restriction on AFQT) in recent, large-sample ARI research projects (Michael Ingerick, personal communication, June 18, 2009).

point. It shows means and standard deviations of AFQT scores for several different samples. As shown, the *SD* for the OCS enlistment-option sample, in particular, is very small, even in comparison to other college graduate samples.

Table 7.1. Means and SDs of AFQT Scores for Populations across Multiple Army and Population Studies

AFQT		Examinees		
M	*SD*	*N*	Source	Sample or Population
29.49	20.20	936	National Longitudinal Survey (NLS)	Less than 12 years of education
42.83	23.87	1,862	National Longitudinal Survey (NLS)	High school graduate
50.00	27.30	5,672	Profile of American Youth 1997 (PAY97)	Population of eligible youth 18 -23
56.13	19.31	9,467	Army Class Project — Longitudinal	New Army recruits at reception battalions
57.33	18.15	771	Select21 Project	Army Enlisted Sample (12 - 36 ms experience)
57.49	17.52	576	Army Class Project — Concurrent	Army Enlisted Sample (12 - 36 ms experience)
64.58	23.70	2,306	National Longitudinal Survey (NLS)	Some College (>12 and <16 years of education)
69.34	*20.05*	*553*	*OCS Project*	*OCS in service sample*
78.17	17.62	559	National Longitudinal Survey (NLS)	College Grad + (16 years or more of education)
87.55	*10.65*	*521*	*OCS Project*	*OCS enlistment-option sample*

Note. For more information about the NLS population and study, see Bureau of Labor Statistics, 2005; for Army Class — Concurrent, see Ingerick, Diaz, & Putka, 2008; for Army Class — Longitudinal, see Knapp & Heffner, 2009; for Select21, see Knapp & Tremble, 2007, for Profile of American Youth, see Moore, Pedlow, Krishnamurty, & Wolter, 2000.

Range restriction on AFQT, uncorrected, will lead to underestimates of the validity of AFQT and potentially overestimates of incremental validity. Therefore, we corrected the regression coefficient between the candidates' AFQT score and each criterion for direct range restriction using Lawley's formula (cf. Hunter & Schmidt, 1990). Lawley's formula can be described with the following equation:

$$r_{xy} = \frac{u\, R_{XY}}{\sqrt{(u^2 - 1)\, R_{XY}^2 + 1}}$$

where *u* is equal to population standard deviation divided by the observed standard deviation for each group and R_{XY} is equal to the observed correlation coefficient. The population AFQT standard deviation estimates were derived from the 1997 National Longitudinal Survey (NLSY97) (Bureau of Labor Statistics, 2005), a study commissioned by the Department of Labor that includes data for 8,984 youths on a variety of variables, including college experience and ASVAB subtest scores. The college experience samples were used to derive the population standard deviation estimates for our samples. Specifically, youths from the NLSY97 data with "some college" experience (between 12 and 16 years of education) were used as the population sample for the in-service candidates in our sample, while youths from the NLSY97 data who were "college graduates" (16 or more years of schooling) were used as the population sample for the enlistment-option candidates in our sample.

The OLS regression analyses were completed by creating two correlation matrices, one for the in-service sample and one for the enlistment-option sample. The correlation matrices corrected all of the AFQT intercorrelations for direct range restriction. The OLS regression analyses were then performed on those correlation matrices. OLS regression was also performed on the overall sample. Unlike the in-service and enlistment-option sample regression analyses, the AFQT estimates were uncorrected for the overall sample because there was no relevant population to use as a comparison to correct the standard deviation. Hybrid candidates were excluded from this analysis as a separate group due to low sample size and space constraints. A fuller treatment of these analyses can be found in Appendix A. The change in multiple R from step one to step two was the primary diagnostic used to evaluate each measure.

Incremental Validity Results

Table 7.2 reports the results for prediction of affective commitment and career intentions. AFQT, as a cognitive measure, might not typically be expected to predict these criteria well. Yet, AFQT was a significant predictor of career intentions both at the beginning and the end of class, albeit AFQT was a better predictor for in-service than enlistment-option candidates. AFQT was also a significant predictor of end-of-class affective commitment measures for the enlistment-option candidates.

A number of OBEF experimental measures predicted the affective commitment criteria. The Core RBI (ΔR = .36-.54, Mean = .43), Army Identity Structure (ΔR = .31-.46, Mean = .37), and Experimental Work Values (ΔR = .28-.56, Mean = .39) scales tended to have the highest incremental validity, followed by Need for Organizational Identity (ΔR = .15-.31, Mean = .20) Affect (ΔR = .15-.29, Mean = .21), and Core Work Values (ΔR = .16-.31, Mean = .23) scales. The Experimental RBI scales also had somewhat high estimates (ΔR = .08-.29, Mean = .20), but many were non-significant due to low sample size. The Situational Judgment Test did not predict affective commitment. Given that the some of the RBI Core scales and Army Identity Structure scales assessed constructs that were conceptually similar to the affective commitment criterion measures, their high regression estimates were not surprising. However, even with the Army Affective Commitment RBI scale omitted, the incremental validity for the Core RBI scales remained high (ΔR = .15-.30, Mean = .24). The measures that best predicted affective commitment tended to do so consistently at both the beginning and end of class. However, the incremental validity estimates tended to be higher for the enlistment-option candidates at the beginning of class and higher for the in-service candidates at the end of class. In large part, this discrepancy appears to be due to the large increase in the relationship between AFQT and affective commitment at the beginning of class (.07) versus the end of class (.26) in the enlistment-option sample.

Table 7.2. Multivariate Correlations between OBEF Predictor Measures and Attitudinal Criteria by Pre-Service Status

	In-Service (Corrected)				Enlistment-Option (Corrected)				Total (Uncorrected)			
	n	AFQT Only	AFQT + Predictor	ΔR	*n*	AFQT Only	AFQT + Predictor	ΔR	*n*	AFQT Only	AFQT + Predictor	ΔR
BOC Affective Commitment												
RBI — Core	245	**.15**	**.52**	**.36**	221	.07	**.61**	**.54**	560	**.15**	**.54**	**.39**
RBI — Experimental	138	.15	.24	.08	144	.07	**.30**	**.23**	343	.00	.17	.17
Work Values — Core	367	**.15**	**.32**	**.16**	359	.07	**.38**	**.31**	898	**.09**	.31	.22
Work Values — Experimental	156	.15	**.49**	**.33**	172	.07	**.63**	**.56**	412	**.18**	.46	.28
Situational Judgment Test	150	.15	.17	.01	145	.07	.11	.05	340	.00	.00	.00
Army Identity Structure	156	.15	**.49**	**.33**	173	.07	**.52**	**.46**	418	**.18**	**.56**	**.38**
Need for Organizational ID	157	.15	**.31**	**.15**	173	.07	**.37**	**.31**	419	**.18**	**.39**	**.21**
Affect	157	.15	**.32**	**.17**	173	.07	**.36**	**.29**	419	**.18**	**.34**	**.16**
EOC Affective Commitment												
RBI — Core	220	**.14**	**.62**	**.48**	163	**.26**	**.63**	**.37**	460	**.13**	**.59**	**.47**
RBI — Experimental	44	.14	.43	.29	52	.26	.47	.22	119	.12	**.34**	**.21**
Work Values — Core	210	**.14**	**.41**	**.26**	159	**.26**	**.43**	**.17**	455	**.10**	**.34**	**.25**
Work Values — Experimental	94	.14	**.59**	**.45**	70	.26	**.66**	**.40**	212	.12	**.46**	**.34**
Situational Judgment Test	97	.14	.23	.08	106	**.26**	**.28**	.02	237	**.18**	**.19**	.02
Army Identity Structure	93	.14	**.51**	**.36**	70	.26	**.57**	**.31**	212	.10	**.49**	**.39**
Need for Organizational ID	94	.14	**.34**	**.20**	70	.26	**.41**	**.15**	213	.12	**.31**	**.19**
Affect	94	.14	**.29**	**.15**	70	**.26**	**.51**	**.25**	213	.12	**.34**	**.22**
BOC Career Intentions												
RBI — Core	379	**.37**	**.54**	**.17**	365	**.28**	**.54**	**.26**	893	**.36**	**.55**	**.18**
RBI — Experimental	138	**.37**	**.39**	.02	144	**.28**	**.37**	.09	329	**.35**	**.40**	**.05**
Work Values — Core	368	**.37**	**.44**	**.07**	357	**.28**	**.40**	**.12**	865	**.35**	**.44**	**.09**
Work Values — Experimental	156	**.37**	**.51**	.14	172	**.28**	**.50**	**.22**	403	**.35**	**.47**	**.12**
Situational Judgment Test	285	**.37**	**.40**	**.03**	293	**.28**	**.29**	.01	677	**.36**	**.38**	.02
Army Identity Structure	156	**.37**	**.60**	**.24**	173	**.28**	**.40**	**.12**	409	**.34**	**.49**	**.16**
Need for Organizational ID	157	**.37**	**.37**	.00	173	**.28**	**.34**	**.06**	410	**.34**	**.36**	**.02**
Affect	157	**.37**	**.50**	**.13**	173	**.28**	**.34**	**.06**	410	**.34**	**.42**	**.08**
EOC Career Intentions												
RBI — Core	220	**.34**	**.56**	**.22**	163	**.17**	**.59**	**.42**	460	**.34**	**.53**	**.19**
RBI — Experimental	44	**.34**	.37	.03	51	.17	.35	.19	118	**.40**	**.45**	.05
Work Values — Core	210	**.34**	**.47**	**.13**	158	**.17**	**.39**	**.23**	454	**.32**	**.44**	**.12**
Work Values — Experimental	94	**.34**	**.54**	**.20**	70	.17	.58	.42	212	**.26**	**.45**	**.19**
Situational Judgment Test	97	**.34**	**.36**	.02	105	.17	.23	.07	236	**.43**	**.46**	.03
Army Identity Structure	93	**.34**	**.66**	**.32**	70	.17	**.42**	**.26**	212	**.25**	**.48**	**.22**
Need for Organizational ID	94	**.34**	**.34**	.00	70	.17	**.31**	**.15**	213	**.26**	**.27**	.01
Affect	94	**.34**	**.53**	**.19**	70	.17	**.40**	**.23**	213	**.26**	**.39**	**.13**

Note. Regression estimates in bold are statistically significant, $p < .05$. Pairwise deletion was used to account for missing data for the corrected estimates, while listwise deletion was used for the uncorrected estimates. Corrections were made to the AFQT estimates for multivariate range restriction, with the in-service sample corrected to the NLSY97 "some college" population and the enlistment-option sample corrected to the NLSY97 "college graduate" sample.

The experimental OBEF measures generally predicted career intentions at the end of class better than at the beginning of class. One potential explanation for this finding is candidates may not have a good sense for the career intentions at the beginning of class; by the end of class their intentions may be more crystallized, thus reducing the amount of measurement error in their career intentions rating. The OBEF measures that best predicted end-of-class career intentions included the Core RBI (ΔR = .17-.42, Mean = .24), Core Work Values (ΔR = .12-.23, Mean = .16), Army Identity Structure (ΔR = .22-.32, Mean = .27), and Affect (ΔR = .13-.23, Mean = .18) scales. The Experimental Work Values measure also had large estimates (ΔR = .19-.42, Mean = .27), but one was not statistically significant. The Experimental RBI Scales (ΔR = .02-.19, Mean = .07), Need for Organizational Identification Scale (ΔR = .00-.15, Mean = .04), and Situational Judgment Test (ΔR = .01-.07, Mean = .03) for the most part did not predict Army career intentions in a meaningful way. In general, these OBEF measures predicted more variance in enlistment-option candidate end-of-class career intentions than the career intentions of in-service candidates.

Table 7.3 presents the incremental validity results for predicting the performance criteria. As expected, AFQT was a significant predictor of academic and overall performance in OCS, particularly for enlistment-option candidates. For those candidates, AFQT also predicted leadership performance, but the correlation between AFQT and leadership performance for in-service candidates was not significant.

A number of OBEF measures yielded statistically significant incremental validity estimates over AFQT for predicting academic performance. However, with the exception of the Experimental Work Values scales within the enlistment-option population (ΔR = .29) and the Experimental RBI scales within the in-service population (ΔR = .20), these statistically significant estimates were below .10. Across both populations, only the Situational Judgment Test (ΔR = .07), the Core Work Values scales (ΔR = .04), and the Army Identity Structure items (ΔR = .03) retained their significance. The patterns of prediction were generally consistent across the in-service and enlistment-option groups.

In terms of leadership performance, two OBEF measures emerged as strong predictors among the in-service and enlistment-option groups — the Core RBI (ΔR = .21-.28) and Core Work Values (ΔR = .17-.20) measures. For the total sample, a number of other OBEF measures had statistically significant incremental validity estimates, including the Experimental RBI (ΔR = .18) and Experimental Work Values (ΔR = .25) measures, the Army Identity Structure (ΔR = .15) items, and the Affect scales (ΔR = .13). The large difference between the in-service and enlistment-option results compared to the overall sample suggests that the larger corrected AFQT estimates lowered the incremental validity estimates within these two subgroups. As the corrected versions of the AFQT estimates are more likely to be closer to the "true" population estimate, the results for the Core RBI and Core Work Values measures are more likely to remain stable in an operational setting.

Across the in-service and enlistment-option groups, only one OBEF measure reliably predicted fitness performance — the Core RBI scales (ΔR = .41-.54). However, four more measures — Experimental RBI (ΔR = .30-.43), Core and Experimental Work Values (ΔR = .18-.21 and ΔR = .23-34), and Army Identification (ΔR = .05-.19) — also had high estimates. The estimates for the total sample were statistically significant for the Experimental RBI (ΔR = .14) and Army Identity Structure (ΔR = .14) scales.

Table 7.3. Multivariate Correlations between OBEF Predictor Measures and Performance Criteria by Pre-Service Status

Predictor/Scale	In-Service (Corrected)				Enlistment-Option (Corrected)				Total (Uncorrected)			
	n	AFQT Only	AFQT + Predictor	ΔR	*n*	AFQT Only	AFQT + Predictor	ΔR	*n*	AFQT Only	AFQT + Predictor	ΔR
OCS: Academic Performance												
RBI — Core	222	**.37**	**.47**	**.10**	212	**.60**	**.67**	**.06**	527	**.31**	**.35**	.04
RBI — Experimental	56	**.37**	**.58**	**.20**	55	**.60**	**.67**	.06	137	**.31**	.35	.04
Work Values — Core	208	**.37**	**.42**	**.04**	203	**.60**	**.64**	**.04**	511	**.30**	**.34**	**.04**
Work Values — Experimental	150	**.37**	**.44**	**.07**	148	**.60**	**.90**	**.29**	367	**.31**	.38	.07
Situational Judgment Test	125	**.37**	**.43**	**.06**	117	**.60**	**.65**	**.05**	286	**.33**	**.40**	**.07**
Army Identity Structure	150	**.37**	**.42**	**.05**	149	**.60**	**.62**	**.01**	372	**.31**	**.34**	**.03**
Need for Organizational ID	151	**.37**	**.37**	.00	149	**.60**	.61	.00	373	**.31**	.31	.00
Affect	151	**.37**	**.39**	.02	149	**.60**	.61	.01	373	**.31**	.33	.02
OCS: Leadership Performance												
RBI — Core	222	.13	**.34**	**.21**	212	**.19**	**.47**	**.28**	527	.00	**.29**	**.29**
RBI — Experimental	56	.13	.38	.25	55	.19	.45	.26	137	**.19**	**.37**	**.18**
Work Values — Core	208	.13	**.33**	**.20**	203	**.19**	**.36**	**.17**	511	.07	**.24**	**.17**
Work Values — Experimental	150	.13	.33	.21	148	**.19**	.38	.19	367	.03	**.29**	**.25**
Situational Judgment Test	125	.13	.17	.04	117	**.19**	.21	.02	286	.07	.11	.04
Army Identity Structure	150	.13	.24	.11	149	**.19**	**.29**	.10	372	.03	**.18**	**.15**
Need for Organizational ID	151	.13	.19	.06	149	**.19**	.19	.00	373	.03	.09	.07
Affect	151	.13	.22	.09	149	**.19**	**.24**	.05	373	.03	**.16**	**.13**
OCS: Fitness Performance												
RBI — Core	222	.05	**.46**	**.41**	212	.01	**.55**	**.54**	527	.02	**.47**	**.45**
RBI — Experimental	56	.05	.35	.30	55	.01	.44	.43	137	**.23**	**.37**	**.14**
Work Values — Core	208	.05	.23	.18	203	.01	.22	.21	511	.05	.17	.12
Work Values — Experimental	150	.05	.28	.23	148	.01	.35	.34	367	.01	.24	.23
Situational Judgment Test	125	.05	.13	.08	117	.01	.02	.01	286	.09	.09	.01
Army Identity Structure	150	.05	.10	.05	149	.01	.20	.19	372	.02	**.17**	**.14**
Need for Organizational ID	151	.05	.07	.02	149	.01	.03	.02	373	.01	.02	.01
Affect	151	.05	.07	.02	149	.01	.15	.14	373	.01	.08	.06
OCS: Overall Performance												
RBI — Core	222	**.20**	**.47**	**.27**	212	**.25**	**.55**	**.30**	527	.08	**.40**	**.31**
RBI — Experimental	56	.20	.42	.22	55	.25	**.51**	**.26**	137	**.18**	**.35**	**.17**
Work Values — Core	208	**.20**	**.33**	**.13**	203	.25	**.35**	**.10**	511	.00	**.19**	**.19**
Work Values — Experimental	150	**.20**	.35	.15	148	.25	.36	.11	367	.07	.27	.20
Situational Judgment Test	125	**.20**	**.26**	.06	117	**.25**	**.28**	.03	286	.03	.13	**.10**
Army Identity Structure	150	**.20**	**.28**	**.08**	149	**.25**	.33	.07	372	.08	**.23**	**.15**
Need for Organizational ID	151	**.20**	**.23**	.03	149	**.25**	.26	.01	373	.08	.09	.02
Affect	151	**.20**	**.26**	.06	149	**.25**	.30	.04	373	.08	**.18**	**.10**

Note. Regression estimates in bold are statistically significant, $p < .05$. Pairwise deletion was used to account for missing data for the corrected estimates, while listwise deletion was used for the uncorrected estimates. Corrections were made to the AFQT estimates for multivariate range restriction, with the in-service sample corrected to the NLSY97 "some college" population and the enlistment-option sample corrected to the NLSY97 "college graduate" sample.

Finally, in terms of predicting overall performance during OCS, two OBEF measures predicted the most variance in the in-service group — the Core RBI ($\Delta R = .27$) and Core Work Values ($\Delta R = .13$) scales. The Army Identity Structure scales coefficient was also statistically significant ($\Delta R = .08$). For the enlistment-option group, again the Core RBI ($\Delta R = .30$) and Core Work Values ($\Delta R = .10$) scales predicted a significant amount of variance. The Experimental RBI scales also predicted a significant amount of variance in overall performance within the enlistment-option sample ($\Delta R = .26$). For the overall sample, the same four scales had significant incremental validity coefficients, as did the Situational Judgment Test ($\Delta R = .10$), the Army Identity Structure items ($\Delta R = .15$), and the Affect scales ($\Delta R = .10$).

In summary, the above results suggest a number of OBEF measures would predict candidate affective commitment, Army career intentions, and OCS performance beyond the AFQT in an operational setting. These measures, along with the AFQT, could be used to recruit or select Soldiers or college graduates with the most potential for success in OCS. Attention is now turned toward the individual scales within these measures that can be used to form a composite for recruitment and selection purposes.

From the multivariate results above, two OBEF measures stand out for the purpose of developing an OCS predictor composite: (a) the Core RBI scales, and (b) the Core Work Values scales. The reason for focusing on these measures is twofold. First, these measures were two of the most consistent predictors of performance, affective commitment, and Regular Army career intentions among all of the OBEF predictors. The second reason is more pragmatic — these two measures were administered to more candidates than most of the other measures. Therefore, the estimates from these two measures are more likely to remain stable in an operational setting than the estimates for other measures because the results are more likely to be due to true relationships among the constructs as opposed to measurement error. Also, combining these measures would result in more statistical power than combinations of other measures.

OBEF Sample Predictor Composites

The results of the multivariate analyses of the OBEF predictor measures suggested that (a) separate predictor composites should be developed for the in-service and enlistment-option samples and (b) the composites should focus on the Core RBI and Core Work Values measures. Separate composites should be developed for the enlistment-option and in-service populations because the validity results above, as well as the subgroup difference analyses presented in previous chapters, suggest there may be points of divergence in predicting key outcomes. Another reason to form separate composites is current operational procedure. The in-service and enlistment-option candidates are recruited and selected using entirely different procedures (see Chapter 2), thus it makes sense to have separate composites for the two populations.

Two sets of analyses were conducted to select the Core RBI and Core Work Values scales for the in-service and enlistment-option samples: (a) correlational analyses to determine the direction of the relationship of each scale with the criteria, and (b) relative importance analyses to determine the relative contribution of each scale across the two measures in a predictor composite. Once formed, we conducted descriptive, subgroup difference, validity analyses and also prepared expectancy charts to illustrate the validity of the composites.

Correlational Analyses

Pearson product-moment correlation coefficients were calculated to determine the most promising scales in the Core RBI and Core Work Values measures. While the correlations of most interest are reported here, a full treatment of all of the predictor scales and all potential criterion measures can be found in Appendix B. Table 7.4 presents the results of the correlations between the Core RBI scales and the criteria of interest. Results suggested that the RBI scales were better able to predict enlistment-option candidate performance than in-service candidate performance. For the enlistment-option sample, the scales that stood out as performance predictors were Peer Leadership (Mean r = .13), Achievement (Mean r = .13), Fitness Motivation (Mean r = .34), and Self-Efficacy (Mean r = .15). The Traditional Values (academic) and Stress Tolerance (fitness) scales also predicted one aspect of candidate performance each. Only Fitness Motivation (Mean r = .28), Traditional Values (Mean r = .13), Continuance Commitment (Mean r = -.10), and Lie (Mean r = .01) scales predicted performance in the in-service sample. However, each of the latter three scales was only significantly correlated with one performance dimension, and the last two were not in the theoretically expected direction.

A number of the Core RBI scales predicted candidate attitudes and career intentions at the beginning and end of class. For both samples, the strongest predictor was the Army Affective Commitment scale. Examining in-service affective commitment more closely, the Peer Leadership (Mean r = .22), Achievement (Mean r = .33), Hostility to Authority (Mean r = -.17), and Self-Efficacy (Mean r = .27) scales also predicted this criterion. For enlistment-option candidates, Peer Leadership (Mean r = .17) and Achievement (Mean r = .21) also predicted affective commitment, but Stress Tolerance (Mean r = .23) performed better than the other two scales. Peer Leadership (Mean r = .19) was again a strong predictor of in-service candidate career intentions, as were the Stress Tolerance (Mean r = .14) and Continuance Commitment (Mean r = .40) scales. For enlistment-option candidates, Achievement (Mean r = .20), Stress Tolerance (Mean r = .23), and Hostility to Authority (Mean r = -.27) were also strong predictors. The Lie (Mean r = .17) scale also predicted enlistment-option candidate career intentions, suggesting that social desirability may predict candidate career intentions out of a desire for positive self-presentation.

Table 7.5 presents the correlations between the Work Values predictor scales and the criterion measures. While there are a number of significant correlations, many of them are not in the theoretically expected direction. For example, a number of the Work Values scales are negatively correlated with academic performance in the in-service sample. Because there is little theoretical reason to expect that preferences for dimension such as leadership, job security, and benevolence would negatively predict academic performance, these results are unlikely to carry over to an operational setting. The more probable explanation for these significant correlations is a shared relationship with some unknown third variable. For this reason, significant correlations that are not theoretically consistent with the scale by criterion relationship were given less consideration for the purposes of developing a predictor composite. Additionally, there are a number of Work Values scales that predicted the concurrent (i.e., beginning of class) measures of candidate affective commitment and career intentions (see, for example, the Rugged Leadership and Teamwork scales for the enlistment-option sample), but not the predictive (i.e., end of class) measures. These results also received less attention as the end-of-class versions were of primary interest.

Table 7.4. Bivariate Correlations between the Core RBI Scales and Select Criteria by Pre-Service Status

Predictor/Scale	AC - BOC	AC - EOC	CI - BOC	CI - EOC	ACD	LDR	FIT	TOT
			In-Service					
Peer Leadership	**.17**	**.28**	**.20**	**.18**	.10	.08	.03	.08
Achievement	**.34**	**.32**	**.16**	.10	-.10	-.08	.02	-.08
Fitness Motivation	-.06	**.18**	-.01	.00	.11	**.26**	**.40**	**.37**
Stress Tolerance	.11	**.18**	**.14**	**.15**	.08	.09	.06	.10
Hostility to Authority	**-.21**	**-.14**	**-.13**	-.13	-.02	-.02	.04	.00
Self-Efficacy	**.24**	**.31**	**.22**	.16	-.11	.00	.02	-.03
Army Affective Commitment	**.44**	**.59**	**.38**	**.42**	-.04	-.05	-.06	-.06
Continuance Commitment	.02	.12	**.17**	**.20**	-.05	-.06	**-.17**	-.13
Traditional Values	-.04	.07	-.10	-.09	**.23**	.09	.07	.13
Lie Scale	.01	.06	**.13**	.09	-.09	-.04	**.14**	.01
			Enlistment-Option					
Peer Leadership	**.16**	**.19**	**.16**	.08	.01	**.19**	**.15**	**.17**
Achievement	**.17**	**.25**	**.18**	**.22**	.08	**.15**	.12	**.17**
Fitness Motivation	.10	.14	.06	.08	-.02	**.39**	**.54**	**.46**
Stress Tolerance	**.28**	**.19**	**.17**	**.30**	-.03	.10	**.14**	.11
Hostility to Authority	-.02	-.08	**-.20**	**-.34**	-.03	-.04	-.02	-.05
Self-Efficacy	**.20**	.12	**.11**	.09	-.04	**.21**	**.24**	**.21**
Army Affective Commitment	**.56**	**.57**	**.46**	**.45**	-.02	.13	.07	.10
Continuance Commitment	-.02	-.04	**.21**	.05	-.10	-.13	-.01	-.08
Traditional Values	.06	.02	.08	-.06	.05	**.17**	.02	.11
Lie Scale	**.13**	.07	**.15**	**.20**	.02	-.02	.03	.00
			Total					
Peer Leadership	**.16**	**.21**	**.15**	.09	.03	**.09**	.07	**.09**
Achievement	**.25**	**.26**	**.14**	**.12**	-.05	.04	**.09**	.06
Fitness Motivation	.04	**.13**	-.01	-.02	.03	**.28**	**.46**	**.38**
Stress Tolerance	**.16**	**.14**	**.10**	**.13**	.03	.05	.06	.06
Hostility to Authority	**-.12**	**-.11**	**-.20**	**-.23**	.01	-.04	.02	-.02
Self-Efficacy	**.23**	**.21**	**.18**	**.14**	**-.09**	**.10**	**.13**	**.09**
Army Affective Commitment	**.48**	**.57**	**.36**	**.36**	-.05	.03	.01	.02
Continuance Commitment	.05	.07	**.24**	**.18**	-.07	-.06	-.08	-.08
Traditional Values	.03	.03	**-.11**	**-.12**	**.15**	.04	.02	.06
Lie Scale	**.08**	.05	**.14**	**.10**	-.05	-.01	.07	.02

Note. In-service *n* = 220-534, Enlistment-option *n* = 163-509, Total *n* = 479-1,298. Correlations in bold are statistically significant, *p* < .05. AC - BOC = Affective Commitment assessed at the beginning of class; AC - EOC = Affective Commitment assessed at the end of class; CI - BOC = Career Intentions assessed at the beginning of class; CI = EOC = Career Intentions assessed at the end of class; ACD = Academic Performance Score; LDR = Leadership Performance Score; FIT = Fitness Performance Score; TOT = Total OCS Performance Score.

Table 7.5. Bivariate Correlations between the Core Work Values Scales and Select Criteria by Pre-Service Status

Predictor/Scale	AC - BOC	AC - EOC	CI - BOC	CI - EOC	ACD	LDR	FIT	TOT
			In-Service					
Rugged Team Leadership	**.17**	**.21**	**.17**	.05	**-.22**	.04	.01	-.02
Rugged Leadership	**.15**	.14	**.15**	.02	**-.18**	.04	.06	.01
Teamwork	**.16**	**.28**	**.17**	.08	**-.24**	.04	-.07	-.05
Flexibility/Choice	**-.14**	**-.17**	**-.13**	**-.24**	-.12	-.02	-.02	-.04
Job Security	.03	.04	.07	-.05	**-.18**	-.01	-.02	-.04
Structure/Recognition	.04	.05	.04	.03	**-.27**	**-.18**	-.05	**-.19**
Altruism/Benevolence	**.20**	**.25**	.08	.04	**-.16**	.13	.11	.10
Skill Development	**.11**	.06	.07	.05	-.06	-.02	.04	.00
			Enlistment-Option					
Rugged Team Leadership	**.16**	.09	**.19**	.04	-.07	.11	.04	.05
Rugged Leadership	**.16**	.10	**.16**	.03	-.07	**.17**	.10	.10
Teamwork	**.11**	.06	**.19**	.05	-.05	-.01	-.06	-.05
Flexibility/Choice	**-.27**	**-.24**	**-.16**	**-.27**	-.02	-.10	-.05	-.08
Job Security	.02	.10	**.18**	**.16**	**-.18**	-.06	-.05	-.10
Structure/Recognition	.00	.06	**.10**	.09	-.03	-.04	.01	-.02
Altruism/Benevolence	**.12**	.13	**.12**	.02	-.06	.03	-.07	-.03
Skill Development	.06	.05	**.11**	.03	.01	.03	.01	.02
			Total					
Rugged Team Leadership	**.18**	**.15**	**.18**	.04	**-.09**	**.10**	.06	.06
Rugged Leadership	**.16**	**.11**	**.15**	.01	-.08	**.13**	**.11**	**.10**
Teamwork	**.15**	**.17**	**.18**	.07	-.08	.04	-.03	-.01
Flexibility/Choice	**-.16**	**-.19**	**-.12**	**-.23**	-.06	.00	.02	.00
Job Security	.04	.07	**.17**	**.14**	**-.18**	.00	-.03	-.04
Structure/Recognition	.03	.04	.04	.04	**-.15**	**-.11**	.00	**-.10**
Altruism/Benevolence	**.16**	**.16**	**.07**	-.02	**-.09**	.08	.05	.06
Skill Development	**.10**	.07	**.12**	.05	.00	.02	.04	.03

Note. In-service *n* = 209-396, Enlistment-option *n* = 158-367, Total *n* = 479-966. Correlations in bold are statistically significant, *p* < .05. AC - BOC = Affective Commitment assessed at the beginning of class; AC - EOC = Affective Commitment assessed at the end of class; CI - BOC = Career Intentions assessed at the beginning of class; CI = EOC = Career Intentions assessed at the end of class; ACD = Academic Performance Score; LDR = Leadership Performance Score; FIT = Fitness Performance Score; TOT = Total OCS Performance Score.

For the in-service sample, results suggested that the Structure/Recognition (Mean *r* = -.09) was negatively correlated with candidate academic, leadership, and overall performance. This suggests that in-service candidates who value frequent direction and recognition in their work are more likely to perform poorly on academic and leadership tasks. Additionally, in-service candidates who value flexibility, independent work, and personal time (i.e., the Flexibility/Choice scale, Mean *r* = -.17) in their work had shorter career intentions and lower affective commitment than candidates who placed less importance on these values. In-service candidates that valued Teamwork (Mean *r* = .22) and Team Leadership (Mean *r* = .19) reported higher affective commitment to the Army than candidates who rated these values as less important. As with the in-service candidates, enlistment-option candidates who rated Flexibility and Choice (Mean *r* = -.23) as important work values had shorter career intentions and lower affective commitment to the Army than candidates that rated these as less important. By contrast,

candidates who valued Job Security (Mean $r = .17$) had longer career intentions in the enlistment-option sample. However, Job Security was also negatively related to academic performance ($r = -.18$) in both samples and in the total sample. Finally, enlistment-option candidates that valued Rugged Leadership ($r = .17$) received higher leadership performance scores than those that rated Rugged Leadership as less important to them.

In summary, the correlational results suggested that a number of Core RBI and Core Work Values scales would have utility for predicting candidate performance, attitudes, and retention intentions in an operational setting. Each has the potential to contribute unique variance to the criteria of interest. While some of these scales predicted criteria in both the in-service and enlistment-option samples, others had more predictive utility for one group or another. The relative importance of these predictors in formulating a composite is described next.

Analyses to Select the Best Scales for Inclusion in the Composite

When developing a composite predictor measure, we strive to achieve the maximum amount of predictive validity while at the same time minimizing the number of individual scales included in the composite. There are multiple reasons for doing this rather than including all possible predictors scales, chief among them is to reduce the amount of error variance included in the developed composite. For this reason, it is important to select the predictors that are most important to the prediction of the criteria relative to the other potential predictors as well as the absolute importance (represented by the correlation coefficients presented previously). The correlations among the RBI predictor scales appear in Appendix C. We used two types of analyses to determine the relative importance of the Core RBI and Core Work Values scales. First, we computed the change in multivariate R when the predictor scale of interest was included and excluded from a model that contained all of the scales from these two measures. An OLS regression model was computed for each criterion of interest that included AFQT in the first step and all of the predictor scales from the two measures in the second step. Then, the model was recomputed with each predictor scale excluded. The decrease in R in the second step was used to evaluate the relative importance of a scale.

The second analysis we computed was best subsets regression. Best subsets regression computes all possible combinations of a set of predictor scales. These models can then be evaluated by some diagnostic statistic, in this case Mallows' C_p (Mallows, 1973). We counted the number of times a particular scale was included in one of the top 10 regression models (rank-ordered using the computed Mallows' C_p statistic) and used this to evaluate the relative importance of that scale. To simplify these analyses, one criterion measure was chosen for each aspect of the criterion space of interest: (a) EOC affective commitment,[5] (b) EOC Regular Army career intentions, and (c) total OCS performance.

The results of these analyses are summarized in Table 7.6. Overall, it appears that the number of scales predicting criterion scores was greater for the in-service sample than for the enlistment-option sample, when taking into account AFQT. This is evidenced by the average number of scales

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[5] The Army Affective Commitment RBI scale was excluded from the analyses involving the affective commitment criterion due to content overlap that led to spuriously high correlations. These high correlations masked the effects of the other predictors on the affective commitment criterion.

included in the top 10 best subsets regression analyses, which was 6.00 for the in-service sample and 4.07 for the enlistment-option sample. The most difficult criterion measure to predict beyond AFQT was candidate OCS Performance. One scale, Fitness Motivation, predicted candidate performance in both samples, while two more scales, Continuance Commitment and Structure/Recognition, predicted OCS performance in the in-service sample.

Four additional OBEF scales were relatively important in predicting affective commitment and career intentions in both samples: (a) Achievement, (b) Stress Tolerance, (c) Flexibility/Choice, and (d) Structure/Recognition. Three additional scales predicted these criteria in the in-service sample, but not the enlistment-option: (a) Self-Efficacy, (b) Skill Development, and (c) Continuance Commitment. While the Continuance Commitment scale predicted candidate attitudes, Army career intentions, and OCS performance, the regression weights suggested it positively predicted the first two ($\beta = .21$ and $.18$) and negatively predicted the third ($\beta = -.05$). This conclusion is supported by the bivariate correlations presented in Table 7.3. Continuance Commitment was thus not included in the composite for the in-service sample, because it is unclear whether it should be added or subtracted from the other scales.

Two scales predicted candidate attitudes and career intentions in the enlistment-option sample, but not the in-service sample. These were the Altruism/Benevolence and Hostility to Authority scales. The remaining scales did not predict candidate affective commitment, Regular Army career intentions, or OCS performance relative to the other OBEF predictor scales included in this analysis. The scales with the highest relative importance for the two groups were included in the predictor composites.

Scoring of the OBEF Predictor Composites

The in-service OBEF composite was comprised of five positively valenced scales and two negatively valenced scales. It can be represented with the following formula:

In-Service OBEF Composite = Achievement + Fitness Motivation + Stress Tolerance + Self-Efficacy + Skill Development — Flexibility/Choice — Structure/Recognition

The enlistment-option OBEF composite included four positively valenced scales and three negatively valenced scales. It can be represented with the following formula:

Enlistment-option OBEF Composite = Achievement + Fitness Motivation + Stress Tolerance + Altruism/Benevolence — Hostility to Authority — Flexibility/Choice — Structure/Recognition

Psychometric Properties of the OBEF Predictor Composites

Reliability and Descriptive Statistics

The descriptive statistics and reliability estimates for the in-service and enlistment-option composites are presented in Table 7.7. Because these scores were composites and not measuring a single underlying construct, Nunnally's (1967) estimate was used to compute reliability. The reliability of both composites was acceptable. Both scales were also positively skewed, but only to a small extent.

Table 7.6. Relative Importance of Core RBI and Core Work Values Scales in Predicting Select Criteria

Predictor/Scale	Affective Commitment			Career Intentions			Total OCS Performance		
	β	—ΔR	T10	β	—ΔR	T10	β	—ΔR	T10
In-Service (*n* = 145-158)									
Core RBI Scales									
Peer Leadership	.165	.015	0	.110	.006	0	.103	.006	0
Achievement	.177	.013	4	-.181	.012	10	-.291	.034	0
Fitness Motivation	.038	.001	0	-.024	.000	0	.427	.139	10
Stress Tolerance	.120	.008	6	.056	.002	10	.018	.000	0
Hostility to Authority	-.015	.000	0	.010	.000	0	-.081	.004	3
Self-Efficacy	.076	.003	10	.099	.004	6	-.138	.009	0
Army Affective Com.	--	--	--	.397	.085	10	-.063	.002	0
Continuance Com.	.208	.032	10	.175	.020	10	-.053	.002	7
Traditional Values	.057	.002	0	-.107	.008	5	.077	-.039	1
Core Work Values Scales									
Rugged Leadership	-.106	.004	0	-.071	.002	1	-.027	.000	0
Teamwork	.247	.026	5	-.062	.001	0	-.006	.000	0
Flexibility/Choice	-.143	.013	10	-.163	.015	7	.012	.000	1
Job Security	.015	.000	0	-.062	.002	6	.080	.004	2
Structure/Recognition	-.018	.000	0	-.035	.001	0	-.285	.040	10
Altruism/Benevolence	.162	.012	10	-.048	.001	0	.260	.030	2
Skill Development	-.219	.020	4	.159	.009	10	.117	.006	0
Enlistment-Option (*n* = 107-148)									
Core RBI Scales									
Peer Leadership	.047	.001	1	-.071	.002	2	.028	.001	1
Achievement	.176	.022	3	.159	.012	2	.090	.005	0
Fitness Motivation	.051	.002	0	.024	.000	0	.432	.154	10
Stress Tolerance	.115	.010	6	.127	.008	10	-.042	.002	1
Hostility to Authority	.031	.000	0	-.246	.035	10	-.034	.001	1
Self-Efficacy	-.058	.002	0	-.068	.002	0	.028	.001	0
Army Affective Com.	--	--	--	.362	.073	10	.062	.003	0
Continuance Com.	-.081	.005	0	-.039	.000	0	.088	.006	1
Traditional Values	-.040	.001	0	-.196	.025	0	.032	-.081	1
Core Work Values Scales									
Rugged Leadership	.052	.001	1	.026	.000	0	.068	.002	2
Teamwork	-.083	.004	0	-.048	.001	0	-.112	.007	0
Flexibility/Choice	-.297	.080	10	-.180	.017	6	-.020	.001	2
Job Security	.121	.010	1	.140	.009	2	-.071	.003	0
Structure/Recognition	.085	.005	8	.118	.006	8	.031	.001	0
Altruism/Benevolence	.121	.009	9	-.106	.004	2	-.102	.006	1
Skill Development	-.046	.001	1	-.042	.000	0	-.008	.000	0

Note. β = standardized regression weight when the predictor is entered with all of the other predictors in the second step of an OLS regression analysis, —ΔR = the decrease in R when the scale is taken out of the OLS regression analysis, T10 = The number of times the scale is included in the top 10 best subsets regression models, as determined using Mallow's C_p. Listwise deletion was used for the T10 analyses, while pairwise was used for the β and —ΔR analyses.

Table 7.7. OBEF Composite Variable Descriptive Statistics

Scale/Predictor	n	M	SD	skew	r_{yy}
In-Service OBEF Composite	247	12.44	1.95	0.10	.79
Enlistment-option OBEF Composite	220	6.52	1.98	0.30	.79

Note. r_{yy} = Reliability estimate of a composite score (Nunnally, 1967). Descriptive statistics computed on the relevant samples; In-Service OBEF Composite descriptive statistics were only computed on in-service candidates, Enlistment-option OBEF Composite descriptive statistics were only computed on enlistment-option candidates.

Subgroup Differences

The gender and racial subgroup differences are presented in Tables 7.8 and 7.9. Regarding race/ethnicity, sample sizes for Hispanics and Asians were too small for subgroup comparisons (i.e., less than 30); Black-White differences were small and insignificant. There was a significant, moderate difference between males and females on the in-service composite.

Table 7.8. In-Service and Enlistment-option OBEF Composite Race and Ethnicity Subgroup Differences

	White (W)		Black (B)		B-W
Scale/Predictor	M	SD	M	SD	d
In-Service OBEF Composite	12.56	1.84	12.61	2.11	0.03
Enlistment-option OBEF Composite	6.58	2.02	6.32	1.65	-0.13

Note. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$ where White is the referent group. Sample sizes: White n = 118-165; Black n = 14-93. Coefficients in bold are statistically significant using an independent samples t-test ($p < .05$).

Table 7.9. In-Service and Enlistment-option OBEF Composite Gender Subgroup Differences

	Male (M)		Female (F)		F-M
Scale/Predictor	M	SD	M	SD	d
In-Service OBEF Composite	12.63	1.93	11.87	1.93	**-0.39**
Enlistment-option OBEF Composite	6.57	1.99	6.28	2.04	-0.15

Note. $d = (M_{COMPARISON} - M_{REFERENT})/SD_{REFERENT}$) where Males are the referent group. Sample sizes: Male n = 179-186; Female n = 38-61. Coefficients in bold are statistically significant using an independent samples t-test ($p < .05$).

Validity Evidence

Table 7.10 presents the validity coefficients for the OBEF composites. Overall, the results suggest that the composites predict significant variance in the key criteria of interest. The most notable finding is that the two composites achieve comparable levels of prediction across different criterion variables. Many of the patterns of relationships already discussed hold true here too. For example, the OBEF did a better job of predicting attitudes at the end of class than at the beginning. Also important, the partial correlations indicate that the OBEF provides prediction

beyond that provided by the AFQT. Future research should confirm these results by cross-validating these composites with another OCS sample.

Table 7.10. Bivariate Correlations between the In-Service and Enlistment-option OBEF Composites and Criteria

Predictor/Scale	Affective Commitment		Career Intentions		OCS Performance Scores			
	BOC	EOC	BOC	EOC	Academic	Leadership	Fitness	Total
	Bivariate Correlations							
In-Service OBEF Composite	**.22**	**.33**	**.21**	**.23**	**.16**	**.24**	**.24**	**.29**
Enlistment-option OBEF Composite	**.24**	**.26**	**.15**	**.28**	-.00	**.34**	**.29**	**.33**
	Partial Correlations							
In-Service OBEF Composite	**.23**	**.35**	**.28**	**.29**	.13	**.25**	**.25**	**.29**
Enlistment-option OBEF Composite	**.25**	**.28**	**.21**	**.35**	-.04	**.35**	**.29**	**.33**

Note. In-service OBEF n =150-245, Enlistment-option OBEF n = 104-220. Correlations in bold are statistically significant, $p < .05$. BOC = assessed at the beginning of class; EOC = assessed at the end of class. Partial correlations control for the uncorrected variance in the AFQT.

The Role of Non-OBEF Factors

In addition to the measures administered with the OBEF, a number of non-experimental control measures were also administered as part of the demographics form at the beginning of class. With the exception of the Branch Satisfaction variable, the variables included in this analysis were summarized in Table 2.1 in Chapter 2. The Branch Satisfaction variable was described in Chapter 6 (see Table 6.3). Finally, Branch Congruence was computed by taking candidates preferred branch assignment, collected at the beginning of class, and their actual branch assignment, collected at the end of class. Candidates that received one of their preferred branch assignments received a 1 on Branch Congruence; candidates who did not receive one of their preferred branch assignments received a 0. The relationship between these variables and the criteria of interest was determined using partial correlations that control for AFQT score, corrected for multivariate range restriction. These results are presented in Table 7.11.

A number of demographic variables were significantly correlated with the selected criteria in the both subgroups, but particularly in the in-service sample. Candidate time in service in particular was positively correlated with nearly all criteria in this sample, while time deployed predicted leadership and total OCS performance. Additionally, age and number of children was positively correlated with affective commitment to the Army and Regular Army career intentions. For the enlistment-option sample, education was positively related to career intentions and academic performance, and age was also positively related to career intentions. Branch satisfaction was positively correlated with enlistment-option candidate affective commitment to the Army and fitness performance. Because the enlistment-option candidates had all accessed recently into the Army, time in service and time deployed could not be computed.

Table 7.11. Partial Correlations between Demographics and Select Criteria by Pre-Service Status

Predictor/Scale	AC - BOC	AC - EOC	CI - BOC	CI - EOC	ACD	LDR	FIT	TOT
In-Service (*n* = 46-496)								
Education	-.01	.08	**-.11**	-.02	.01	**-.16**	-.05	-.12
Undergraduate GPA	-.02	.12	.03	**.16**	.05	.00	.04	.02
Number of Children	.06	**.15**	**.19**	.12	.08	**.16**	-.09	.08
Age	.04	**.13**	**.22**	**.21**	-.04	.04	-.03	.01
Time in Service	**.11**	**.17**	**.44**	**.45**	**.16**	**.22**	-.02	**.18**
Time Deployed	.03	.12	.06	-.01	-.01	**.22**	-.01	**.15**
Branch Congruence	**-.23**	-.10	-.07	.01	.07	.14	.12	**.18**
Branch Satisfaction	.04	**.16**	.06	.15	.03	-.19	-.15	-.19
Reasons for Applying to OCS								
Serve my country	**.25**	**.27**	**.11**	**.17**	-.06	.06	-.02	.02
Pay off debts	-.06	-.03	**-.17**	**-.13**	-.07	-.10	-.02	-.08
Lack civilian opportunities	-.08	-.04	**-.21**	**-.17**	-.01	**-.13**	-.02	-.10
Retirement benefits	.07	**.18**	**.27**	**.28**	.03	.08	-.01	.06
Build a resume	-.09	**-.15**	**-.17**	**-.16**	-.02	.01	.08	.04
Gain leadership experience	.10	.07	.04	-.03	**-.13**	-.01	.06	.00
Please friends or family	-.02	**.17**	.02	.05	-.06	.00	.03	.01
Enlistment-Option (*n* = 59-495)								
Education	-.08	.07	-.02	**.16**	**.12**	-.01	-.04	.01
Undergraduate GPA	.01	-.02	.08	-.04	.08	.01	.08	.06
Number of Children	-.02	.03	.07	.11	.01	-.01	-.06	-.02
Age	.06	.08	.08	**.25**	-.06	-.06	.04	.00
Time in Service	.	.	.	.	.	.	.	.
Time Deployed	.	.	.	.	.	.	.	.
Branch Congruence	.02	-.09	.10	-.03	-.16	.06	.08	.02
Branch Satisfaction	.17	**.24**	.00	.04	.02	.05	**.35**	.19
Reasons for Applying to OCS								
Serve my country	**.23**	**.27**	**.18**	**.17**	-.08	.07	-.07	-.01
Pay off debts	.02	-.01	-.07	.01	.05	-.05	-.12	-.08
Lack civilian opportunities	-.05	-.13	-.07	**-.20**	-.01	-.08	-.10	-.08
Retirement benefits	.09	-.01	**.35**	**.20**	.09	.02	.03	.04
Build a resume	**-.15**	-.11	**-.32**	**-.32**	**.13**	.05	.06	.09
Gain leadership experience	.07	**.15**	-.02	.06	.12	.01	-.05	-.01
Please friends or family	-.02	.03	.01	.09	-.03	.03	.04	.03
Total (*n* = 134-1,219)								
Education	-.04	.06	**-.09**	.03	-.01	-.07	-.04	-.05
Undergraduate GPA	-.02	.03	**.06**	**.11**	**.08**	.02	.03	.04
Number of Children	.02	.08	**.24**	**.20**	.07	**.18**	-.01	**.14**
Age	.03	**.11**	**.24**	**.29**	-.06	.07	.06	.07
Time in Service	**.11**	**.12**	**.38**	**.37**	.07	.09	-.04	.05
Time Deployed	.02	.10	.06	-.02	-.08	**.15**	.03	.10
Branch Congruence	**-.15**	**-.11**	-.03	-.05	.05	.06	**.12**	.10
Branch Satisfaction	.07	**.18**	.01	.07	.03	-.14	.04	-.08
Reasons for Applying to OCS								
Serve my country	**.24**	**.25**	**.10**	**.11**	-.04	.07	-.05	.01
Pay off debts	.01	-.01	**-.12**	**-.09**	**-.10**	**-.13**	**-.10**	**-.14**
Lack civilian opportunities	-.04	-.04	**-.13**	**-.13**	-.06	**-.13**	-.07	**-.12**
Retirement benefits	**.08**	**.12**	**.36**	**.30**	.00	**.08**	-.01	.05
Build a resume	**-.08**	**-.14**	**-.23**	**-.23**	.00	.00	.04	.01
Gain leadership experience	**.12**	**.11**	-.01	-.01	**-.08**	-.03	.00	-.04
Please friends or family	.00	**.12**	.01	.05	-.07	.01	.02	.01

Note. Correlations control for AFQT, corrected for multivariate range restriction. Partial correlations in bold are statistically significant, *p* < .05. AC - BOC = Affective Commitment assessed at the beginning of class; AC - EOC = Affective Commitment assessed at the end of class; CI - BOC = Career Intentions assessed at the beginning of class; CI = EOC = Career Intentions assessed at the end of class; ACD = Academic Performance Score; LDR = Leadership Performance Score; FIT = Fitness Performance Score; TOT = Total OCS Performance Score.

A number of "reasons for applying to OCS" also predicted candidate affective commitment, performance, and Army career intentions. Candidates who rated "serve my country" higher tended to have higher levels of affective commitment to the Army and longer career intentions than candidates who rated that reason as less important in both the in-service and enlistment-option samples. On the other hand, candidates that rated "build a resume" as more important tended to have lower affective commitment to the Army and shorter career intentions. Not surprisingly, the "retirement benefits" reason was also positively correlated with career intentions in both samples. Finally, "pay off debts" was negatively related to candidate career intentions in the in-service sample, but unrelated in the enlistment-option sample.

In summary, these results suggest that

- Candidate demographics were generally unrelated to their performance during OCS. The exceptions to this included (a) time in service and time deployed positively predicted leadership performance in the in-service sample and (b) branch satisfaction was positively related to fitness performance in the enlistment-option sample.

- Candidate demographics, particularly number of children, age, and time in service, predicted their affective commitment to the Army and Army career intentions in the in-service sample. Demographics were generally unrelated to candidate attitudes and career intentions in the enlistment-option sample.

- Candidates' reasons for applying to OCS predicted their affective commitment to the Army and Regular Army career intentions. In particular, "serve my country" was positively related to these criteria in both samples, while "build my resume" was negatively correlated. "Retirement benefits" was positively related to Regular Army career intentions in both samples.

Unlike the OBEF analyses, some of these variables could not be used for candidate selection (e.g., number of dependents) and other variables could potentially be used, but would be very transparent (e.g., serve my country). However, these results have two implications. First, they may help shed some light on the criterion differences reported in Chapter 6 (see Table 6.6). For example, in-service candidates had higher leadership performance scores than enlistment-option candidates; this might be explained by the in-service candidates' time in service and time deployed. Second, the results of the reasons for applying to OCS analyses may suggest the types of Soldiers and college graduates that should be recruited to apply for OCS. Specifically, Soldiers and graduates that value service and making the Army a career should be targeted over Soldiers that value more utilitarian reasons for applying to the Army, such as paying off debts and lacking civilian opportunities. The current results are suggestive, but future research can yield more definitive answers about these causal relationships.

Changes in Candidate Attitudes over Time

As described in Chapter 2 and Chapter 6, some of the EOC attitudinal measures were also administered with the OBEF at the BOC. This allowed us to examine to the changes in candidate attitudes from the beginning to the end of class by computing the scale means at BOC and comparing those to the scale means from EOC. The profile similarities were also computed using Pearson correlations. The results are presented in Table 7.12. On average, candidate attitudes

changed little over time. One notable exception to this was in-service candidate continuance commitment decreased by over one fourth a standard deviation from the beginning to the end of class. The other exception was hybrid candidate affective commitment increased from the beginning to the end of class by over a third of a standard deviation. Finally, the change in affective commitment from BOC to EOC was also statistically significant for the overall sample, but the magnitude of the change was small ($d = .14$).

Summary

The measures included as part of the OBEF were analyzed to determine whether any would be useful in forming a predictor composite for recruiting and selecting OCS candidates beyond the Army's current selection tool — the AFQT. Results suggested a number of these measures could be useful for this purpose. Based on the initial validation results, and practical considerations, the Core RBI and Core Work Values scales were used to formulate two predictor composites — an in-service and enlistment-option version. The composites exhibited acceptable reliability, little skew, and few subgroup differences. Both composites significantly predicted affective commitment, career intentions, OCS leadership scores, OCS fitness scores, and the total OCS score. Additional analyses suggested that the in-service and enlistment-option candidates differed in terms of the demographic characteristics that predicted performance, affective commitment, and career intentions. Finally, with a couple of exceptions, candidate attitudes, such as their affective commitment to the Army, changed little from the beginning to the end of class.

Table 7.12. Differences between BOC and EOC for Common Measures

Predictor/Scale	n	BOC		EOC		t	d	r
		M	SD	M	SD			
In-Service								
Affective Commitment	208	3.64	1.04	3.76	0.76	1.75	0.11	.45
Continuance Commitment	93	3.08	1.11	2.76	1.11	**-3.08**	-0.29	.60
Career Intentions	253	3.95	1.23	3.92	1.25	-0.54	-0.03	.72
Identity Structure	91	50.84	49.94	50.37	53.27	-0.11	-0.01	.68
Enlistment-Option								
Affective Commitment	159	3.66	0.84	3.66	0.75	0.14	0.01	.50
Continuance Commitment	70	2.76	1.13	2.92	1.06	1.35	0.14	.58
Career Intentions	209	2.83	1.23	2.79	1.21	-0.44	-0.03	.60
Identity Structure	70	50.44	43.36	42.59	45.92	-1.43	-0.18	.47
Hybrid								
Affective Commitment	99	3.51	0.93	3.87	0.63	**3.72**	0.39	.27
Continuance Commitment	54	3.06	1.05	2.91	1.02	-1.42	-0.15	.69
Career Intentions	107	3.72	1.10	3.90	1.07	1.77	0.16	.54
Identity Structure	50	36.72	38.40	47.60	47.50	1.74	0.28	.48
Total								
Affective Commitment	476	3.62	0.95	3.75	0.74	**3.17**	0.14	.43
Continuance Commitment	219	2.95	1.11	2.84	1.07	-1.73	-0.10	.60
Career Intentions	582	3.50	1.31	3.51	1.32	0.24	0.01	.69
Identity Structure	212	47.14	45.46	47.60	49.83	0.15	0.01	.56

Note. Cohen's $d = M_{EOC} - M_{BOC}/SD_{BOC}$; dependent samples *t*-test values in bold are statistically significant, $p < .05$. All correlations are significant, $p < .05$.

Chapter 8. Conclusions and Recommendations

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The objectives of this project were two-fold. Given the emerging critical need for more Army officers, both the in-service and enlistment-option programs need to commission officers who are likely to perform well as junior officers, fit well in the Army's culture, demonstrate leadership potential for higher ranks, and stay beyond their initial Active Duty Service Obligation (ADSO). Toward that end, the first objective of this project was to develop and validate a predictor battery that will identify OCS applicants with the most leadership potential, the best fit with the Army, and the greatest likelihood of staying in the Army. While in-service OCS officer retention is high, little is known about the outcomes of the enlistment-option program. Therefore, the second objective of this project was to investigate the outcomes of the two different avenues to OCS.

With those objectives in mind, ARI and HumRRO designed a battery of measures of temperament, affectivity, values, and leadership judgment and administered that test battery (i.e., Officer Background and Experience Form, or OBEF) to all candidates in 10 OCS classes. We also gathered OCS class performance data, attitudinal data and career intentions at the end of each class. This report focuses on six classes which had graduated from the 12-week OCS course at the time of its preparation. Previous chapters have summarized the procedures and results of the data collections. This chapter provides conclusions and recommendations, relating to the two main objectives of the project, based on our findings.

In-Service and Enlistment-Option Outcomes

In-service and enlistment-option candidates differ in many ways. The in-service selection program is managed by the Human Resources Command while enlistment-option candidates are accessed by the U.S. Army Recruiting Command. By nature of their path to OCS, in-service candidates have been in the service a few years and have been deployed. In our sample, they were, on average, 33 years old, and most had at least one child. In contrast, enlistment-option candidates were younger ($m = 27$ years) and typically had no children and no time-in-service. They had more years of education and higher AFQT scores than their in-service counterparts. Seventy-seven percent of the enlistment-option candidates in our sample were White. A larger proportion of in-service candidates was Black (about one-third), and about half was White.

Despite the demographic differences, in-service and enlistment-option candidates were highly similar in terms of their reasons for applying to OCS, temperament, identity, affectivity, values, and leadership judgment.

- *Reasons for applying to OCS.* Both groups rated "serve my country" and "gain leadership experience" as the two most important reasons for applying to OCS. For both groups, the least important reasons for applying were "lack of civilian opportunity" and to "please friends or family."

- *Temperament.* Differences between in-service and enlistment-option candidates' responses to the RBI were typically small and insignificant. The exception being that enlistment-option candidates tended to score higher on the Traditional Values scales and lower on Continuance Commitment relative to in-service candidates.

- *Identity, affectivity, and values.* The few statistically significant differences were not large. However, they showed a pattern likely associated with the age and family embeddedness of the two types of candidates. That is, the in-service candidates consistently rated the values of Job Security, Leader Benevolence, Compensation, Comfort, and Stability (vs. Stimulation) more highly than did their enlistment-option counterparts.

- *Leadership judgment.* Differences between in-service and enlistment-option candidates' scores on the final Situational Judgment Test (SJT) score were not significant.

There were non-trivial differences between the two groups in terms of end-of-class (EOC) OCS performance and career intentions.

- *OCS performance.* Differences on the final APFT score, leadership performance, and the total OCS score were large and significant, with in-service candidates scoring higher than enlistment-option candidates. Differences in academic performance and recycling through OCS were insignificant.

- *Career intentions.* In-service candidates were also much more likely to indicate that they intend to stay in the Army. Even so, differences between the two groups on affective commitment, continuance commitment, and morale were small and typically insignificant.

When the OBEF scales were used to predict OCS performance and career intentions, the in-service and enlistment-option results were remarkably similar. Even so, we found that we could maximize validity if we used slightly different combinations of OBEF scales for the two groups.

Predicting Important Criteria

The most important conclusion about predicting OCS performance and attitudes is that, while the ASVAB is a useful predictor, the OBEF adds validity beyond that provided by the ASVAB for predicting important outcomes. The OBEF scales added significantly to the prediction of affective commitment, career intentions, and OCS scores for leadership, fitness, and the total score. The tables in Chapter 7 provide the specific empirical results.

The expectancy charts (Lawshe & Balma, 1966) in Figures 8.1 and 8.2[6] illustrate the validity of the OBEF for predicting three important criteria—end-of-class affective commitment, end-of-class career intentions, and total OCS performance. Look at Figure 8.1., which provides results for the in-service composite. Each figure displays three charts, one for each of the three criteria. In each chart, the sample has been divided into thirds based on the OBEF score. The charts show that the top third of OBEF scorers also scored high on the criterion. As OBEF scores dropped, so did scores on the criterion variables. This effect is illustrated most dramatically for the total OCS performance score (the last chart in Figures 8.1 and 8.2). The top third OBEF scorers also received very high total OCS performance scores. The bottom third of the OBEF scorers performed poorly in OCS, as measured by the total OCS performance scores. This consistently held true for both the in-service and enlistment-option samples. Taken together, these figures suggest that the OBEF composites are a useful supplement to ASVAB scores in predicting candidate attitudes, Army career intentions, and performance during OCS.

The expectancy charts also suggest a way in which the OBEF might be used. They show that if a cut score were set on the OBEF to eliminate the bottom third of OBEF scorers, the remaining candidates would be the ones who are most likely to (a) be successful in OCS, (b) report high levels of affective commitment, and (c) intend to make the Army their career. Based on this finding, we recommend trial use of the OBEF scales for OCS candidate selection.

Future Directions

As mentioned earlier, this report focuses on a subset of the 10 OCS classes for which graduation data were available. By the time this report is published, data will be available for all classes, and longitudinal follow-up data will be available for a few. The most important next step is to cross-validate the results reported here in the remainder of the OCS classes. In this line, we also recommend examining other promising emerging measures, such as the Tailored Adaptive Personality Assessment System (Ingerick, 2009; Knapp & Heffner, 2009), as either supplements or substitutes for current components of the OBEF.

Another important step is to develop guidelines for using the OBEF for OCS selection, including how and when it would be administered and what the cut scores should be.

A number of other research topics, initiated in this project, need to be explored more fully. For example, a number of experimental scales were included in the OBEF, but since we had not administered them to the full sample, sample sizes were too small to allow their use. We recommend including experimental scales that showed some promise in this study on the operational OBEF for the purpose of eventually determining their validity and usefulness.

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[6] Expectancy charts were created in the following steps: (1) The sample was limited to in-service and enlistment-option Candidates with full data on (a) the Core RBI scales, (b) the Core Work Values scales, and (c) the AFQT. (2) Within each service status subgroup, Candidates were rank-ordered on the OBEF composite score relevant to the sample. (3) For both in-service and enlistment-option samples, Candidates were grouped into top third, middle third, and bottom third groups on their OBEF composite scores. Thirds (as opposed to fourths or deciles) were chosen to keep the sample sizes large enough to make meaningful comparisons. The sample sizes for group of thirds in the in-service sample ranged from $n = 44$ to 66 (total in-service $n = 145$-158), and $n = 31$ to 57 (total enlistment-option $n = 107$-148) for the enlistment-option sample. (4) Means were computed for each group on three criteria interest: (a) EOC affective commitment, (b) EOC Regular Army career intentions, and (c) total OCS performance. These means were then used to create the expectancy charts.

End-of-OCS Affective Commitment (*n* = 158)

End-of-OCS Active Army Career Intentions (*n* = 158)

Total OCS Performance (Standardized) (*n* = 145)
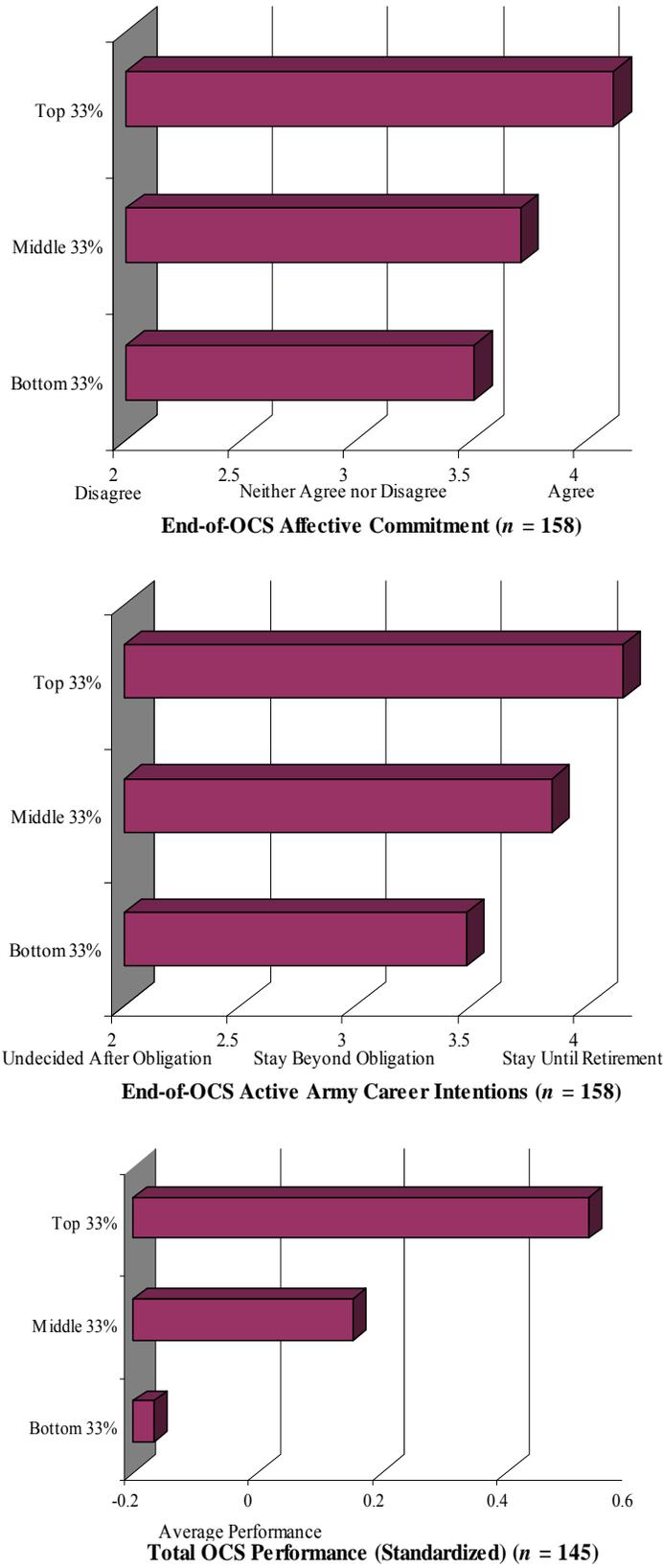
Figure 8.1. In-Service OBEF Composite Expectancy Charts
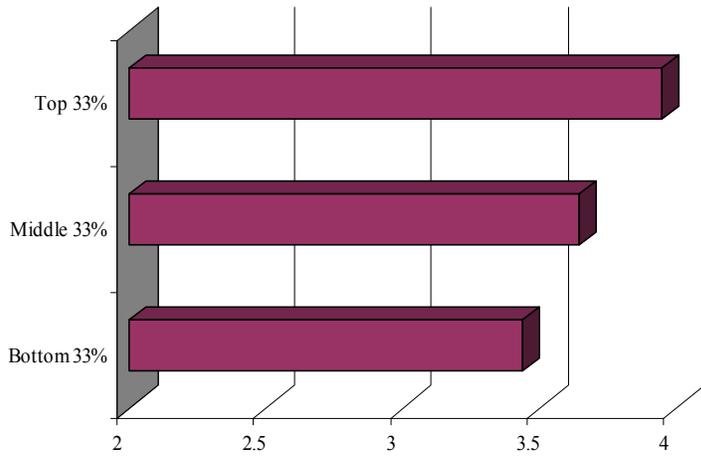
End-of-OCS Affective Commitment (*n* = 107)
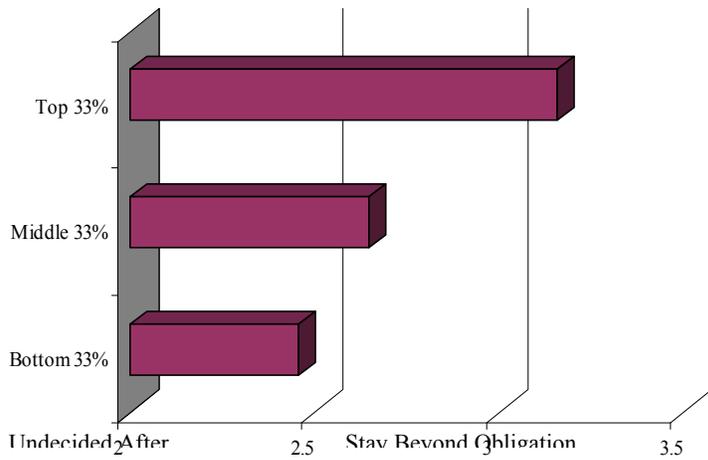
End-of-OCS Active Army Career Intentions (*n* = 107)
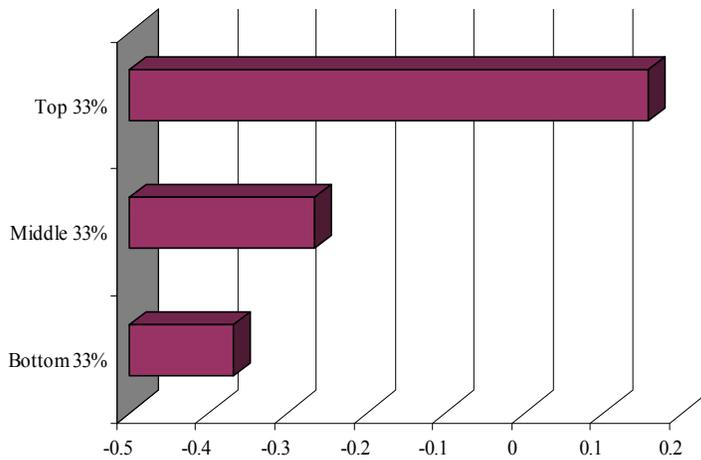
Total OCS Performance (Standardized) (*n* = 148)

Figure 8.2. Enlistment-Option OBEF Composite Expectancy Charts

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Appendix A

Multivariate Correlations between OBEF Predictors and Potential Criterion Measures by Entry Status

Table A.1. Multivariate Correlations between OBEF Predictors and Select Criteria by Pre-Service Status

Predictor/Scale	In-Service				College Option				Hybrid				Total			
	n	AFQT Only	AFQT + Predictor	*ΔR*	*n*	AFQT Only	AFQT + Predictor	*ΔR*	*n*	AFQT Only	AFQT + Predictor	*ΔR*	*n*	AFQT Only	AFQT + Predictor	*ΔR*
BOC Affective Commitment																
RBI - Core Scales	229	**.20**	**.56**	**.36**	217	.10	**.62**	**.52**	109	.02	**.54**	**.52**	560	**.15**	**.54**	**.39**
RBI - Supplemental Scales	138	.02	.21	.18	143	.03	**.31**	**.28**	49	.03	.32	.29	343	.00	.17	.17
Values - Core Scales	366	**.13**	**.31**	**.18**	358	.03	**.38**	**.35**	157	.02	.25	.23	898	**.09**	**.31**	**.22**
Values - Supplemental Scales	155	**.22**	**.48**	**.26**	169	.05	**.52**	**.47**	84	.04	.59	.55	412	**.18**	**.46**	**.28**
Situational Judgment Test	137	.02	.02	.00	142	.02	.06	.04	48	.05	**.30**	**.24**	340	.00	.01	.01
Army Identity Structure	155	**.22**	**.51**	**.28**	173	.06	**.55**	**.50**	86	.03	**.58**	**.56**	418	**.18**	**.56**	**.38**
Need for Organizational ID	156	**.22**	**.34**	**.12**	173	.06	**.38**	**.32**	86	.03	**.50**	**.48**	419	**.18**	**.39**	**.21**
Affect	156	**.22**	**.35**	**.13**	173	.06	**.38**	**.32**	86	.03	.17	.15	419	**.18**	**.34**	**.16**
BOC Continuance Commitment																
RBI - Core Scales	156	.08	**.64**	**.55**	173	.13	**.63**	**.50**	86	.13	**.65**	**.52**	419	.03	**.61**	**.58**
RBI - Supplemental Scales	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Values - Core Scales	156	.08	**.38**	**.30**	172	.13	**.42**	**.29**	86	.13	**.56**	**.42**	418	.03	**.38**	**.36**
Values - Supplemental Scales	155	.07	.39	.32	169	.14	**.48**	**.34**	84	.13	**.60**	**.48**	412	.04	**.39**	**.35**
Situational Judgment Test	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Army Identity Structure	155	.09	.11	.02	173	.13	**.27**	**.14**	86	.13	.16	.03	418	.03	.12	.09
Need for Organizational ID	156	.08	**.31**	**.22**	173	.13	**.23**	**.10**	86	.13	**.28**	**.14**	419	.03	**.23**	**.21**
Affect	156	.08	.11	.02	173	.13	.20	.07	86	.13	**.33**	**.20**	419	.03	.10	.07
BOC Career Intentions																
RBI - Core Scales	368	**.32**	**.53**	**.21**	359	**.18**	**.55**	**.37**	151	.11	**.45**	**.34**	893	**.36**	**.55**	**.18**
RBI - Supplemental Scales	131	**.31**	.33	.01	141	.16	**.33**	**.16**	48	**.32**	.54	.21	329	**.35**	**.40**	**.05**
Values - Core Scales	351	**.31**	**.40**	**.09**	350	**.14**	**.35**	**.21**	151	**.18**	**.44**	**.26**	865	**.35**	**.44**	**.09**
Values - Supplemental Scales	152	**.32**	.48	.16	166	.09	**.43**	**.34**	81	.07	.54	.46	403	**.35**	**.47**	**.12**
Situational Judgment Test	277	**.32**	.33	.02	288	**.21**	**.22**	.02	94	**.21**	**.22**	.00	677	**.36**	**.37**	**.01**
Army Identity Structure	152	**.32**	**.61**	**.29**	170	.09	**.38**	**.29**	83	.05	.12	.06	409	**.34**	**.49**	**.16**
Need for Organizational ID	153	**.32**	**.32**	.00	170	.09	**.27**	**.18**	83	.05	.07	.02	410	**.34**	**.36**	**.02**
Affect	153	**.32**	**.46**	**.14**	170	.09	**.27**	**.18**	83	.05	.24	.18	410	**.34**	**.42**	**.08**
EOC Affective Commitment																
RBI - Core Scales	209	.13	**.63**	**.50**	162	.14	**.61**	**.47**	84	.04	**.55**	**.51**	460	**.13**	**.59**	**.47**
RBI - Supplemental Scales	39	.05	.32	.27	51	.22	.49	.26	23	.18	.61	.43	119	.12	**.34**	**.21**
Values - Core Scales	197	.07	**.43**	**.36**	158	**.16**	**.39**	**.23**	93	.06	.21	.15	455	**.10**	**.34**	**.25**
Values - Supplemental Scales	91	.08	**.55**	**.47**	70	.16	**.63**	**.47**	49	.12	.64	.53	212	.12	**.46**	**.34**
Situational Judgment Test	89	**.21**	**.30**	**.10**	104	.18	.21	.03	36	.12	.24	.12	237	**.18**	**.20**	.02
Army Identity Structure	90	.06	**.50**	**.45**	70	.16	**.55**	**.39**	50	.10	**.44**	**.35**	212	.10	**.49**	**.39**
Need for Organizational ID	91	.08	**.32**	**.23**	70	.16	**.36**	**.21**	50	.10	.18	.09	213	.12	**.31**	**.19**
Affect	91	.08	**.29**	**.21**	70	.16	**.48**	**.32**	50	.10	.32	.23	213	.12	**.34**	**.22**

Table A.1. (Continued)

		In-Service				College Option				Hybrid				Total		
Predictor/Scale	n	AFQT Only	AFQT + Predictor	ΔR	n	AFQT Only	AFQT + Predictor	ΔR	n	AFQT Only	AFQT + Predictor	ΔR	n	AFQT Only	AFQT + Predictor	ΔR
EOC Continuance Commitment																
RBI - Core Scales	209	.02	**.54**	**.52**	162	.07	**.56**	**.49**	84	.06	**.62**	**.55**	460	.01	**.53**	**.52**
RBI - Supplemental Scales	39	.20	.30	.10	51	.03	**.52**	**.48**	23	**.57**	**.78**	.20	119	**.22**	.27	.05
Values - Core Scales	197	.02	**.33**	**.31**	158	.08	**.43**	**.35**	93	.11	.34	.23	455	.06	**.35**	**.28**
Values - Supplemental Scales	91	.06	**.58**	**.52**	70	.09	.57	.49	49	.05	**.73**	**.68**	212	.01	**.45**	**.44**
Situational Judgment Test	89	.08	.08	.00	104	.02	.09	.07	36	.22	.22	.00	237	.10	.10	.01
Army Identity Structure	90	.05	.13	.08	70	.09	.31	.23	50	.07	.34	.28	212	.00	.11	.11
Need for Organizational ID	91	.06	**.28**	**.23**	70	.09	**.41**	**.32**	50	.07	.17	.10	213	.01	**.29**	**.28**
Affect	91	.06	.23	.18	70	.09	**.32**	**.23**	50	.07	.26	.20	213	.01	**.22**	**.21**
EOC Career Intentions																
RBI - Core Scales	209	**.29**	**.57**	**.28**	162	.10	**.58**	**.49**	84	.19	.47	.27	460	**.34**	**.53**	**.19**
RBI - Supplemental Scales	39	**.34**	**.54**	.20	50	.12	.40	.28	23	.40	.61	.22	118	**.40**	**.45**	.05
Values - Core Scales	197	**.24**	**.40**	**.15**	157	.08	**.38**	**.30**	93	**.26**	**.41**	.14	454	**.32**	**.44**	**.12**
Values - Supplemental Scales	91	.18	.41	.22	70	.09	**.59**	**.51**	49	.21	.52	.30	212	**.26**	**.45**	**.19**
Situational Judgment Test	89	**.42**	**.42**	.00	103	.14	.21	.07	36	.33	.34	.01	236	**.43**	**.45**	**.02**
Army Identity Structure	90	.17	**.64**	**.47**	70	.09	**.42**	**.33**	50	.18	.23	.05	212	**.25**	**.48**	**.22**
Need for Organizational ID	91	.18	.18	.00	70	.09	**.29**	**.21**	50	.18	.18	.00	213	**.26**	.27	.01
Affect	91	.18	**.46**	**.28**	70	.09	**.39**	**.30**	50	.18	.25	.07	213	**.26**	**.39**	**.13**
Morale																
RBI - Core Scales	209	.11	**.42**	**.31**	162	.14	**.49**	**.35**	84	.11	**.51**	**.40**	460	**.12**	**.43**	**.30**
RBI - Supplemental Scales	39	**.55**	**.66**	.11	51	.16	**.57**	**.41**	23	.06	.61	.55	119	**.27**	**.53**	**.26**
Values - Core Scales	197	**.15**	**.33**	**.18**	158	.14	**.35**	**.21**	93	.06	.29	.23	455	**.13**	**.31**	**.18**
Values - Supplemental Scales	91	.10	.41	.32	70	.07	.48	.41	49	.08	.63	.55	212	.09	.35	.26
Situational Judgment Test	89	**.41**	.41	.00	104	.12	.15	.03	36	.06	.10	.03	237	**.26**	.27	.00
Army Identity Structure	90	.10	**.41**	**.31**	70	.07	.34	.27	50	.06	.39	.33	212	.09	**.37**	**.28**
Need for Organizational ID	91	.10	.15	.06	70	.07	.11	.03	50	.06	.08	.02	213	.09	.13	.04
Affect	91	.10	.24	.15	70	.07	**.39**	**.31**	50	.06	.32	.26	213	.09	**.29**	**.20**
Branch Satisfaction																
RBI - Core Scales	117	**.21**	.43	.22	92	.19	.34	.15	34	.11	.54	.43	246	.06	**.29**	**.24**
RBI - Supplemental Scales	39	.20	.43	.24	51	.07	.39	.32	22	.31	.57	.26	118	.05	.15	.09
Values - Core Scales	106	.16	.27	.11	88	.09	.21	.12	42	.18	.36	.19	241	.05	.14	.09
Values - Supplemental Scales	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Situational Judgment Test	88	**.26**	.29	.03	104	.06	.13	.07	35	.32	.35	.02	235	.06	.09	.02
Army Identity Structure	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Need for Organizational ID	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Affect	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table A.1. (Continued)

Predictor/Scale	n	In-Service AFQT Only	In-Service AFQT + Predictor	ΔR	n	College Option AFQT Only	College Option AFQT + Predictor	ΔR	n	Hybrid AFQT Only	Hybrid AFQT + Predictor	ΔR	n	Total AFQT Only	Total AFQT + Predictor	ΔR
EOC Army Identity Structure																
RBI - Core Scales	89	.17	**.56**	**.40**	70	.08	.45	.37	46	.09	.53	.44	206	.10	**.38**	**.28**
RBI - Supplemental Scales	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Values - Core Scales	89	.17	**.47**	**.30**	70	.08	.43	.36	46	.09	.35	.26	206	.10	**.31**	**.21**
Values - Supplemental Scales	89	.17	**.56**	**.39**	70	.08	.52	.44	46	.09	.54	.45	206	.10	.37	.27
Situational Judgment Test	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Army Identity Structure	88	.19	**.63**	**.44**	70	.08	**.50**	**.42**	46	.09	.42	.33	205	.11	**.52**	**.41**
Need for Organizational ID	89	.17	.19	.02	70	.08	**.33**	**.26**	46	.09	.19	.10	206	.10	.11	.01
Affect	89	.17	**.36**	**.19**	70	.08	**.34**	**.27**	46	.09	.27	.18	206	.10	**.25**	**.15**
Soldier Breach of Contract																
RBI - Core Scales	209	.09	.28	.19	161	.11	**.37**	**.27**	84	.03	.32	.29	459	.07	**.26**	**.19**
RBI - Supplemental Scales	39	.01	.37	.35	51	.26	.48	.22	23	.15	.39	.24	119	.13	.32	.19
Values - Core Scales	197	.03	.26	.23	157	**.20**	**.33**	.13	93	.02	.22	.20	454	.06	**.20**	**.14**
Values - Supplemental Scales	91	.13	.43	.30	70	.13	.50	.37	49	.16	.65	.49	212	.08	.34	.26
Situational Judgment Test	89	.19	.21	.03	104	.14	.14	.00	36	.27	.28	.00	237	**.17**	**.17**	.00
Army Identity Structure	90	.10	.27	.17	70	.13	.28	.15	50	.15	.26	.11	212	.06	.18	.12
Need for Organizational ID	91	.13	.15	.02	70	.13	.16	.03	50	.15	.15	.00	213	.08	.09	.01
Affect	91	.13	.21	.08	70	.13	.26	.12	50	.15	.22	.07	213	.08	.19	**.11**
Army Breach of Contract																
RBI - Core Scales	209	.06	**.34**	**.28**	162	.04	**.44**	**.40**	84	.03	.42	.39	460	.00	**.35**	**.34**
RBI - Supplemental Scales	38	.13	.41	.28	51	.14	.24	.11	23	.02	.54	.52	118	.01	.17	.15
Values - Core Scales	196	.07	**.30**	**.23**	158	.12	**.32**	.20	93	.09	.31	.22	454	.00	**.24**	**.23**
Values - Supplemental Scales	91	.05	.47	.43	70	.07	.48	**.41**	49	.10	**.72**	**.63**	212	.01	**.40**	**.39**
Situational Judgment Test	88	.07	.17	.10	104	.03	.14	.11	36	.12	.17	.05	236	.03	.07	.05
Army Identity Structure	90	.05	**.41**	**.36**	70	.07	**.46**	**.39**	50	.08	.29	.21	212	.01	**.38**	**.37**
Need for Organizational ID	91	.05	.11	.06	70	.07	.16	.09	50	.08	.10	.02	213	.01	.01	.00
Affect	91	.05	.28	**.24**	70	.07	.29	.21	50	.08	.31	.23	213	.01	**.23**	**.22**
OCS: Recycles																
RBI - Core Scales	224	**.14**	.24	.10	236	.11	**.31**	**.20**	110	**.19**	.34	.14	577	**.12**	**.23**	**.11**
RBI - Supplemental Scales	55	.26	.44	.19	59	.15	.36	.21	33	.29	.45	.16	155	**.17**	.24	.07
Values - Core Scales	211	.12	.22	.10	227	.13	.19	.07	119	**.18**	.25	.07	570	**.11**	.18	.08
Values - Supplemental Scales	153	.09	**.47**	**.38**	165	.11	.24	.13	84	.15	.45	.30	406	.08	.25	.17
Situational Judgment Test	122	**.25**	**.28**	.03	125	.12	.14	.02	56	**.29**	**.34**	.04	313	**.17**	**.19**	.02
Army Identity Structure	153	.09	.23	.14	168	.11	.23	.12	86	.15	**.37**	**.22**	411	.08	.14	.06
Need for Organizational ID	154	.09	.09	.00	168	.11	.15	.04	86	.15	.28	.13	412	.08	**.13**	**.05**
Affect	154	.09	.12	.03	168	.11	.17	.07	86	.15	.21	.06	412	.08	.09	.01

Table A.1. (Continued)

Predictor/Scale	In-Service				College Option				Hybrid				Total			
	n	AFQT Only	AFQT + Predictor	ΔR	*n*	AFQT Only	AFQT + Predictor	ΔR	*n*	AFQT Only	AFQT + Predictor	ΔR	*n*	AFQT Only	AFQT + Predictor	ΔR
OCS: Academic Performance																
RBI - Core Scales	212	**.32**	**.47**	**.15**	212	**.37**	**.41**	.03	97	**.44**	**.54**	.10	527	**.31**	**.35**	.04
RBI - Supplemental Scales	52	**.36**	**.50**	.14	55	**.60**	**.65**	.05	22	.02	.41	.38	137	**.31**	**.35**	.04
Values - Core Scales	196	**.31**	**.37**	.06	203	**.47**	**.48**	.02	99	**.32**	**.44**	.12	511	**.30**	**.34**	**.04**
Values - Supplemental Scales	142	**.32**	**.39**	.08	146	**.44**	**.54**	.10	75	**.40**	**.52**	.13	367	**.31**	.38	.07
Situational Judgment Test	119	**.34**	**.39**	**.05**	117	**.43**	**.52**	**.10**	41	.30	.33	.03	286	**.33**	**.39**	**.06**
Army Identity Structure	142	**.32**	**.38**	.06	149	**.42**	**.43**	.01	77	**.41**	**.43**	.02	372	**.31**	**.34**	**.03**
Need for Organizational ID	143	**.32**	**.32**	.00	149	**.42**	**.42**	.00	77	**.41**	**.41**	.00	373	**.31**	.31	.00
Affect	143	**.32**	**.35**	.04	149	**.42**	**.42**	.00	77	**.41**	**.42**	.01	373	**.31**	.33	.02
OCS: Leadership Performance																
RBI - Core Scales	212	.11	**.35**	**.24**	212	.13	**.44**	**.32**	97	**.24**	.43	.19	527	.00	**.30**	**.30**
RBI - Supplemental Scales	52	.09	.25	.16	55	.07	.31	.24	22	.25	.69	.44	137	**.19**	**.37**	**.18**
Values - Core Scales	196	.07	**.30**	**.23**	203	.08	.27	.19	99	.16	.35	.19	511	.07	**.24**	**.17**
Values - Supplemental Scales	142	.05	.31	.26	146	.07	.40	.33	75	**.26**	.59	.33	367	.03	**.29**	**.25**
Situational Judgment Test	119	.16	.18	.02	117	.16	.20	.03	41	.05	.11	.06	286	.07	.08	.02
Army Identity Structure	142	.05	.21	.16	149	.08	.23	.15	77	**.26**	.32	.06	372	.03	**.18**	**.15**
Need for Organizational ID	143	.06	.16	.11	149	.08	.08	.00	77	**.26**	.29	.02	373	.03	.09	.07
Affect	143	.06	**.22**	**.16**	149	.08	.18	.10	77	**.26**	.26	.00	373	.03	**.16**	**.13**
OCS: Fitness Performance																
RBI - Core Scales	212	.09	**.47**	**.38**	212	.02	**.56**	**.54**	97	**.23**	**.60**	**.37**	527	.02	**.47**	**.45**
RBI - Supplemental Scales	52	.20	.40	.20	55	.11	.43	.33	22	.07	.44	.37	137	**.23**	**.37**	**.14**
Values - Core Scales	196	.02	.23	.21	203	.01	.22	.21	99	.18	.34	.16	511	.05	.17	.12
Values - Supplemental Scales	142	.07	.26	.19	146	.05	.31	.26	75	.18	.52	.34	367	.01	.24	.23
Situational Judgment Test	119	.00	.10	.10	117	.07	.07	.00	41	.25	.27	.02	286	.09	.09	.01
Army Identity Structure	142	.09	.13	.04	149	.07	.21	.14	77	.20	.31	.11	372	.02	**.17**	**.14**
Need for Organizational ID	143	.07	.10	.02	149	.07	.08	.01	77	.20	.23	.03	373	.01	.02	.01
Affect	143	.07	.09	.01	149	.07	.16	.09	77	.20	.24	.04	373	.01	.08	.06
OCS: Final APFT Score																
RBI - Core Scales	132	.09	.37	.28	102	.06	**.56**	**.50**	49	.15	**.61**	**.47**	285	**.14**	**.41**	**.27**
RBI - Supplemental Scales	18	.41	.67	.25	30	.07	.52	.44	15	.09	.75	.65	66	**.33**	.47	.14
Values - Core Scales	120	**.18**	**.40**	**.22**	100	.02	.24	.22	56	.12	.48	.36	280	**.21**	.28	.07
Values - Supplemental Scales	100	.15	.42	.27	69	.07	.50	.43	40	.15	.67	.52	210	**.17**	.37	.21
Situational Judgment Test	48	.01	.18	.17	61	.02	.04	.02	23	.06	.14	.08	136	.17	.17	.01
Army Identity Structure	100	.15	.19	.04	70	.07	.09	.02	41	.13	.17	.04	212	**.17**	.19	.02
Need for Organizational ID	100	.15	.20	.05	70	.07	.07	.00	41	.13	.16	.03	212	**.17**	.18	.01
Affect	100	.15	.20	.05	70	.07	.20	.13	41	.13	.40	.26	212	**.17**	.23	.06

Table A.1. (Continued)

Predictor/Scale		In-Service				College Option				Hybrid				Total		
	n	AFQT Only	AFQT + Predictor	ΔR	n	AFQT Only	AFQT + Predictor	ΔR	n	AFQT Only	AFQT + Predictor	ΔR	n	AFQT Only	AFQT + Predictor	ΔR
OCS: Overall Performance																
RBI - Core Scales	212	**.20**	**.48**	**.28**	212	**.16**	**.51**	**.34**	97	**.36**	**.59**	**.22**	527	.08	**.40**	**.32**
RBI - Supplemental Scales	52	.03	.30	.27	55	.13	.36	.23	22	.14	.60	.45	137	**.18**	**.35**	**.17**
Values - Core Scales	196	.13	.30	.16	203	**.15**	**.26**	.10	99	**.27**	**.43**	.16	511	.00	**.19**	**.19**
Values - Supplemental Scales	142	.15	.31	.16	146	.16	.37	.21	75	**.36**	**.59**	.23	367	.07	.27	.20
Situational Judgment Test	119	.18	.22	.05	117	.16	.22	.06	41	.17	.18	.01	286	.03	.10	.07
Army Identity Structure	142	.16	.26	.10	149	**.16**	**.27**	.10	77	**.38**	**.42**	.04	372	.08	**.23**	**.15**
Need for Organizational ID	143	.16	.21	.05	149	**.16**	.17	.00	77	**.38**	**.38**	.00	373	.08	.09	.02
Affect	143	.16	.25	.09	149	**.16**	**.23**	.07	77	**.38**	**.39**	.01	373	.08	**.18**	**.10**

Note. Estimates in bold are statistically significant, $p < .05$. Listwise deletion was used to control for missing data. EOC = End-of-Class, BOC = Beginning-of-Class, APFT = Army Physical Fitness Test, RBI = Rational Biodata Inventory, ID = Identity, AFQT = Armed Forces Qualification Test. The Situational Judgment Test was scored using the standardized consensus method.

Appendix B

Bivariate Correlations between all OBEF and non-OBEF Predictors and Potential Criterion Measures by Entry Status

Table B.1. Bivariate Correlations between the OBEF and Criteria for In-Service Candidates

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Rational Biodata Inventory (RBI)																	
Core Scales																	
Peer Leadership	**.17**	-.14	**.20**	**.28**	**-.19**	**.18**	**.27**	.07	**.27**	-.10	.06	-.06	.10	.08	.03	.06	.08
Achievement	**.34**	-.01	**.16**	**.32**	-.10	.10	**.26**	.09	**.26**	**-.14**	.02	.01	-.10	-.08	.02	.06	-.08
Fitness Motivation	-.06	-.05	-.01	**.18**	-.07	.00	**.14**	-.03	.19	-.10	.03	-.09	.11	**.26**	**.40**	**.28**	**.37**
Stress Tolerance	.11	**-.24**	**.14**	**.18**	**-.22**	**.15**	**.21**	**.22**	**.33**	-.08	**-.14**	-.02	.08	.09	.06	.05	.10
Hostility to Authority	**-.21**	.12	**-.13**	-.14	.12	-.13	**-.19**	-.06	-.10	.10	.00	-.06	-.02	-.02	.04	.06	.00
Self-Efficacy	**.24**	**-.17**	**.22**	**.31**	**-.22**	.16	**.24**	.15	**.32**	**-.13**	.02	-.04	-.11	.00	.02	.07	-.03
Army Affective Commitment	**.44**	**.25**	**.38**	**.59**	.13	**.42**	**.31**	**.25**	**.34**	**-.13**	**-.15**	-.08	-.04	-.05	-.06	-.10	-.06
Continuance Commitment	.02	**.54**	**.17**	.12	**.45**	**.20**	.02	-.09	.00	-.11	**-.23**	.06	-.05	-.06	**-.17**	-.10	-.13
Traditional Values	-.04	.11	-.10	.07	-.03	-.09	.00	.06	.04	-.02	.01	-.11	**.23**	.09	.07	-.03	.13
Lie Scale	.01	-.14	**.13**	.06	**-.16**	.09	**.19**	.15	**.23**	-.01	-.10	.11	-.09	-.04	**.14**	.14	.01
Supplemental Scales																	
Tolerance for Ambiguity	.00	.	.02	.10	-.16	.05	.12	.15.		-.08	-.03	.13	.09	**.35**	.21	.09	**.37**
Micro-Management	-.04	.	.06	**-.31**	-.05	.17	.07	-.01.		-.10	-.02	.23	.26	-.07	.12	.09	.05
Social Acuity	.05	.	.06	**.22**	-.11	.10	.10	.13.		-.15	-.08	.07	-.16	.20	-.14	-.37	.07
Verbal Communication	.05	.	.00	.10	-.11	.10	.12	-.05.		-.08	-.02	.02	-.16	.10	-.05	-.14	.05
Written Communication	.11	.	.02	.00	-.13	.00	.05	-.05.		**-.20**	-.04	-.11	-.02	.12	.03	.12	.09
Work Values																	
Core Scales																	
Rugged Team Leadership	**.17**	.07	**.17**	**.21**	.01	.05	**.19**	.10	**.21**	-.04	-.02	-.04	**-.22**	.04	.01	.02	-.02
Rugged Leadership	**.15**	.05	**.15**	.14	-.01	.02	**.16**	.08	.15	-.05	-.01	-.06	**-.18**	.04	.06	.07	.01
Teamwork	**.16**	.08	**.17**	**.28**	.04	.08	**.21**	.11	**.25**	-.02	-.04	.00	**-.24**	.04	-.07	-.07	-.05
Flexibility/Choice	**-.14**	.01	**-.13**	**-.17**	.02	**-.24**	-.10	-.06	**-.22**	.09	**.17**	.03	-.12	-.02	-.02	-.01	-.04
Job Security*	.03	**.24**	.07	.04	.17	-.05	-.01	.08	.01	-.05	-.05	.07	**-.18**	-.01	-.02	-.06	-.04
Structure/Recognition	.04	**.20**	.04	.05	.13	.03	.01	.06	.02	-.02	.03	.02	**-.27**	**-.18**	-.05	-.11	**-.19**
Altruism/Benevolence*	**.20**	.05	.08	**.25**	-.09	.04	.11	.01	**.25**	-.11	-.09	-.11	**-.16**	.13	.11	.15	.10
Skill Development	**.11**	-.01	.07	.06	-.11	.05	**.15**	.01	.15	**-.17**	-.09	-.02	-.06	-.02	.04	.06	.00

Table B.1. (Continued)

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Work Values																	
Supplemental Scales																	
Structure-Autonomy	-.14	-.06	.01	.00	-.12	.09	-.05	.	.10	.01	-.17	.06	**.25**	.05	.06	.02	.12
Support	-.09	.06	**-.13**	-.11	.03	**-.21**	-.07	-.05	-.19	.04	**.16**	.05	-.08	.02	.01	-.04	.00
Leader-Benevolence	**.15**	.02	**.18**	**.19**	-.01	.11	**.16**	.09	**.26**	-.13	-.11	-.03	**-.18**	.05	.05	.09	.01
Compensation	.08	.12	.09	.11	-.02	.01	.09	.	-.02	-.18	-.01	-.01	-.15	.03	.04	.16	.01
Challenge	**.11**	.00	.07	.04	-.21	-.02	**.15**	-.01	.17	-.11	.00	-.09	**-.15**	.04	.12	.10	.05
Leader-Power	.03	.10	-.02	.06	**.30**	-.03	.04	.	-.08	.14	.24	-.05	**-.18**	-.07	-.04	-.01	-.10
Stimulation-Stability	-.01	**-.15**	.05	.01	-.18	.11	.03	.	.20	-.12	-.05	-.16	-.01	-.08	.00	.05	-.05
Prestige	.15	**.22**	-.01	.16	**.23**	-.03	.08	.	.04	-.14	.07	.08	-.14	-.06	-.01	-.02	-.07
Self-Development	**.11**	.07	.08	.10	.01	.08	**.16**	.07	.13	-.11	-.10	-.02	-.14	-.08	.02	-.03	-.07
Comfort	-.11	.03	-.09	-.10	.06	-.13	.04	.	-.11	.04	.08	.08	-.15	-.07	-.08	-.09	-.11
Social	**.30**	.02	**.21**	**.39**	-.03	.08	**.28**	.	**.22**	-.15	-.11	.01	-.21	.07	-.01	.05	-.01
Team-Individual	**.20**	.02	**.21**	**.28**	.03	**.19**	**.19**	.15	**.31**	-.11	-.12	.01	-.05	.10	.00	.01	.07
Variety	.12	.09	.02	.13	.10	-.05	.09.	.	-.02	-.16	.02	.10	-.15	-.07	-.02	-.08	-.10
Situational Judgment Test (SJT)																	
Raw SME-Based	.03	.	.04	.08	.12	.01	-.18	-.14	.	-.10	**-.29**	**-.21**	**.27**	.16	-.02	.05	.15
Raw Consensus-Based	.03	.	.03	.06	.11	-.04	**-.22**	-.16	.	-.09	**-.29**	**-.18**	**.25**	.13	-.02	.06	.12
Std SME-Based	.04	.	.01	.10	-.06	-.10	-.08	-.05	.	-.14	-.14	**-.20**	**.27**	.12	.11	.19	**.19**
Std Consensus-Based	.02	.	.04	.12	-.06	.00	-.02	.00	.	-.14	-.15	**-.24**	**.32**	.15	.13	.16	**.22**
Army Identity																	
Identity Magnitude	**.42**	.04	**.53**	**.39**	.10	**.48**	**.23**	.	**.44**	-.10	**-.23**	-.06	.07	.10	.07	.12	.12
Identity Movement	**.32**	.09	**.21**	**.31**	-.02	**.39**	**.29**	.	**.53**	-.12	**-.31**	-.01	-.05	-.09	.03	.03	-.06
Identity Stability	**.41**	.05	**.46**	**.46**	.08	**.59**	**.36**	.	**.45**	**-.21**	**-.34**	.13	.05	.08	.01	.11	.06
Identity Structure	**.40**	.11	**.29**	**.45**	-.03	**.46**	**.43**.	.	**.68**	-.15	**-.30**	.00	-.02	-.08	.00	.04	-.05
NOID	**.28**	**.27**	.09	**.33**	**.27**	.02	.13	.	-.08	-.13	.08	-.02	-.05	-.15	-.05	-.12	-.13
Affect																	
Positive Affect	**.30**	.05	**.18**	**.25**	-.03	.16	**.21**	.	.19	-.07	.01	.01	-.11	.02	-.04	.07	-.02
Negative Affect	-.09	-.02	**-.26**	-.16	**.23**	**-.35**	-.11	.	**-.23**	.16	**.23**	-.06	-.15	**-.20**	-.03	-.09	**-.19**
ASVAB																	
AFQT	**-.13**	.08	**-.32**	-.12	-.02	**-.29**	**-.17**	**-.20**	-.17	-.08	.07	**-.16**	**.32**	.11	.04	-.11	**.17**
Corrected AFQT	**-.15**	.10	**-.37**	-.14	-.02	**-.34**	**-.20**	**-.24**	**-.20**	-.09	.08	**-.19**	**.37**	.13	.05	-.14	**.20**

Table B.1. (Continued)

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Demographics																	
Education	-.05	.01	**-.20**	.04	-.01	-.11	-.02	.04	.03	-.08	-.03	-.06	.11	**-.13**	-.03	.03	-.06
Undergraduate GPA	-.02	.14	.03	.12	-.09	**.15**	.05	.11	.16	-.10	-.11	.02	.05	.00	.04	**.17**	.02
Number of Children	.10	-.04	**.27**	**.19**	.11	**.21**	.12	**.17**	-.04	.04	-.06	-.01	-.03	.12	-.10	-.12	.02
Age	.09	.00	**.31**	**.17**	-.02	**.30**	**.14**	.07	.03	-.03	-.11	.01	**-.15**	-.01	-.04	-.01	-.06
Time in Service	**.17**	.07	**.55**	**.22**	.05	**.54**	.12	.12	**.21**	.02	-.11	.01	-.08	**.12**	-.04	.11	.04
Time Deployed	.05	-.02	**.12**	**.14**	-.05	.05	.05	.04	-.01	-.07	.08	.06	-.07	**.19**	-.02	.04	.10
Branch Congruence Binary	**-.22**	.	-.04	-.09	.06	.03	-.05	**.39**	.	-.11	.00	.03	.04	.13	.11	.16	.16
Reasons for Applying to OCS																	
Serve my country	**.26**	.10	**.14**	**.28**	.04	**.19**	**.20**	.12	**.24**	-.02	-.04	-.12	-.09	.05	-.02	**-.18**	.00
Pay off debts	-.07	**.20**	**-.18**	-.03	**.20**	**-.14**	-.04	.09	.09	.03	-.08	-.04	-.04	-.09	-.02	.05	-.07
Lack civilian opportunity	-.09	**.29**	**-.23**	-.05	**.35**	**-.19**	-.08	-.01	-.12	.05	.00	-.03	.02	-.12	-.01	.01	-.08
Retirement benefits	.10	**.19**	**.32**	**.20**	**.23**	**.32**	.05	.01	.09	.03	-.02	**-.12**	-.05	.05	-.02	-.04	.02
Build a resume	-.08	**.19**	**-.13**	**-.13**	**.21**	**-.13**	-.09	-.04	**-.25**	-.06	.09	.02	-.05	.00	.08	.08	.02
Gain leadership experience	**.12**	.08	.08	.09	.02	.02	.11	.09	-.13	-.03	-.05	-.06	**-.17**	-.03	.06	.02	-.03
Please friends or family	-.02	.12	.02	**.17**	.08	.05	.01	.02	**.24**	-.10	**-.15**	.02	-.06	.00	.02	.02	.01

Note. AC = Affective Commitment, CC = Continuance Commitment, CI = Regular Army Career Intentions, MOR = Morale, BRSA = Branch Satisfaction, AID = Army Identity Structure, SBR = Soldier Breach of Contract, ABR = Army Breach of Contract, REC = Recycles, ACA = Academic Performance, LDR = Leadership Performance, FIT = Fitness Performance, APFT = Last Army Physical Fitness Test Score, TOT = Total OCS Performance Score. RBI Core *n* = 92-534, RBI Supplemental *n* = 22-230, Work Values Core *n* = 92-396, Work Values Supplemental *n* = 92-396, SJT *n* = 51-297, Army Identity *n* = 91-165, Need for Organization Identification (NOID) *n* = 92-166, Affect *n* = 92-166, ASVAB *n* = 24-499, Demographics *n* = 86-528, Reasons for Applying to OCS *n* = 92-525. Correlations in bold are statistically significant, *p* < .05. Corrected AFQT = AFQT corrected for range restriction to the NLS "some college" population, adjusting the standard deviation from 20.50 to 23.70.
*Was also treated as a supplemental scale.

Table B.2. Bivariate Correlations between the OBEF and Criteria for College-Option Candidates

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Rational Biodata Inventory (RBI)																	
Core Scales																	
Peer Leadership	**.16**	-.03	**.16**	**.19**	-.11	.08	.10	.10	-.03	**-.19**	.00	-.07	.01	**.19**	**.15**	.12	**.17**
Achievement	**.17**	.09	**.18**	**.25**	-.02	**.22**	**.17**	**.21**	.12	**-.18**	-.14	.06	.08	**.15**	.12	.09	**.17**
Fitness Motivation	.10	**-.21**	.06	.14	**-.24**	.08	.01	.12	-.17	**-.19**	.03	**-.17**	-.02	**.39**	**.54**	**.48**	**.46**
Stress Tolerance	**.28**	**-.17**	**.17**	**.19**	-.15	**.30**	**.27**	.19	.07	**-.23**	**-.30**	-.13	-.03	.10	**.14**	.09	.11
Hostility to Authority	-.02	.10	**-.20**	-.08	-.14	**-.34**	**-.31**	-.14	-.17	.15	**.27**	-.05	-.03	-.04	-.02	-.14	-.05
Self-Efficacy	**.20**	**-.16**	**.11**	.12	**-.25**	.09	.15	.18	.10	**-.28**	**-.16**	-.06	-.04	**.21**	**.24**	**.24**	**.21**
Army Affective Commitment	**.56**	.03	**.46**	**.57**	-.09	**.45**	**.31**	.04	**.24**	-.14	**-.27**	-.03	-.02	.13	.07	.06	.10
Continuance Commitment	-.02	**.55**	**.21**	-.04	**.51**	.05	-.05	-.10	.17	.15	-.04	.07	-.10	-.13	-.01	-.01	-.08
Traditional Values	.06	.04	.08	.02	-.05	-.06	.04	.10	.07	-.12	.10	-.02	.05	**.17**	.02	.09	.11
Lie Scale	**.13**	**-.21**	**.15**	.07	-.03	**.20**	**.29**	.15	.05	-.11	-.06	.11	.02	-.02	.03	-.01	.00
Supplemental Scales																	
Tolerance for Ambiguity	**.18**	.	**.25**	.02	-.19	**.25**	**.37**	-.07	.	-.08	.01	.05	**-.27**	.00	-.01	-.19	-.08
Micro-Management	**.20**	.	**.20**	**.40**	.21	-.01	.04	.03	.	.11	.08	-.11	-.24	.22	**.34**	**.39**	.22
Social Acuity	**.18**	.	**.16**	**.29**	**.25**	.09	**.24**	.17	.	-.21	.04	.09	-.25	.13	.11	.25	.06
Verbal Communication	.14	.	**.17**	.11	.05	**.21**	**.24**	-.03	.	**-.25**	-.04	-.01	**-.28**	.02	.14	-.01	.01
Written Communication	-.01	.	.02	-.03	-.02	.00	.03	.00	.	-.18	.05	-.23	.03	-.09	-.13	-.16	-.12
Work Values																	
Core Scales																	
Rugged Team Leadership	**.16**	.02	**.19**	.09	.09	.04	**.18**	-.11	.04	-.04	.03	.01	-.07	.11	.04	.06	.05
Rugged Leadership	**.16**	-.02	**.16**	.10	.06	.03	**.17**	-.09	-.03	-.09	.03	-.02	-.07	**.17**	.10	.10	.10
Teamwork	**.11**	.07	**.19**	.06	.10	.05	.15	-.12	.14	.03	.01	.05	-.05	-.01	-.06	-.02	-.05
Flexibility/Choice	**-.27**	.00	**-.16**	**-.24**	.02	**-.27**	-.13	-.07	-.14	-.01	**.25**	.06	-.02	-.10	-.05	.11	-.08
Job Security*	.02	**.36**	**.18**	.10	**.35**	**.16**	.03	-.07	.00	.12	.08	.13	**-.18**	-.06	-.05	.11	-.10
Structure/Recognition	.00	**.24**	**.10**	.06	**.32**	.09	.00	-.19	.23	.12	.06	.00	-.03	-.04	.01	.04	-.02
Altruism/Benevolence*	**.12**	.05	**.12**	.13	-.01	.02	.14	-.05	.20	-.11	-.01	-.02	-.06	.03	-.07	.02	-.03
Skill Development	.06	.11	**.11**	.05	.04	.03	**.17**	-.05	.11	-.12	-.07	.04	.01	.03	.01	.11	.02

Table B.2. (Continued)

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Work Values																	
Supplemental Scales																	
Structure-Autonomy	-.08	-.08	.01	-.06	-.19	-.09	-.14	.	-.06	-.09	-.10	.04	-.03	.02	.04	-.04	.03
Support	**-.23**	.09	**-.17**	-.12	.05	**-.22**	-.10	-.04	-.01	.00	**.27**	.05	-.05	-.05	-.03	.11	-.05
Leader-Benevolence	**.13**	.03	**.16**	**.17**	.05	.07	**.21**	-.07	.08	-.07	.05	.02	-.06	.10	.03	.04	.04
Compensation	.08	**.27**	.11	.16	.14	.01	.00	.	.07	-.11	.10	.04	-.14	-.04	-.05	.10	-.10
Challenge	**.14**	-.04	**.11**	.02	.02	.05	**.17**	-.07	.01	-.15	-.01	-.08	-.01	.11	.11	.10	.09
Leader-Power	.11	.13	.02	.18	-.01	.09	.19	.	-.01	-.01	-.02	.03	.01	**.18**	.04	-.06	.12
Stimulation-Stability	**.16**	-.08	.03	.15	-.06	-.13	.18	.	.15	-.20	-.16	-.09	-.04	.13	.11	.02	.10
Prestige	**.19**	**.22**	.13	**.25**	**.29**	.11	.02	.	**.24**	.12	.01	.01	-.07	-.08	-.05	-.06	-.08
Self-Development	.09	**.18**	**.16**	.07	.14	.09	.12	-.09	.20	-.01	-.06	.02	-.01	.02	.05	.15	.03
Comfort	**-.34**	**.20**	-.11	-.15	.18	-.17	-.07	.	-.04	.20	**.38**	.07	-.06	**-.20**	**-.16**	-.21	**-.19**
Social	.21	.08	.14	.01	.00	-.07	.11	.	.08	-.01	-.01	-.02	-.01	-.07	-.02	-.02	-.05
Team-Individual	**.16**	.05	**.21**	**.20**	.00	**.21**	**.20**	-.09	**.25**	-.02	-.04	.08	-.12	.03	.03	.02	.00
Variety	**.18**	.04	.00	**.29**	.00	-.09	.12	.	.19	-.03	.01	-.08	.06	.06	.03	.03	.05
Situational Judgment Test (SJT)																	
Raw SME-Based	-.11	.	-.10	.00	.03	-.03	.01	.00	.	.01	-.06	.00	**.26**	.05	-.15	-.10	.03
Raw Consensus-Based	-.11	.	-.10	.01	.00	-.01	.03	.02	.	-.01	-.08	-.01	**.28**	.07	-.12	-.07	.06
Standardized SME-Based	.07	.	.08	.10	-.10	.15	.09	.12	.	.00	-.14	.08	**.28**	.10	.01	-.04	.14
Standardized Consensus-Based	.09	.	.08	.10	-.06	.16	.07	.10	.	.02	-.12	.08	**.27**	.10	-.02	-.08	.13
Army Identity																	
Identity Overlap	**.39**	.06	**.23**	**.39**	-.01	.29	**.24**	.	**.34**	-.21	-.11	-.02	-.04	**.22**	**.17**	-.03	**.21**
Identity Movement	**.39**	.08	**.26**	**.47**	.07	.36	**.26**	.	**.46**	-.06	-.11	-.14	-.08	.12	.09	.00	.10
Identity Conflict	**.47**	-.12	**.25**	**.41**	-.23	**.33**	**.29**	.	**.36**	.03	**-.44**	**-.17**	.03	.10	.16	.04	.14
Identity Structure	**.47**	-.02	**.27**	**.52**	-.05	**.45**	**.28**	.	**.47**	-.03	-.22	-.14	-.10	.09	.05	.01	.04
NOID	**.37**	**.20**	**.25**	**.36**	**.41**	**.29**	.09	.	**.30**	-.06	-.12	-.09	-.04	.00	.03	-.04	.02
Affect																	
Positive Affect	**.32**	.03	**.24**	**.41**	-.16	**.37**	**.38**	.	**.30**	-.14	**-.24**	.00	-.04	.08	.08	.06	.07
Negative Affect	**-.20**	**.16**	-.02	-.23	**.25**	-.13	-.03	.	-.01	.13	.07	**.15**	-.12	-.16	-.14	-.18	**-.19**
ASVAB																	
AFQT	-.04	-.13	**-.17**	**-.16**	-.07	-.10	**-.14**	.12	.08	**-.15**	-.07	**-.12**	**.42**	.12	-.01	.02	**.16**
Corrected AFQT	-.07	**-.21**	**-.28**	**-.26**	-.11	**-.17**	**-.23**	**.20**	.12	**-.24**	-.11	**-.19**	**.60**	**.19**	-.01	.03	**.25**

Table B.2. (Continued)

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Demographics																	
Education	-.08	-.07	-.03	.06	-.08	**.16**	.07	-.15	.19	-.07	-.02	.05	.12	-.01	-.04	-.11	.02
Undergraduate GPA	-.01	.01	.02	-.07	-.13	-.07	-.02	.08	-.19	**-.17**	-.05	-.10	**.18**	.05	.07	.04	.11
Number of Children	-.01	**.22**	**.10**	.05	.12	.13	.05	-.05	**.27**	-.05	-.05	.04	-.06	-.04	-.06	-.02	-.05
Age	.07	**.23**	**.12**	.11	.11	**.26**	.12	-.15	.18	.01	-.10	.07	-.12	-.08	.04	-.02	-.04
Time in Service	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Time Deployed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Branch Congruence Binary	.01	.	.05	-.12	-.12	-.06	-.12	**.23**	.	**-.17**	.08	-.04	-.04	.08	.08	.07	.06
Reasons for Applying to OCS																	
Serve my country	**.22**	**-.24**	**.14**	**.23**	-.18	**.15**	**.14**	-.03	.17	**-.19**	**-.21**	-.06	-.01	.09	-.07	-.12	.02
Pay off debts	.03	**.33**	-.02	.03	**.23**	.04	.04	.08	.24	.03	.06	.09	-.07	-.08	-.12	-.03	-.12
Lack civilian opportunity	-.04	**.52**	-.03	-.09	**.39**	-.18	-.05	-.05	-.04	.01	.08	**.13**	-.09	-.10	-.10	-.10	-.11
Retirement benefits	**.11**	**.27**	**.40**	.05	**.24**	**.24**	.01	-.08	-.02	.03	-.04	.05	-.08	-.03	.03	.14	-.02
Build a resume	**-.14**	.12	**-.28**	-.09	.08	**-.30**	**-.14**	-.15	-.13	-.02	.11	.11	.06	.04	.07	**.17**	.07
Gain leadership experience	.08	.01	.03	**.19**	-.06	.08	.09	-.09	-.06	**-.19**	-.13	.04	.00	-.02	-.05	.11	-.05
Please friends or family	-.02	.06	.04	.06	**.15**	.11	.00	.04	.07	.13	.02	.04	-.10	.01	.04	.07	.00

Note. AC = Affective Commitment, CC = Continuance Commitment, CI = Regular Army Career Intentions, MOR = Morale, BRSA = Branch Satisfaction, AID = Army Identity Structure, SBR = Soldier Breach of Contract, ABR = Army Breach of Contract, REC = Recycles, ACA = Academic Performance, LDR = Leadership Performance, FIT = Fitness Performance, APFT = Last Army Physical Fitness Test Score, TOT = Total OCS Performance Score. RBI Core n = 70-509, RBI Supplemental n = 30-190, Work Values Core n = 70-367, Work Values Supplemental n = 69-367, SJT n = 61-293, Army Identity n = 70-177, Need for Organization Identification (NOID) n = 70-177, Affect n = 70-177, ASVAB n = 35-500, Demographics n = 69-498, Reasons for Applying to OCS n = 69-497, Breach of Contract n = 70-215. Correlations in bold are statistically significant, $p < .05$. Corrected AFQT = AFQT corrected for range restriction to the NLS "college graduate" population, adjusting the standard deviation from 10.65 to 17.62.
*Was also treated as an experimental scale.

Table B.3. Bivariate Correlations between the OBEF and Criteria for Hybrid Candidates

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Rational Biodata Inventory (RBI)																	
Core Scales																	
Peer Leadership	.09	-.13	**.17**	.09	.14	.12	.14	-.15	.20	-.08	.04	.07	-.16	-.01	-.02	.11	-.03
Achievement	.15	-.07	.09	.16	-.05	-.02	**.26**	.10	.18	-.03	-.02	.06	**-.26**	.07	.13	.21	.05
Fitness Motivation	**.18**	-.11	.02	.04	-.09	-.05	.13	.03	.20	-.12	-.04	**-.18**	-.03	**.33**	**.54**	**.44**	**.44**
Stress Tolerance	.12	**-.28**	**.16**	.02	-.18	.08	.13	.07	.27	.06	**-.23**	.01	.01	.06	.05	**.34**	.06
Hostility to Authority	-.08	-.02	**-.19**	.01	-.07	.02	**-.29**	.02	-.21	.05	.00	-.05	.13	.08	.11	-.03	.13
Self-Efficacy	**.22**	**-.23**	**.19**	.16	-.17	**.21**	**.30**	-.12	.27	-.02	-.04	-.02	-.14	.06	.08	.21	.04
Army Affective Commitment	**.45**	.08	**.22**	**.49**	.12	.14	**.28**	.26	**.38**	-.14	**-.25**	-.02	-.13	-.05	.01	.02	-.05
Continuance Commitment	.18	**.56**	**.22**	.13	**.48**	.09	**.22**	-.04	-.08	.09	-.03	.09	-.03	-.13	-.10	.01	-.14
Traditional Values	.16	**.28**	-.13	.00	.14	.07	-.02	-.29	-.22	-.13	.13	.00	.12	-.05	.05	-.03	.01
Lie Scale	**.17**	**-.21**	.07	-.07	-.08	-.04	.10	-.20	.10	-.09	.13	.11	-.13	.01	-.05	.16	-.04
Supplemental Scales																	
Tolerance for Ambiguity	.05	.	.12	-.02	-.07	-.02	**.32**	.00	.	-.17	**-.29**	.11	-.34	.07	.16	.08	.01
Micro-Management	.21	.	.08	.31	-.02	.14	.34	.21	.	.03	.03	-.20	-.02	**.56**	.29	.37	**.49**
Social Acuity	.11	.	.17	.15	**-.33**	.11	.08	-.16	.	-.10	-.13	-.19	-.13	**.42**	.24	.00	.35
Verbal Communication	.14	.	.21	.11	**-.33**	-.02	.11	-.05	.	-.16	.16	-.06	-.27	.32	.24	-.17	.24
Written Communication	**.29**	.	.09	.04	-.17	.26	.02	-.11	.	-.14	.01	-.20	-.12	.03	.23	.35	.08
Work Values																	
Core Scales																	
Rugged Team Leadership	**.23**	.18	**.17**	.13	.02	-.04	.20	.04	.11	-.08	-.11	-.08	.10	.15	.16	.05	**.20**
Rugged Leadership	**.18**	.08	**.16**	.10	.00	-.02	.18	.03	.16	-.05	-.08	-.07	.06	**.20**	.17	.01	**.23**
Teamwork	**.24**	**.29**	.14	.15	.04	-.05	.16	.06	.00	-.08	-.12	-.08	.15	.03	.11	.10	.10
Flexibility/Choice	.01	.19	**-.19**	-.07	-.03	**-.28**	-.04	-.06	-.03	-.02	.06	-.02	-.06	.06	.13	.24	.07
Job Security*	.12	**.43**	.13	.07	**.21**	.08	.14	.05	.08	-.10	.07	.09	-.18	-.09	-.15	**-.30**	-.16
Structure/Recognition	.13	**.30**	.02	.10	.06	-.07	.02	.10	-.05	-.12	-.02	.00	-.10	-.07	.02	-.10	-.05
Altruism/Benevolence*	**.18**	.02	.14	.11	-.01	.02	.14	.20	.04	.06	.15	-.12	-.03	.18	.14	.15	**.19**
Skill Development	**.19**	.13	**.25**	.14	-.09	.08	**.23**	.06	.12	-.13	.00	-.04	.00	.03	.02	.08	.03

Table B.3. (Continued)

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Work Values																	
Supplemental Scales																	
Structure-Autonomy	**-.25**	-.27	.03	-.05	-.15	.11	-.03	.	-.06	.03	-.11	-.06	.00	.20	-.09	-.04	.09
Support	.01	.20	**-.15**	-.08	-.03	**-.23**	-.01	-.09	-.04	-.09	.01	-.01	-.09	-.03	.00	.06	-.05
Leader-Benevolence	.13	.05	**.15**	.07	-.01	.06	.15	.24	.12	-.03	-.01	-.07	-.03	.12	.03	-.02	.09
Compensation	.09	**.33**	**.21**	.08	**.43**	.05	**.29**	.	.09	-.19	.13	.17	-.06	-.09	-.13	-.22	-.15
Challenge	**.22**	.14	**.19**	.18	.00	-.01	**.20**	-.02	.04	-.06	.03	-.12	.16	.08	**.21**	.18	**.19**
Leader-Power	.11	.14	**-.25**	-.03	-.04	-.15	.19	.	.24	-.16	-.25	.02	-.08	-.08	-.14	-.27	-.15
Stimulation-Stability	.08	.10	.05	.26	.21	.16	.02	.	-.11	.08	-.07	-.02	.02	-.09	.18	.29	.06
Prestige	**.26**	**.28**	-.04	.10	.17	-.03	.09	.	-.04	-.10	-.09	-.02	-.04	-.14	.07	-.05	-.06
Self-Development	.14	.14	**.16**	.06	-.06	.04	.15	.11	.09	-.12	-.02	.00	-.06	.04	-.01	-.05	.01
Comfort	**-.21**	.17	-.19	**-.40**	-.02	**-.31**	-.08	.	-.13	.01	.24	.05	-.09	-.15	**-.26**	-.23	**-.26**
Social	**.26**	**.32**	.10	.11	**.28**	.04	.01	.	-.11	-.17	-.02	-.11	.06	-.14	.06	-.02	-.04
Team-Individual	.12	-.06	**.25**	.14	.01	.11	.18	-.12	.05	-.08	**-.28**	-.11	.09	.00	-.03	-.04	.03
Variety	.11	.05	-.14	-.15	-.03	-.19	-.25	.	.06	.13	.09	-.15	.16	.12	.12	.25	.18
Situational Judgment Test (SJT)																	
Raw SME-Based	**-.37**	.	-.04	-.20	-.19	-.26	-.29	.06	.	.20	-.13	.06	.29	-.06	.02	.02	.06
Raw Consensus-Based	**-.37**	.	-.04	-.18	-.18	-.25	-.28	.07	.	.21	-.15	.03	.27	-.07	-.01	-.02	.03
Standardized SME-Based	**-.28**	.	.04	-.20	.01	.10	.07	-.16	.	.09	.06	-.15	.16	-.12	-.08	.12	-.06
Standardized Consensus-Based	-.25	.	.04	-.24	-.01	.08	.06	-.18	.	.10	.07	-.10	.17	-.08	-.04	.18	-.02
Army Identity																	
Identity Overlap	**.37**	-.02	.08	**.36**	.12	.02	**.34**	.	**.28**	-.15	-.20	-.20	.08	.03	.17	.07	.15
Identity Movement	**.35**	.01	.12	**.28**	-.25	-.09	.27	.	**.40**	-.20	-.15	.02	.04	.04	-.03	.08	.04
Identity Conflict	**.55**	.02	.07	**.30**	.00	-.01	.24	.	**.28**	-.12	-.22	**-.22**	-.02	-.13	.09	.05	-.01
Overall Identity with Army	**.46**	-.04	.10	**.31**	-.14	-.11	**.31**	.	**.48**	-.20	-.16	-.03	.00	.01	.03	.05	.05
NOID	**.48**	**.22**	.06	.21	.12	-.01	.05	.	-.15	.03	-.06	**-.23**	-.01	-.07	.12	.10	.00
Affect																	
Positive Affect	**.20**	-.18	.14	**.31**	.06	.23	**.34**	.	.27	-.15	-.24	.19	-.16	.05	.11	**.35**	.05
Negative Affect	-.04	**.28**	-.17	-.11	.21	-.05	-.12	.	-.03	.14	.27	.07	-.01	-.03	-.09	-.14	-.09
ASVAB																	
AFQT	-.02	.13	**-.16**	-.06	-.07	**-.26**	-.07	.18	-.09	-.03	.03	**-.21**	**.37**	.17	**.22**	.13	**.29**

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Demographics																	
Education	-.04	-.16	.01	-.03	.03	.10	.06	-.18	.16	.01	.07	-.04	-.11	.15	.10	.20	.11
Undergraduate GPA	-.02	.12	**.19**	.00	-.17	**.28**	.07	-.20	.02	-.13	-.20	-.05	-.06	-.02	-.09	-.05	-.05
Number of Children	-.01	.02	**.26**	-.02	.01	.09	.02	**-.33**	.02	.02	.11	.15	-.10	.01	-.11	-.03	-.03
Age	-.04	-.19	**.25**	.11	-.12	**.19**	.10	-.10	.06	-.07	-.11	.03	**-.23**	-.04	.01	.00	-.07
Time in Service	-.04	-.14	**.21**	.06	-.07	**.30**	-.11	-.12	.15	-.18	-.08	.13	-.14	**-.19**	**-.20**	**-.27**	**-.25**
Time Deployed	-.02	-.02	.09	.15	-.06	.04	.10	.04	.15	.01	-.10	.02	**-.29**	-.05	.03	.11	-.10
Branch Congruence Binary	**-.22**	.	-.07	-.04	-.02	**-.19**	.09	**.35**	.	-.11	.10	-.05	.17	.05	.19	.21	.16
Reasons for Applying to OCS																	
Serve my country	**.19**	-.14	.11	**.21**	-.15	-.01	.06	.22	**.29**	-.13	-.08	-.10	.06	**.24**	-.02	-.09	.15
Pay off debts	.13	.18	-.07	-.02	**.25**	-.03	-.05	-.08	.03	.12	.12	.06	-.15	-.15	-.10	-.10	-.15
Lack civilian opportunity	.13	**.43**	-.13	.04	**.41**	.02	.03	-.01	-.19	.12	.03	.10	-.08	-.09	-.04	.10	-.10
Retirement benefits	.11	**.26**	**.35**	.07	.00	**.19**	.03	-.08	-.07	-.12	.01	.05	-.09	-.10	**-.28**	-.16	**-.20**
Build a resume	.12	.20	**-.18**	-.12	-.01	**-.24**	.02	-.18	-.22	.04	.25	.05	-.10	-.14	-.11	-.05	**-.18**
Gain leadership experience	**.24**	.02	-.02	-.01	-.03	-.04	.08	-.10	-.06	.07	.08	-.08	-.15	.03	.06	.24	.02
Please friends or family	.12	.02	-.08	.09	.06	-.12	-.04	.09	-.15	-.08	.20	.11	-.10	.00	-.07	**-.28**	-.03

Note. AC = Affective Commitment, CC = Continuance Commitment, CI = Regular Army Career Intentions, MOR = Morale, BRSA = Branch Satisfaction, AID = Army Identity Structure, SBR = Soldier Breach of Contract, ABR = Army Breach of Contract, REC = Recycles, ACA = Academic Performance, LDR = Leadership Performance, FIT = Fitness Performance, APFT = Last Army Physical Fitness Test Score, TOT = Total OCS Performance Score. RBI Core *n* = 35-222, RBI Supplemental *n* = 15-82, Work Values Core *n* = 46-179, Work Values Supplemental *n* = 41-179, SJT *n* = 23-103, Army Identity *n* = 42-97, Need for Organization Identification (NOID) *n* = 42-97, Affect *n* = 42-97, ASVAB *n* = 17-199, Demographics *n* = 43-220, Reasons for Applying to OCS *n* = 50-221, Breach of Contract *n* = 50-115. Correlations in bold are statistically significant, *p* < .05.
*Was also treated as an experimental scale.

Table B.4. Bivariate Correlations between the OBEF and Criteria for All Candidates

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Rational Biodata Inventory (RBI)																	
Core Scales																	
Peer Leadership	**.16**	-.09	**.15**	**.21**	**-.12**	.09	**.19**	.07	**.17**	**-.13**	.02	-.04	.03	**.09**	.07	.09	**.09**
Achievement	**.25**	.03	**.14**	**.26**	-.07	**.12**	**.24**	**.14**	**.20**	**-.14**	-.05	.03	-.05	.04	**.09**	**.13**	.06
Fitness Motivation	.04	**-.14**	-.01	**.13**	**-.14**	-.02	.09	.04	.06	**-.14**	.01	**-.14**	.03	**.28**	**.46**	**.34**	**.38**
Stress Tolerance	**.16**	**-.23**	**.10**	**.14**	**-.20**	**.13**	**.22**	**.19**	**.24**	**-.11**	**-.23**	-.06	.03	.05	.06	.06	.06
Hostility to Authority	**-.12**	.06	**-.20**	**-.11**	-.01	**-.23**	**-.27**	-.07	**-.15**	**.11**	**.10**	-.05	.01	-.04	.02	-.08	-.02
Self-Efficacy	**.23**	**-.17**	**.18**	**.21**	**-.23**	**.14**	**.23**	**.14**	**.25**	**-.16**	-.06	-.05	**-.09**	**.10**	**.13**	**.18**	**.09**
Army Affective Commitment	**.48**	**.12**	**.36**	**.57**	.05	**.36**	**.31**	**.17**	**.32**	**-.14**	**-.21**	-.05	-.05	.03	.01	.00	.02
Continuance Commitment	.05	**.56**	**.24**	.07	**.48**	**.18**	.04	-.11	.03	.03	**-.10**	.08	-.07	-.06	-.08	-.01	-.08
Traditional Values	.03	**.10**	**-.11**	.03	-.02	**-.12**	.00	.04	-.03	-.08	.04	-.04	**.15**	.04	.02	-.02	.06
Lie Scale	**.08**	**-.17**	**.14**	.05	**-.10**	**.10**	**.22**	**.10**	**.15**	-.06	-.06	**.10**	-.05	-.01	.07	.10	.02
Supplemental Scales																	
Tolerance for Ambiguity	**.10**	.	**.13**	.05	**-.21**	.00	**.22**	.04	.	-.07	-.08	.07	-.14	.15	.07	-.23	.10
Micro-Management	**.11**	.	.04	**.18**	.01	.03	**.21**	.07	.	.05	-.05	-.04	-.01	.16	**.25**	**.26**	**.21**
Social Acuity	**.12**	.	**.11**	**.21**	-.07	.01	**.13**	.08	.	**-.13**	-.05	.02	**-.18**	**.20**	.02	-.15	.11
Verbal Communication	**.11**	.	.08	.11	**-.15**	.01	**.17**	-.04	.	-.12	-.02	-.01	**-.23**	.06	.06	-.18	.03
Written Communication	**.10**	.	-.08	-.03	**-.15**	**-.13**	.02	-.02	.	**-.17**	-.01	**-.15**	-.03	-.14	-.08	-.16	-.14
Work Values																	
Core Scales																	
Rugged Team Leadership	**.18**	.07	**.18**	**.15**	.03	.04	**.19**	.01	.13	-.04	-.02	-.05	**-.09**	**.10**	.06	.04	.06
Rugged Leadership	**.16**	.03	**.15**	**.11**	.01	.01	**.17**	.01	.09	-.06	-.01	-.06	-.08	**.13**	**.11**	.06	**.10**
Teamwork	**.15**	**.11**	**.18**	**.17**	.06	.07	**.17**	.02	**.16**	-.01	-.03	-.01	-.08	.04	-.03	.00	-.01
Flexibility/Choice	**-.16**	.06	**-.12**	**-.19**	.03	**-.23**	**-.11**	-.05	**-.17**	.03	**.18**	.02	-.06	.00	.02	.09	.00
Job Security*	.04	**.33**	**.17**	.07	**.26**	**.14**	.04	.02	.03	.00	.03	**.10**	**-.18**	.00	-.03	.03	-.04
Structure/Recognition	.03	**.24**	.04	.04	**.18**	.04	.00	.00	.05	-.01	.04	.01	**-.15**	**-.11**	.00	-.01	**-.10**
Altruism/Benevolence*	**.16**	.03	**.07**	**.16**	-.05	-.02	**.11**	.04	**.17**	-.07	-.03	**-.10**	**-.09**	.08	.05	.08	.06
Skill Development	**.10**	.07	**.12**	.07	-.05	.05	**.17**	.01	**.14**	**-.14**	-.07	-.02	.00	.02	.04	.10	.03

Table B.4. (Continued)

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Work Values																	
Supplemental Scales																	
Structure-Autonomy	**-.15**	**-.13**	.00	-.02	**-.14**	.05	-.06	.	.03	-.01	**-.14**	.02	.09	.07	.00	-.05	.07
Support	**-.13**	**.12**	**-.12**	**-.13**	.04	**-.18**	-.08	-.04	-.13	-.01	**.17**	.03	-.07	.02	.02	.06	.00
Leader-Benevolence	**.14**	.04	**.20**	**.16**	.01	**.11**	**.18**	.06	**.18**	-.09	-.03	-.03	**-.10**	**.12**	.06	.07	.07
Compensation	**.10**	**.25**	**.18**	**.14**	.11	.11	.09	.	.04	**-.14**	.06	.06	**-.13**	.03	-.01	.12	-.02
Challenge	**.14**	.00	**.08**	.07	**-.10**	-.02	**.17**	-.01	.10	**-.11**	-.02	**-.11**	-.01	.07	**.13**	.10	**.09**
Leader-Power	.06	**.11**	-.07	.06	.12	-.05	.11	.	-.01	.02	.05	-.01	-.09	.00	-.03	-.10	-.04
Stimulation-Stability	.05	**-.09**	-.03	.10	-.04	-.03	.08	.	.11	-.11	-.11	**-.10**	-.01	-.04	.05	-.01	-.01
Prestige	**.18**	**.24**	.02	**.15**	**.24**	.01	.04	.	.05	-.04	.04	.04	-.09	-.09	.00	-.03	-.07
Self-Development	**.10**	**.14**	**.14**	.08	.05	.09	**.14**	.02	**.15**	-.08	-.06	.00	-.06	.00	.04	.06	.01
Comfort	**-.18**	**.15**	-.03	**-.17**	.06	-.10	-.02	.	-.09	.09	**.22**	.07	**-.11**	-.08	**-.12**	-.08	-.13
Social	**.25**	**.10**	**.12**	**.21**	.06	.02	**.16**	.	.10	-.12	-.05	-.04	-.07	-.04	.00	.03	-.04
Team-Individual	**.18**	.01	**.22**	**.24**	.02	**.20**	**.20**	.02	**.24**	-.07	**-.12**	.00	-.05	.06	.00	-.01	.04
Variety	.13	.05	-.04	.10	.04	-.12	.02	.	.04	-.05	.03	-.04	-.01	.00	.03	.02	.00
Situational Judgment Test (SJT)																	
Raw SME-Based	-.06	.	-.05	-.02	-.01	-.05	-.11	.00	.	.00	**-.13**	-.07	**.27**	.03	-.06	-.06	.04
Raw Consensus-Based	-.06	.	-.06	-.01	-.02	-.07	-.10	.00	.	.00	**-.14**	-.06	**.26**	.01	-.06	-.06	.03
Standardized SME-Based	.02	.	.04	.04	-.07	.07	.01	.03	.	-.01	-.09	-.11	**.26**	.05	.04	.04	.10
Standardized Consensus-Based	.02	.	.07	.04	-.05	**.13**	.01	.03	.	-.01	-.07	-.11	**.27**	.09	.04	.03	**.13**
Army Identity																	
Identity Overlap	**.41**	.05	**.34**	**.38**	.05	**.37**	.26	.	**.38**	**-.14**	**-.18**	-.08	.04	**.15**	**.14**	.10	**.17**
Identity Movement	**.36**	.07	**.19**	**.33**	-.04	**.22**	**.26**	.	**.45**	-.12	**-.20**	-.06	-.03	.00	.04	.02	.01
Identity Conflict	**.49**	-.02	**.32**	**.42**	-.05	**.37**	.33	.	**.39**	-.13	**-.36**	-.09	.04	.06	.10	.08	.09
Overall Identity with Army									**.56**	-.13	**-.24**						
NOID	**.36**	**.22**	**.13**	**.31**	**.27**	.08	.10	.	.03	-.07	-.02	**-.10**	-.03	-.08	.02	-.05	-.05
Affect																	
Positive Affect	**.29**	.00	**.17**	**.29**	-.04	**.18**	**.28**	.	**.23**	-.11	-.11	.05	-.08	.03	.03	.10	.02
Negative Affect	**-.13**	**.11**	**-.17**	**-.15**	**.22**	**-.19**	-.09	.	-.12	.15	**.21**	.05	**-.12**	**-.15**	-.08	-.11	**-.16**
ASVAB																	
Combined AFQT	**-.09**	-.03	**-.36**	**-.13**	-.05	**-.35**	**-.15**	-.05	-.12	**-.08**	.00	**-.13**	**.31**	-.04	-.03	**-.17**	.03

Table B.4. (Continued)

Predictor/Scale	Time 1 - Concurrent			Time 2 - Longitudinal								Performance					
	AC	CC	CI	AC	CC	CI	MOR	BRSA	AID	SBR	ABR	REC	ACA	LDR	FIT	APFT	TOT
Demographics																	
Education	-.06	-.08	**-.16**	.03	-.04	-.05	.02	-.02	.08	-.06	-.03	-.01	.06	-.08	-.04	-.04	-.05
Undergraduate GPA	-.02	.08	**.06**	.03	**-.12**	**.10**	.04	.05	.02	**-.13**	**-.10**	-.03	**.08**	.02	.03	**.11**	.04
Number of Children	.05	**.10**	**.34**	**.12**	**.11**	**.31**	**.09**	.00	.05	.04	.02	.04	-.06	**.18**	.01	.09	**.11**
Age	.06	**.13**	**.33**	**.14**	.02	**.37**	**.12**	-.07	.11	-.01	-.06	.05	**-.15**	**.08**	.07	**.12**	.06
Time in Service	**.14**	.03	**.48**	**.16**	.02	**.47**	.06	.07	**.18**	-.02	-.08	.00	-.08	.09	-.02	.08	.04
Time Deployed	.04	.00	**.12**	**.12**	-.06	.04	.06	.03	.03	-.05	.04	.02	**-.13**	**.16**	.04	.10	.09
Branch Congruence Binary	**-.14**	.	-.02	**-.10**	-.01	-.03	-.06	**.28**	.	**-.13**	.06	-.02	.04	.06	**.12**	.11	.10
Reasons for Applying to OCS																	
Serve my country	**.24**	**-.10**	.08	**.24**	-.08	**.09**	.14	.09	**.22**	-.10	-.11	**-.09**	-.03	.07	-.05	**-.15**	.01
Pay off debts	.00	**.23**	**-.14**	-.01	**.21**	-.11	-.02	.07	.11	.05	.01	.04	-.07	**-.13**	**-.10**	-.07	**-.14**
Lack civilian opportunity	-.04	**.40**	**-.14**	-.05	**.38**	**-.14**	-.05	-.02	-.12	.05	.03	.07	-.04	**-.13**	-.07	-.05	**-.12**
Retirement benefits	**.10**	**.25**	**.42**	**.15**	**.20**	**.37**	.06	-.06	.06	.01	-.01	.00	**-.08**	**.09**	.00	.09	.04
Build a resume	**-.07**	**.17**	**-.19**	**-.13**	**.12**	**-.19**	**-.09**	-.10	**-.22**	-.03	**.13**	.06	-.02	.00	.04	**.11**	.01
Gain leadership experience	**.12**	.03	.01	**.11**	-.01	.01	**.09**	.03	-.09	-.06	-.06	-.02	**-.09**	-.03	.00	.07	-.05
Please friends or family	.01	.09	.03	**.12**	**.10**	.06	-.01	.02	.13	-.02	-.03	.05	**-.08**	.01	.02	.01	.00

Note. AC = Affective Commitment, CC = Continuance Commitment, CI = Regular Army Career Intentions, MOR = Morale, BRSA = Branch Satisfaction, AID = Army Identity Structure, SBR = Soldier Breach of Contract, ABR = Army Breach of Contract, REC = Recycles, ACA = Academic Performance, LDR = Leadership Performance, FIT = Fitness Performance, APFT = Last Army Physical Fitness Test Score, TOT = Total OCS Performance Score. RBI Core n = 213-1,298, RBI Supplemental n = 69-520, Work Values Core n = 213-966, Work Values Supplemental n = 213-966, SJT n = 140-718, Army Identity n = 212-445, Need for Organization Identification (NOID) n = 213-446, Affect n = 213-446, ASVAB n = 77-1,222, Demographics n = 130-1,254, Reasons for Applying to OCS n = 211-1,253, Breach of Contract n = 213-608. Correlations in bold are statistically significant, $p < .05$.
*Was also treated as an experimental scale.

Appendix C

Bivariate Intercorrelations between All OBEF Predictors

Correlation Tables Key

        The following denotes the numbers that represent each OBEF predictor scale in Tables C.1 to C.3.

Core Work Values Scales
1 = Rugged Team Leadership
2 = Rugged Leadership
3 = Teamwork
4 = Flexibility/Choice
5 = Job Security
6 = Structure/Recognition
7 = Altruism/Benevolence
8 = Skill Development

Supplemental Work Values Scales
1 = Structure-Autonomy
2 = Support
3 = Leader-Benevolence
4 = Compensation
5 = Challenge
6 = Leader-Power
7 = Stimulation-Stability
8 = Prestige
9 = Self-Development
10 = Comfort
11 = Social
12 = Team-Individual
13 = Variety

Identity and Affect Scales
1 = Identity Magnitude
2 = Identity Movement
3 = Identity Stability
4 = Identity Structure
5 = Need for Organizational Identity
6 = Positive Affect
7 = Negative Affect

Situational Judgment Test Scales
1 = Raw SME-Based
2 = Raw Consensus-Based
3 = Standardized SME-Based
4 = Standardized Consensus-Based

Table C.1. Bivariate Correlations among the RBI and All Other OBEF Predictors

Predictor/Scale	AFQT	Core Work Values								Supplemental Work Values				
		1	2	3	4	5	6	7	8	1	2	3	4	5
Core Scales														
Peer Leadership	-.05	**.36**	**.37**	**.27**	.07	.04	**.14**	**.29**	**.30**	**-.19**	.08	**.36**	**.16**	**.35**
Achievement	**-.10**	**.40**	**.37**	**.34**	.07	**.16**	**.19**	**.43**	**.45**	**-.28**	.07	**.43**	**.24**	**.42**
Fitness Motivation	**.08**	**.24**	**.27**	**.13**	.02	-.03	.03	**.17**	**.13**	**-.11**	.03	**.13**	.04	**.35**
Stress Tolerance	**.10**	-.06	-.06	-.05	**-.28**	**-.12**	**-.18**	.01	.04	**.22**	**-.25**	.01	**-.12**	.07
Hostility to Authority	**.08**	-.02	.00	-.04	.07	**-.09**	.03	**-.10**	**-.22**	.01	-.01	**-.11**	**-.13**	**-.09**
Self-Efficacy	**-.16**	**.34**	**.35**	**.24**	.07	.06	**.08**	**.31**	**.30**	**-.20**	**.10**	**.32**	**.20**	**.37**
Army Affective Commitment	**-.15**	**.32**	**.31**	**.27**	**-.15**	**.15**	**.21**	**.34**	**.18**	**-.16**	**-.10**	**.30**	**.09**	**.23**
Continuance Commitment	**-.21**	.05	.00	**.12**	.05	**.31**	**.15**	-.07	.05	**-.10**	**.08**	-.01	**.26**	-.03
Traditional Values	**.17**	**.18**	**.19**	**.11**	.02	.05	**.11**	**.13**	**.13**	**-.16**	.06	**.09**	.04	**.17**
Lie Scale	**-.23**	**.15**	**.14**	**.14**	**.07**	**.08**	**.08**	**.20**	**.19**	**-.16**	**.07**	**.18**	.07	**.19**
Supplemental Scales														
Tolerance for Ambiguity	.05	**.27**	**.28**	**.18**	-.03	**-.10**	**-.13**	**.15**	**.21**	.	-.06	**.20**	.	**.30**
Micro-Management	**-.16**	**.19**	**.19**	**.14**	.04	.08	**.25**	**.13**	.06	.	.04	**.16**	.	**.14**
Social Acuity	**-.11**	**.31**	**.30**	**.25**	.02	.02	**.10**	**.23**	**.24**	.	.01	**.29**	.	**.26**
Verbal Communication	.03	**.12**	**.13**	.05	**-.10**	-.04	-.04	**.10**	**.14**	.	**-.11**	**.13**	.	**.17**
Written Communication	**.23**	.01	.05	-.05	-.08	**-.19**	-.04	**.19**	**.16**	.	**-.14**	.04	.	**.19**

Table C.1. (Continued)

Predictor/Scale	Supplemental Work Values (continued)								Identity and Affect						
	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7
Core Scales															
Peer Leadership	.11	.14	.18	.25	-.15	.23	.20	.22	.17	.14	.16	.18	.17	.36	-.12
Achievement	.12	.08	.25	.38	-.11	.29	.23	.26	.21	.20	.17	.23	.37	.42	-.06
Fitness Motivation	.10	.17	.13	.07	-.26	.15	.13	.17	.13	.15	.11	.18	.06	.23	-.19
Stress Tolerance	-.20	.16	-.18	-.03	-.21	-.07	.15	-.06	.15	.15	.30	.19	-.12	.17	-.43
Hostility to Authority	.12	.08	.07	-.18	.01	.01	-.11	.06	-.11	-.09	-.11	-.11	-.08	-.13	.16
Self-Efficacy	.04	.12	.10	.25	-.11	.19	.17	.24	.22	.20	.23	.26	.10	.36	-.14
Army Affective Commitment	.10	.10	.24	.22	-.25	.21	.26	.11	.48	.38	.47	.44	.42	.33	-.11
Continuance Commitment	.06	-.08	.15	.11	.16	.12	.04	.04	.10	.06	.04	.02	.16	.05	.06
Traditional Values	.17	.09	.11	.12	-.11	.11	.04	.11	.13	.04	.01	.05	.21	.04	.12
Lie Scale	-.07	.03	.02	.16	.00	.06	.10	.14	.06	.06	.15	.10	-.03	.13	-.16
Supplemental Scales															
Tolerance for Ambiguity	.	.	.	.07	.	.	.15	.	.	.	.	.	.	.	.
Micro-Management	.	.	.	.15	.	.	.11	.	.	.	.	.	.	.	.
Social Acuity	.	.	.	.17	.	.	.20	.	.	.	.	.	.	.	.
Verbal Communication	.	.	.	.09	.	.	.10	.	.	.	.	.	.	.	.
Written Communication	.	.	.	.02	.	.	-.09	.	.	.	.	.	.	.	.

Table C.1. (Continued)

Predictor/Scale	Situational Judgment Test			
	1	2	3	4
Core Scales				
Peer Leadership	-.01	-.01	**.12**	**.14**
Achievement	-.09	-.08	**.16**	**.17**
Fitness Motivation	-.01	-.02	.03	.05
Stress Tolerance	.08	.08	**.14**	**.12**
Hostility to Authority	**.13**	**.12**	**-.14**	**-.13**
Self-Efficacy	**-.11**	**-.11**	.09	**.11**
Army Affective Commitment	-.07	-.06	.07	.07
Continuance Commitment	-.05	-.06	-.01	.00
Traditional Values	.03	.05	.09	.07
Lie Scale	**-.20**	**-.19**	-.06	-.07
Supplemental Scales				
Tolerance for Ambiguity	**-.12**	**-.12**	.06	.07
Micro-Management	-.08	-.05	-.04	-.06
Social Acuity	**-.20**	**-.20**	.03	.04
Verbal Communication	**-.13**	**-.14**	.02	.05
Written Communication	-.05	-.05	.08	.07

Note. RBI Core n = 369-1266, RBI Supplemental n = 347-526. Empty cells indicate the two scales were not administered to the same Candidates.

Table C.2. Bivariate Correlations among the Work Values and All Other OBEF Predictors

Predictor/Scale	AFQT	Identity and Affect							Situational Judgment Test			
		1	2	3	4	5	6	7	1	2	3	4
Core Scales												
Rugged Team Leadership	**-.26**	**.22**	**.17**	**.17**	**.23**	**.41**	**.40**	.07	**-.24**	**-.22**	-.01	-.01
Rugged Leadership	**-.23**	**.20**	**.15**	**.15**	**.21**	**.34**	**.36**	.08	**-.23**	**-.22**	-.06	-.06
Teamwork	**-.24**	**.19**	**.16**	**.15**	**.20**	**.42**	**.37**	.04	**-.17**	**-.16**	.08	.07
Flexibility/Choice	**-.14**	**-.19**	**-.15**	**-.17**	**-.14**	-.06	-.02	**.19**	**-.13**	**-.14**	**-.10**	-.09
Job Security*	**-.26**	.07	.04	.04	.07	**.30**	**.20**	.02	**-.15**	**-.15**	-.04	-.03
Structure/Recognition	**-.22**	.07	.09	.06	**.15**	**.32**	**.20**	**.20**	**-.11**	-.09	-.03	-.04
Altruism/Benevolence*	**-.09**	**.17**	**.18**	**.15**	**.22**	**.35**	**.40**	-.05	**-.16**	**-.15**	.04	.05
Skill Development	**-.10**	**.14**	**.13**	**.10**	**.17**	**.29**	**.41**	-.05	**-.18**	**-.17**	.06	.06
Supplemental Scales												
Structure-Autonomy	**.26**	-.04	-.01	-.01	-.07	**-.23**	**-.22**	**-.17**	.	.	.	.
Support	**-.15**	**-.14**	-.09	**-.12**	-.09	.01	.03	**.16**	**-.10**	**-.11**	-.09	-.08
Leader-Benevolence	**-.32**	**.18**	**.19**	**.18**	**.23**	**.34**	**.35**	.04	**-.25**	**-.23**	-.05	-.05
Compensation	**-.27**	.07	.04	.02	.06	**.19**	**.17**	.03	.	.	.	.
Challenge	**-.07**	**.17**	**.15**	**.12**	**.21**	**.30**	**.41**	-.06	**-.12**	**-.12**	.05	.05
Leader-Power	-.08	.03	-.02	-.03	.01	**.17**	.07	**.19**	.	.	.	.
Stimulation-Stability	**.15**	.05	**.11**	.07	.09	.00	**.09**	-.05	.	.	.	.
Prestige	**-.13**	.07	**.10**	.08	**.16**	**.35**	**.23**	**.12**	.	.	.	.
Self-Development	**-.19**	**.16**	**.12**	**.13**	**.18**	**.31**	**.35**	.04	**-.14**	**-.13**	.07	.06
Comfort	**-.30**	**-.19**	**-.14**	**-.18**	**-.16**	**-.10**	**-.18**	**.12**	.	.	.	.
Social	**-.18**	**.13**	**.13**	**.16**	**.17**	**.35**	**.28**	.04	.	.	.	.
Team-Individual	**-.17**	**.23**	**.21**	**.19**	**.22**	**.34**	**.33**	**-.15**	-.07	-.06	**.13**	**.12**
Variety	**-.11**	.02	.05	.06	**.12**	**.18**	**.24**	.07	.	.	.	.

Note. Work Values Core *n* = 369-910, Work Values Supplemental *n* = 369-910. Empty cells indicate the two scales were not administered to the same Candidates. Intercorrelations for the Core and Supplemental RBI Scales can be found in Table C.1.

Table C.3. Bivariate Correlations among the Identity and Affect Scales and AFQT

Predictor/Scale	AFQT
Army Identity Scales	
Identity Magnitude	**-.12**
Identity Movement	-.04
Identity Stability	**-.15**
Identity Structure	**-.12**
Need for Organizational Identity (NOID) Scale	-.06
Affect Scales	
Positive Affect	**-.10**
Negative Affect	**-.12**
Situational Judgment Test	
Raw SME-Based	**.27**
Raw Consensus-Based	**.28**
Standardized SME-Based	**.15**
Standardized Consensus-Based	**.12**

Note. Army Identity Scales $n = 419$, NOID $n = 420$, Affect Scales $n = 420$, Situational Judgment Test $n = 698$. Empty cells indicate the two scales were not administered to the same Candidates.