Research Note 80-31

A LONGITUDINAL INVESTIGATION OF THE ARMY OFFICER CAREER COMMITMENT PROCESS

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The first-year activities of a six-year longitudinal investigation of the Reserve Officers' Training Corps (ROTC) route to becoming an Army officer are reported. The investigation will refine a model of ROTC/Army career commitment developed earlier. The first year of the longitudinal project was devoted to planning, sampling, and instrument development activities. The second through sixth years will be devoted to data collection from a national sample of ROTC students as they progress through college and being Army service.

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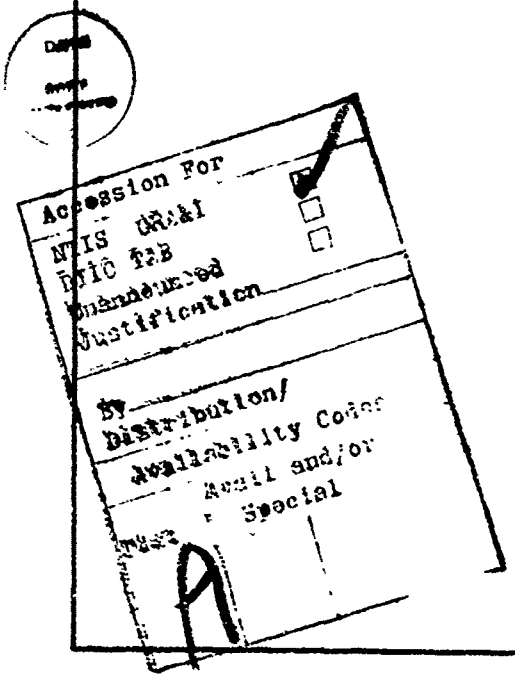
Item 20 (Continued)

Comparison data will be collected yearly from new ROTC students and from college students not enrolled in ROTC.

During the first year a sample of 20 colleges was drawn and arrangements were made for their participation in the study; the career commitment model being examined by the investigation was expanded to enrich the notion of commitment and to include the variable of performance; appropriate survey instruments were developed and pretested; and a data analysis plan was developed. These activities were supported by reviews of the literature on organizational commitment and performance; interviews with ROTC instructors, ROTC students, and non-ROTC students at six colleges; and a survey of 931 college students (461 in ROTC) at 13 colleges across the country.



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This project could not have been carried out without the help of staff members of the U.S. Army Research Institute and the U.S. Army Training and Doctrine Command. The Contracting Officer's Technical Representative, Mr. Anthony Castelnovo, and Alternate Technical Representative, Dr. Jack Hicks, were especially helpful. Thanks to them, the following services and information were made available to the project:

- contact with schools participating in the interviews, the pretest, and the longitudinal investigation; and
- acquisition of papers and documents needed for sampling, for the literature reviews, and for instrument development.

Ms. Terry Collins, Brigadier General Daniel French, Colonel William McKay, and Dr. John Weldon of the Training and Doctrine Command assisted with the school contacts. Dr. Michael Rumsey of the Army Research Institute assisted with the acquisition of papers and documents.

Dr. Douglas T. Hall, Professor of Organization Behavior at Northwestern University, collaborated with the project staff throughout the investigation. Dr. Hall prepared the career commitment literature review contained in Appendix A and the specifications for measuring the commitment construct. In addition, Dr. Hall reviewed an earlier draft of this report and served generously as a consultant on all phases of the study.

Ms. Patricia Spurr worked as a research assistant and secretary on the project, and lived patiently through the many drafts of the instruments, literature reviews, and interview content analyses.

The Professors of Military Science at the 13 colleges participating in the formative phase of the project and at the 20 colleges in the longitudinal study itself and their associates in the Departments of Military Science were most helpful in setting up data collection arrangements at their respective institutions.

To all these individuals go our sincere thanks.

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BRIEF

Requirement

A six-year longitudinal investigation of the ROTC/Army career commitment process was begun to provide a better understanding of commitment by refining and testing a detailed descriptive model. The study will not only contribute to an understanding of the process but will provide valuable information to the U.S. Army Training and Doctrine Command, the ROTC regional commands, and to the ROTC Professors of Military Science for use in recruitment, selection, and retention.

Procedure

The first year of the investigation was devoted to planning, sampling, and instrument development activities. A longitudinal plan was developed in which a national sample of freshman and sophomore ROTC students from the fall of 1979 will be studied as they progress through college and begin Army service. This sample will be surveyed at the beginning of the 1979 through 1983 academic years. The longitudinal sample will be supplemented by students joining ROTC on an advanced placement basis. Comparison data will be collected yearly from new freshman and sophomore students, both in and out of the ROTC programs.

During the first year a sample of 20 colleges was drawn and arrangements were made for their participation in the project. Arrangements were also made for collecting data from ROTC students, non-ROTC students, and an ROTC staff officer at each of the 20 colleges. The career commitment model being examined by the investigation was expanded to enrich the notion of commitment and and to include the variable of performance. Measures of ROTC student commitment and performance were developed and pretested, and ROTC student, non-ROTC student, and ROTC staff officer questionnaires were constructed. A plan for analyzing data to be gathered in Year 2, the first data collection round, was also developed.

These first year activities were supported by reviews of the literature on organizational commitment and performance; by interviews with 17 ROTC instructors, 99 ROTC students, and 96 non-ROTC students at six colleges across the country; and by a survey of 931 college students (461 in ROTC) at 13 colleges across the country.

Findings

The Year 1 activities, including the literature reviews, interviews, and surveys, were all for the purpose of planning and preparing for the Year 2-6 data collection rounds. The first year activities revealed that commitment may consist of three types of involvement: moral, calculative, and alienative. These types were used in expanding the career commitment model being used in the research. The first year activities also revealed that ROTC cadet performance may consist of six dimensions: military appearance, leadership, academic ability, athletic ability, planning and organizing, and personal qualities desirable in an officer.

Utilization

The Year 1 planning, sampling, and instrument development activities will be utilized in conducting the Year 2-6 data collection and analysis rounds of a longitudinal investigation of the ROTC/Army career commitment process.

A LONGITUDINAL INVESTIGATION OF THE ARMY OFFICER CAREER COMMITMENT PROCESS

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CHAPTER I

OVERVIEW OF THE SIX-YEAR PROJECT

This report describes the activities and achievements of the first year of a six-year longitudinal study of the Reserve Officers' Training Corps (ROTC) route to becoming an Army officer. The study builds on a previous project entitled "Development of a ROTC/Army Career Commitment Model" conducted by the American Institutes for Research for the U.S. Army Research Institute for the Behavioral and Social Sciences (Card, Goodstadt, Gross & Shanner, 1975).

The mandate of the earlier project was to develop and test a model of career commitment in the young adult (primarily college) years. The model was to be broad enough to provide insight into the general career development process in these formative years, but specific enough to provide the Army with information it could use in recruiting, selecting, and retaining qualified officers via its college-campus Reserve Officers' Training Corps program.

The original model was developed from a survey of the scientific literature and from interviews with ROTC cadets, Army officers, and non-ROTC college students. This model was then refined using information collected from nationwide stratified random samples of high school seniors, college students (half in ROTC) and ROTC-graduate Army officers in their period of obligated Army service. Finally, the project pointed out implications of the results for ROTC/Army recruitment, selection, and retention.

Because of its limited duration, the earlier project studied the career commitment process cross-sectionally, even though it is inherently a longitudinal process occurring over many years with continuous interaction between the individual and the environment. That is to say, instead of studying one group of individuals for several years (longitudinally), several groups of individuals at different stages of the career commitment process (cross-sections) were studied at one point in time.

Several important questions could not be answered by the initial study because of its design. Were the obtained cross-sectonal group differences caused by:

1. age differences across the groups;

2. incomparability of the groups due to the different socio-political context in which decisions to join the career path were made;

3. greater homogeneity in the older groups because those who were dissatisfied dropped out; and/or

4. actual changes in career path participants brought about by the ROTC/Army experience?

The present research is aimed at answering these questions via a longitudinal investigation of the Army officer career commitment process as it evolves in the young adult years.

Background

The descriptive model of ROTC/Army career commitment developed by the cross-sectional study is presented in Figure 1. The model includes nine global factors hypothesized to be related to career commitment in general: (a) the U.S. and world political and socioeconomic context; (b) the school and study program context; (c) individual background and primary socialization factors; (d) individual aptitudes; (e) individual life experiences or secondary socialization conditions; (f) individual values, interests, and aspirations; (g) individual attitudes; (h) information acquired by the individual about the career; and (i) career-related experiences. Each of these predictor factors is represented by a box in Figure 1. The model also includes numerous specific variables under each of these global factors which were found to be operative in the ROTC/Army career commitment process in particular. These specific variables are listed inside the boxes in Figure 1. The criterion variables of ROTC/Army participation and commitment are represented as diamonds in Figure 1.

The following major findings emerged from the cross-sectional study:

1. ROTC cadets differ from their classmates in their demographic background, their aptitudes, their social environment, and especially their sociopsychological profile (values, interests, aspirations, attitudes). With respect to demographic differences, a greater proportion of cadets come from military families and from families that moved around a lot while the student was growing up. With respect to aptitude differences, ROTC cadets report lower academic grades than their classmates, but higher physical education abilities. With respect to social environment, ROTC cadets perceive their friends and especially their parents as having more favorable attitudes toward the military than their classmates do. With respect to sociopsychological differences, cadets place relatively higher value on patriotism, leadership, conformity, acceptance of authority, and recognition than their classmates, and relatively lower value on aestheticism, independence, religiousness, benevolence, and egalitarianism. Cadets would make relatively better organizational members than their classmates: they have higher bureaucratic tendencies, lower need to control their destiny, lower alienation, and stronger commitment to the reputation of the organization. They also attach more importance to their careers than their classmates do, and they are more likely to have taken steps toward exploring and establishing themselves in a career. Cadets place lower importance than their classmates on the job dimensions of salary, utilization of skills, stability of home life, personal freedom, and geographic desirability, but higher importance on the job dimensions of responsibility, more schooling, chance to be a leader, adventure, feedback on performance, and advancement opportunity. They are more conservative politically than their classmates. Not surprisingly they subscribe more fully to military ideology and they have more favorable attitudes towards

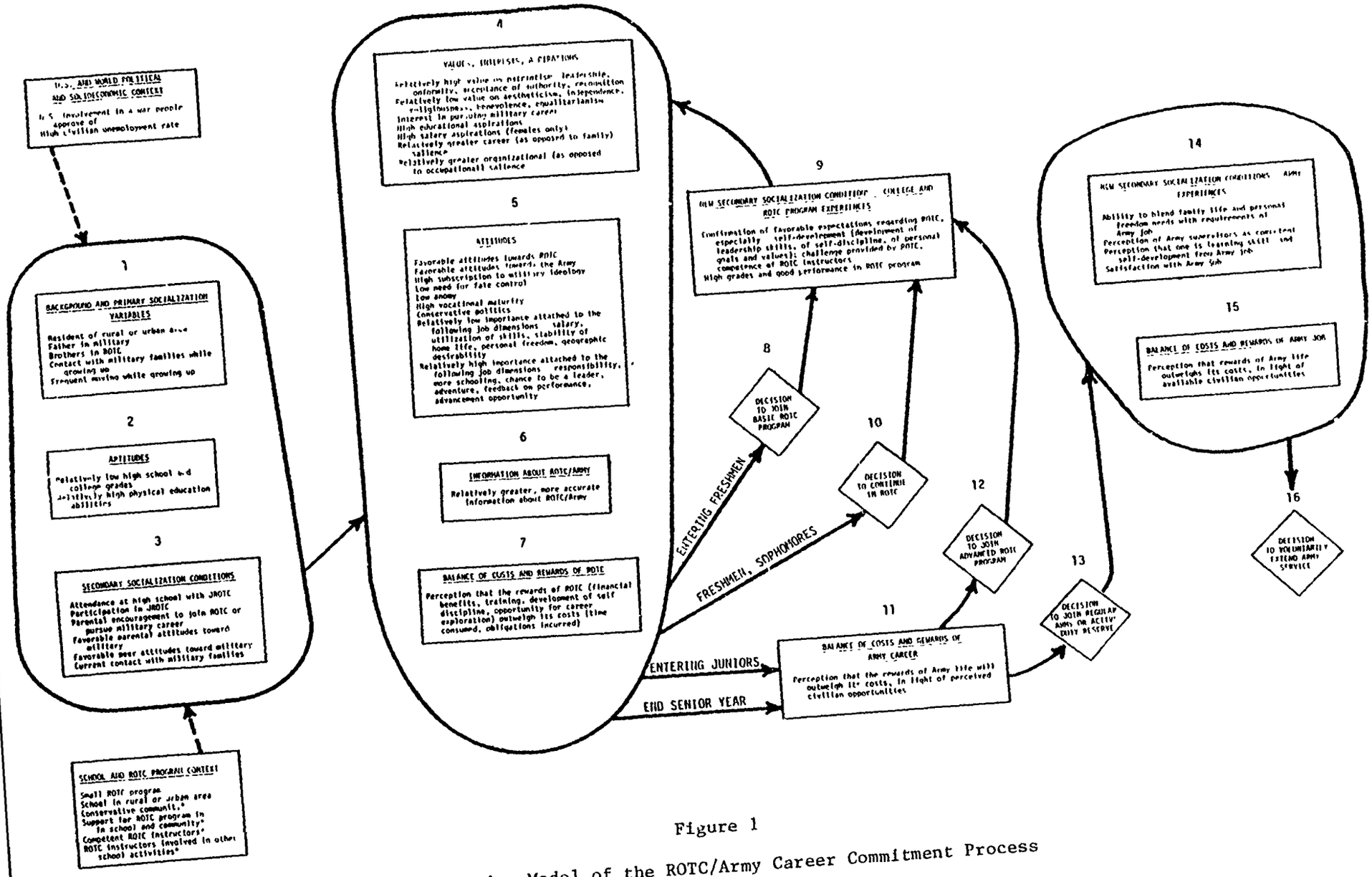

Figure 1

Descriptive Model of the ROTC/Army Career Commitment Process

ROTC and the Army than their classmates. They also have more accurate information than their classmates about ROTC and the Army.

2. These differences between ROTC cadets and their classmates become larger with time, as one moves from the high school to the early college to the late college samples.

3. Different factors impinge on commitment at different stages of the career commitment process. At the early college career stage of Basic ROTC, the "remote" predictor variables (demographic background, aptitudes, social environment while growing up) are very salient. Among these freshman and sophomore cadets, career of father, parental attitudes toward the military, and reason for joining ROTC are the most important determinants of commitment. At the late college career stage of Advanced ROTC, the salience of the "remote" background predictors gives way to "intermediate" influences on commitment, especially the match between an individual's values, attitudes, and aspirations and those required by an Army officer career. At the immediate post-college career stage of obligated Army service, the most salient determinants of commitment switch from the "remote" and "intermediate" predictors relevant during the college years to "current" job-experience variables. Job satisfaction is the strongest determinant of commitment among Army officers. Other important determinants of commitment at the Army officer career stage are: the ability the blend family life and personal freedom requirements with the demands of an Army officer job, the perception that one's supervisors are competent, and the perception that one is developing and learning skills from the job. Parental attitudes toward the military are no longer so important a determinant of commitment at the Army officer career stage, except for the Black officer subgroup.

4. Early exposure to a career path increases subsequent participation in and commitment to the career path. (a) A strong career modeling effect was found in the study, with proportionately more ROTC students and Army officers having military career fathers than non-ROTC students. Also, within the ROTC student and Army officer groups, those having a military father are more committed to ROTC/Army than those having a civilian father. (b) Proportionately more ROTC students than non-ROTC students have relatives (siblings, cousins) in ROTC or the military. (c) Participation in high school Junior ROTC is positively related to ROTC/Army commitment among ROTC college students. Attendance at a high school with Junior ROTC is positively related to ROTC/Army commitment among high school students, even when Junior ROTC participants are excluded from the computation. (d) ROTC cadets who decide to join ROTC before their sophomore year in college have higher commitment to ROTC/Army than ROTC cadets who decide to join ROTC in their sophomore year.

5. The more intrinsic or free one's initial motivation in joining ROTC, the greater the likelihood of subsequent commitment to ROTC/Army. (a) Cadets who join ROTC to receive an Army commission or from patriotic motives are much more committed to ROTC/Army than cadets who join ROTC to receive its financial benefits or, previously, to avoid the draft. (b) There is no evidence that scholarships, a strong external inducement to ROTC participation, are able to retain qualified officers beyond their period of obligated Army service. (c) Respondents who perceive ROTC as a vehicle for achieving (admittedly positive) instrumental ends--to satisfy

parents, to earn money in college, to have a good time, to have a guaranteed job after graduation, to postpone decisions about what to do after college--tend to have low commitment to ROTC/Army, presumably because they joined ROTC for these instrumental ends rather than to truly explore a military career.

6. ROTC experiences while in college affect commitment, but only indirectly, by shaping cadets' expectations about future Army life. Experiences in ROTC--especially high grades, good performance, perceived self-development and gaining of leadership experience, challenge provided, and competence of ROTC instructors--impact on cadets' commitment by leading cadets to have favorable expectations of Army life. It is these high expectations for the future which produce commitment.

7. There appears to be a sharp break in commitment and in favorability of military-related attitudes between the college and immediate post-college career stages. Military-attitude data from Army officers in the study were consistently and significantly less favorable than data from college cadets.

8. Regular Army officers are much more committed to an Army career than Active Duty Reserve officers.

9. Proportionately fewer Black ROTC graduates (compared to their White peers) are selected for a Regular Army commission. Despite this underrepresentation in the Regular Army and consequent overrepresentation in the Reserves, Black Army officers have higher commitment to ROTC/Army than White Army officers.

10. Officers who value dimensions which the Army satisfies are more committed to an Army career than officers who value dimensions which the Army does not satisfy. The dimensions on which an Army officer job received most favorable ratings were: chance to be a leader, adventure, responsibility, advancement opportunity, and self-improvement. Importance ratings assigned to these dimensions were positively related to commitment among cadets and officers. The dimensions on which an Army officer job received less favorable ratings were: stability of home life, personal freedom, geographic desirability, contribution to society, utilization of skills, and family contentment. Importance ratings assigned to these dimensions were negatively related or unrelated to commitment among cadets and officers.

11. Important differences exist in the career commitment processes of Black and White Army officers. The demographic background and social environment variables are more highly related to Black officer than to White officer commitment. Parental encouragement, especially, has a strong direct influence on Black officers' commitment. For White officers, parental encouragement has only a weak, indirect influence on commitment. Commitment of White officers is to a large extent determined by predispositions present just before entering Army service. Commitment of Black officers, on the other hand, is determined directly by parental encouragement or by experiences occurring while in the Army.

Objectives

As has been noted, the cross-sectional nature of the initial study did not allow investigation of several crucial questions about the career commitment process. The present longitudinal study utilizes a research design that will permit investigation of these questions:

1. With respect to Findings 1 and 2 regarding increasing differences in the demographic and sociopsychological profile of ROTC cadets and their classmates: To what extent are these increasing differences attributable to: (a) attrition from the cadet ranks of those who do not "fit" the military mold; (b) actual sociopsychological changes in the cadets' profile influenced by the ROTC program; or (c) a combination of these two mechanisms?

2. With respect to Findings 1, 3, 4, 5, and 10 regarding obtained correlates of participation and commitment: To what extent do these findings have predictive, and not just concurrent, validity? That is to say, can later commitment be predicted from these variables measured at an earlier point in time?

3. With respect to Finding 7 about the sharp discrepancy in military-related attitudes held by cadets and officers, with officer ratings being consistently and significantly less favorable than cadet ratings: What is the cause of this finding--disconfirmation by the Army experience of favorable expectations held while in college; incomparability of the cadet and officer samples, owing to the fact that the Army sample was recruited into ROTC during the Vietnam War draft; or a combination of these mechanisms? Of crucial concern to the Army should be: to what extent will the favorable attitudes and expectations of the present group of cadets decline during their period of obligated Army service; and why?

4. The earlier study focused solely on career commitment but did not consider career performance. For this reason definitive recommendations could not be made about some important findings emerging from the study. For example:

   4a. It was found that possession of an ROTC-scholarship did not have any long-term influence on career commitment. However, the relationship between possession of a scholarship and subsequent job performance as an Army officer was not examined. How do scholarship holders differ from their fellow cadets with respect to demographic background, aptitudes, career commitment, and eventual job performance? What benefits does the scholarship program bring the Army? And do these benefits warrant the expenses involved? The present longitudinal study will evaluate the effectiveness of the ROTC scholarship program.

   4b. It was found that proportionately fewer Black ROTC graduates, compared to their White peers, are selected for a Regular Army commission. Despite this underrepresentation in the Regular Army, Black officers have higher commitment to the Army than White officers. What is the relationship between

race, performance, commitment, and the awarding of Regular Army commissions?

4c. It was found that cadets who joined ROTC in their junior year in college had significantly lower commitment to ROTC/Army than cadets who were members of high school JROTC and/or college Basic ROTC. Is there a similar relationship between time of entry into the ROTC program and performance as an Army officer? Such a result would argue against the present college ROTC dual entry-point system.

4d. It was found that ROTC students had lower high school and college grades than non-ROTC students. But are grades and academic aptitude related to performance as an Army officer? If so, recruitment of cadets of higher academic ability should be made a top priority concern of the Army.

The present study will provide empirical answers to the foregoing questions. In doing so it should make a further contribution to understanding the process of career commitment in the young adult years, and should provide the Army with additional information it can use in recruiting, selecting, and retraining cadets and officers of high quality.

Methods

The study covers five yearly data collection rounds over a six-year period. The first year being reported on here (September 29, 1978 - September 28, 1979) was devoted to planning, sampling, and instrument development activities. The second through sixth years will be devoted to data collection, analysis, and write-up, as follows:

Year 2	Sept. 1979-Aug. 1980	First National Data Collection, Analysis, and Write-up
Year 3	Sept. 1980-Aug. 1981	Second National Data Collection, Analysis, and Write-up
Year 4	Sept. 1981-Aug. 1982	Third National Data Collection, Analysis, and Write-up
Year 5	Sept. 1982-Aug. 1983	Fourth National Data Collection, Analysis, and Write-up
Year 6	Sept. 1983-Aug. 1984	Fifth National Data Collection, Analysis, and Write-up

The remainder of this chapter will describe the samples, data collection method, and variables to be studied in the second through sixth

years of the study. Subsequent chapters will then discuss in detail the planning and development activities that took place in Year 1.

The Samples

Figure 2 gives the layout of the study samples. Two longitudinal samples, consisting of ROTC freshmen (Group A) and ROTC sophomores (Group D) from 20 ROTC college detachments, will be studied for a five-year period by means of yearly surveys conducted at the beginning of the 1979 through 1983 academic years. As was the case with the earlier cross-sectional study, participating colleges and universities were drawn from the universe of 276 schools offering a college ROTC program. The sample was stratified by ownership of school (public; private), ROTC region (1; 2; 3; 4), and size of school (small: less than 3,000 undergraduates; medium: 3,000-12,000 undergraduates; large: over 12,000 undergraduates). Figure 3 presents the make-up of the school sample.

The numbers in Figure 3 were generated using the Closing Enrollment Report for the School Year 1977-78 (Ft. Monroe, VA: U.S. Army Training and Doctrine Command, 1978). First, the percentage of Army ROTC cadets attending public versus private institutions was calculated. Second, within each of these two groups, the percentage of students in each ROTC region was determined. Finally, within each region the percentage of students in each school-size category was calculated. Obtained percentages are given directly in Figure 3. The numbers in parentheses following the percentage figures give the number of sample colleges and universities falling into each branch. An example will illustrate how these numbers were obtained. Column 2 in the Figure shows that, in the 1977-78 school year, 72% of Army ROTC cadets were enrolled in public schools; 28% were in privately owned schools. Thus 14 of the 20 (70%) sample schools should be public and six should be private. The final numbers of sample schools required for each of the strata of interest are given in the last column of Figure 3.

In accordance with this sampling plan, twenty "first choice" colleges and universities with the characteristics described in Figure 3 were randomly selected from the ROTC Closing Enrollment Report for the School Year 1977-78 for inclusion in the study. In addition, two alternates for each first choice school were drawn. The schools are listed in Table 1.

An example will help illustrate the school selection procedure used. The sampling specifications (Figure 3) stated that one small, public college in ROTC Region 1 should be chosen. Eight ROTC detachments across the country fall in this stratum (small; public; in ROTC Region 1). The names of the eight schools were put in a pool, and one of the eight--South Carolina State College--was randomly selected as the first-choice representative of this stratum. This school was then eliminated from the universe and a first alternate school--Georgia Military College--was drawn, again at random. Finally, with the first two schools eliminated from the school pool, a third random choice--Fort Valley State College--was drawn. A similar procedure was followed for the remaining 19 strata.

Two of the first choice schools in Table 1--the Universities of Hawaii and Puerto Rico-Mayaguez--were eliminated because they were not located in

Group Designation Label	Data Collection Point				
	Fall 1979	Fall 1980	Fall 1981	Fall 1982	Fall 1983
Samples to be Studied Longitudinally					
Group A	Freshman ROTC	→ Sophomore ROTC	→ Junior ROTC	→ Senior ROTC	→ First Year Army Officer
Group B		New Entrants Sophomore ROTC	→ Junior ROTC	→ Senior ROTC	→ First Year Army Officer
Group C			New Entrants Junior ROTC	→ Senior ROTC	→ First Year Army Officer
Group D	Sophomore ROTC	→ Junior ROTC	→ Senior ROTC	→ First Year Army Officer	→ Second Year Army Officer
Group E		New Entrants Junior ROTC	→ Senior ROTC	→ First Year Army Officer	→ Second Year Army Officer
Comparison Samples to be Studied Once					
Groups F-I (N=1000 each)		F: Freshman ROTC	G: Freshman ROTC	H: Freshman ROTC	I: Freshman ROTC
Groups J-N (N=300 each)	J: Freshman non-ROTC	K: Freshman non-ROTC	L: Freshman non-ROTC	M: Freshman non-ROTC	N: Freshman non-ROTC
Groups O-S (N=300 each)	O: Sophomore non-ROTC	P: Sophomore non-ROTC	Q: Sophomore non-ROTC	R: Sophomore non-ROTC	S: Sophomore non-ROTC

Figure 2

The Study Samples

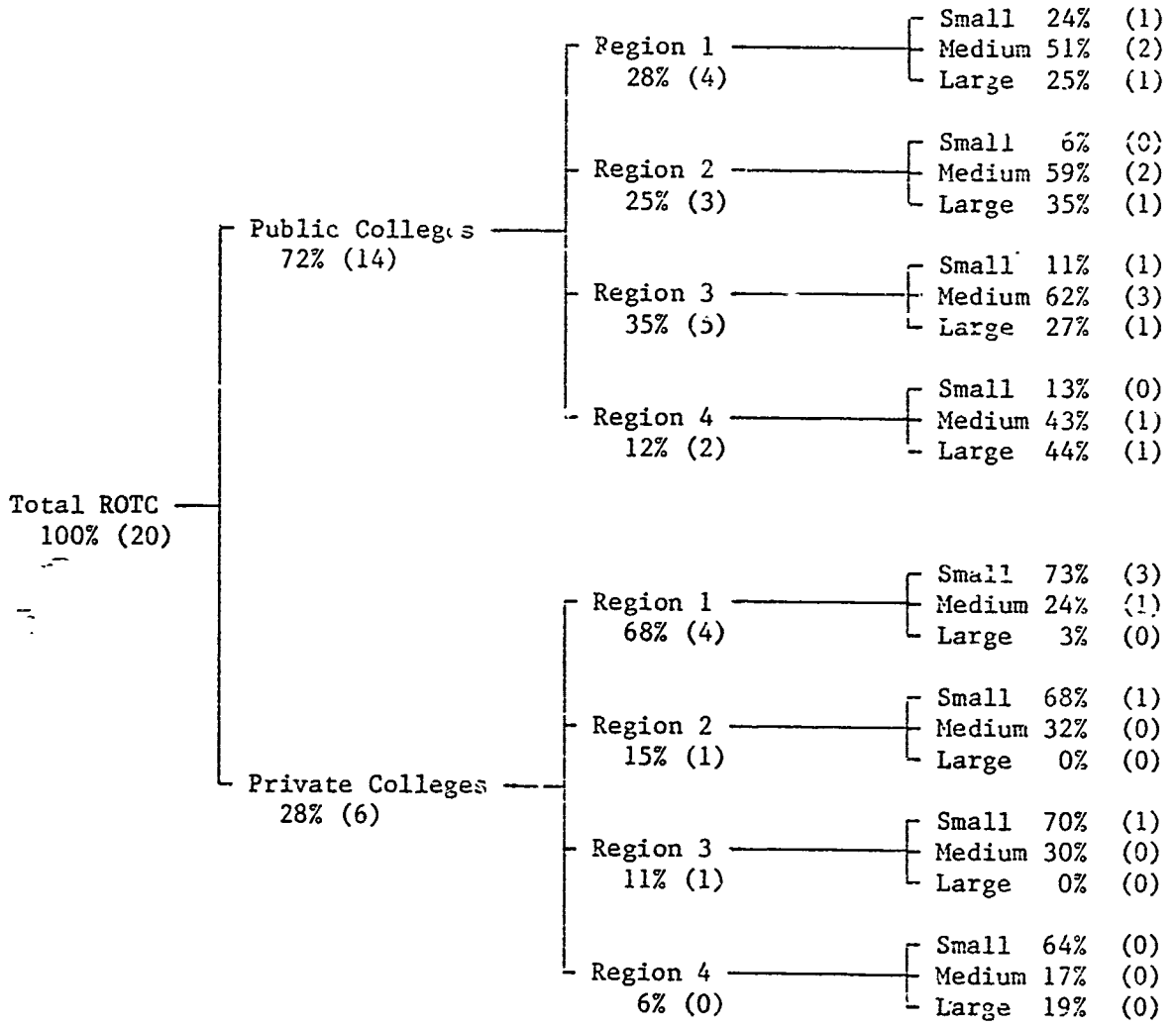

Figure 3

Sampling Branches for the School Sample

Table 1

The Longitudinal Study School Sample

Sampling Stratum			School		
Ownership of School	ROTC Region	Size of School	First Choice	First Alternate	Second Alternate
Public	1	Small	South Carolina State College*	Georgia Military College	Fort Valley State College
Public	1	Medium	Columbus College*	Old Dominion University	Georgia State University
Public	1	Medium	University of Puerto Rico-Mayaguez	University of Delaware*	Appalachian State University
Public	1	Large	Florida State University*	Virginia Polytechnic Institute and State University	University of Massachusetts
Private	1	Small	Mercer University*	Niagara University	Widener College
Private	1	Small	Johns Jopkins University*	Gannon College	Polytechnic Institute of New York
Private	1	Small	Davidson College*	Washington and Jefferson College	St. Peter's College
Private	1	Medium	Syracuse University*	Princeton University	Providence College
Public	2	Medium	Central Missouri State University*	University of Akron	Michigan Technological University
Public	2	Medium	Middle Tennessee State University*	Northeast Missouri State University	University of Wisconsin-Oshkosh
Public	2	Large	Ohio State University*	University of Illinois-Urbana	University of Missouri
Private	2	Small	Indiana Institute of Technology*	Ripon College	Wentworth Military Academy and Junior College
Public	3	Small	University of Central Arkansas*	Henderson State University	Arkansas Tech University
Public	3	Medium	University of Oklahoma*	Alcorn State University	University of North Alabama
Public	3	Medium	Wichita State University*	Stephen F. Austin State University	Arkansas State University
Public	3	Medium	Eastern New Mexico University	New Mexico State University*	University of Houston
Public	3	Large	University of Texas at Arlington*	Auburn University	Kansas State University
Private	3	Small	Rice University*	Trinity University	Marion Military Institute
Public	4	Medium	Montana State University*	University of Idaho	North Dakota State University
Public	4	Large	University of Hawaii	Oregon State University*	University of Colorado

* Participant school

continental U.S. Thus, 18 first choice schools and two first alternate schools were contacted and their participation in the longitudinal study was solicited. One of the 20 schools first contacted (Eastern New Mexico University) declined to participate, and was replaced by the first alternate school from its stratum. The final line-up of the study schools is noted in Table 1 by means of an asterisk following the schools' names.

All ROTC freshmen and sophomores attending the 20 sample schools in the fall of 1979 will be asked to participate in the study. These individuals will constitute the study's primary longitudinal samples of interest (Groups A and D in Figure 2).

A random sample of members of the longitudinal samples who drop out from ROTC or the Army during the five-year period covered by the study will be surveyed once subsequent to the drop-out to try to understand why they dropped out. They will then be eliminated from future data collection rounds. In the data analysis, dropouts will be compared to stayers in terms of prior demographic, ability, and sociopsychological profile. Reasons for dropping out will also be scrutinized closely.

Late-joiners (students joining the ROTC longitudinal samples' classes in the sophomore or junior years) will be added to the study sample upon entry into ROTC (Groups B, C, and E). Longitudinal data from these late-joiners will be gathered for the duration of the study and compared with data gathered from the early-joiners in the main samples of interest.

Finally, comparison data will be gathered yearly from incoming cohorts of ROTC freshmen as well as non-ROTC freshmen and sophomores (Groups F-S). The non-ROTC groups will be obtained from large, mandatory freshmen and sophomore courses such as English whenever possible, in order that the gamut of potential college majors will be represented.

This design allows investigation of the following effects:

- historical changes in freshman cadets' demographic profile, sociopsychological profile, and military-related attitudes and values (Group A, 1979 vs. Groups F-I, 1980-1983).

- differences between ROTC and non-ROTC students and the extent to which these differences change across the five-year study period (in 1979, Group A vs. Group J, Group D vs. Group O; in 1980-1983, Groups F-I vs. Groups K-N and Groups P-S).

- longitudinal changes in commitment, performance, and their predictors as cadets progress through the college ROTC-Army officer career path (trends in Groups A-E, 1979-1983, considering only data from stayers and excluding all drop-outs from analysis). Trends in the sophomore to junior, junior to senior, and senior to first year Army officer years found in both the freshman and sophomore longitudinal samples can be attributed with greater certainty to developmental changes as these are freer of historical effects peculiar to a given year. Because no comparison group of non-ROTC students is being tracked longitudinally, the extent to which changes in Groups A-E across

time can be attributed to developmental changes owing to increasing exposure to the career path, as opposed to developmental changes owing to the fact of growing older will not be ascertainable from the study. It seems reasonable to assume, however, that the latter effect is minimal, given the fact that the study variables do not center around skills that increase with age.

- differences between drop-outs from and stayers in the career path of interest (drop-outs vs. stayers in each of Groups A-E).

- differences between early vs. late joiners of ROTC (Group A vs. Groups B and C; Group D vs. Group E).

As Schaie (1965) points out, research on any developmental process can be complicated by the interaction of three effects: cohort differences, developmental effects, and time of data collection (i.e., unique historical or cultural influences). To the extent practically possible, the proposed design follows Schaie's recommendations for sorting out these effects. However, it should be noted that the study design covers only the college and very early Army officer years. Longer-term effects that persist through the Army career years can only be assessed by continued follow-up of the longitudinal samples beyond the duration of the proposed contract. It is the project staff's understanding that the Army Research Institute intends to conduct such a long-term follow-up.

In addition to the above major inter-sample and developmental effects, differences in commitment, performance, and their predictors among subgroups of individuals within each sample can and will be studied. The subgroups of interest include:

- males vs. females
- Blacks vs. Whites
- individuals of high vs. low socioeconomic status
- individuals of high vs. low academic abilities
- individuals from urban vs. rural vs. small-town upbringing
- individuals from various regions of the country
- individuals from military vs. non-military families
- individuals from private vs. public schools
- individuals from small vs. large ROTC programs
- individuals with vs. without prior military service
- scholarship vs. non-scholarship cadets

Overview of the First Year's Goals and Activities

The first year of the study was devoted to the following planning and development activities:

1. sampling and data collection-related activities: the school sample was drawn, and arrangments for collecting data from participating schools' ROTC students, non-ROTC students, and ROTC officers were made;

2. model development: the career commitment model in Figure 1 was expanded to enrich the notion of commitment and to include the variable of performance;

3. instrument development: measures of ROTC cadet commitment and performance were developed and pretested; the ROTC student, non-ROTC student, and officer questionnaires were constructed;

4. data analysis-related activities: a plan for analyzing data to be gathered in Year 2, the first data collection round, was developed.

Activities related to the first goal were described in a previous section of this chapter. The next three chapters will discuss achievement of the second, third, and fourth goals, in turn.

CHAPTER II

EXPANSION OF THE CAREER COMMITMENT MODEL

Preliminary Activities

To aid model and instrument development, several preliminary activities were conducted:

1. reviews of the literature on organizational commitment and performance were performed;

2. pretest interviews were conducted with 17 ROTC instructors, 99 ROTC cadets, and 96 non-ROTC students at six colleges across the country; and

3. a survey was conducted of 931 college students (461 in ROTC and 470 not in ROTC) at 13 colleges across the country.

The literature reviews from Activity 1 are contained in Appendices A and B. A summary of procedures and findings from the interviews (Activity 2) is contained in Appendix C. Procedures and findings from the survey (Activity 3) have been published under separate cover, and will only be summarized here. The reader interested in a detailed description of survey findings is referred to the publication by T. R. Armstrong, W. S. Farrell, and J. J. Card entitled Subgroup differences in military-related perceptions and attitudes: Implications for ROTC recruitment, Palo Alto. American Institutes for Research, April 1979.

The 1979 Survey of ROTC and Non-ROTC College Students

Procedures. To evaluate the extent to which the commitment model developed in 1975 continued to be valid in 1979, and to provide input to the national advertising and recruiting campaign conducted for ROTC by the U.S. Army Training and Doctrine Command, a nationwide survey of 461 ROTC students and 470 of their non-ROTC schoolmates was conducted. The students were drawn from eight colleges and universities sampled to be representative of those campuses having an Army ROTC program, with the addition of a special sample of five universities chosen for their Hispanic populations. Within each chosen school, a student sample stratified according to sex, ethnic background, and ROTC membership was obtained. Data were obtained from members of the student sample in the form of answers to a 232-item self-administered questionnaire measuring all the variables in the career commitment model. In the data analysis, items were grouped according to the model's variable clusters specified in Figure 1's boxes Scores on the items and variable clusters were then examined separately for ROTC cadets and non-ROTC students, and (within these two groups), for males and females, and for blacks, Hispanics, and whites.

Findings. Several key differences in cadets' and students' demographic background were found. White non-ROTC students reported the highest family income and black ROTC cadets reported the lowest. A higher percentage of ROTC cadets than students reported contacts with military personnel while growing up, and the cadets rated the opinions of their parents and friends about an Army officer career higher than did students. Generally, whites reported relatives of earlier generations with military experience while blacks and Hispanics reported relatives of their own generation.

Relatively more ROTC cadets were majoring in the physical and biological sciences and engineering in college, while relatively more non-ROTC students were majoring in the social sciences or liberal arts. Overall, males and females tended to have traditional majors, with relatively more males majoring in the physical sciences and engineering and relatively more females majoring in education. Cadets attributed a greater influence to relatives and counselors on their educational plans than did non ROTC students. The mother was a stronger influence than the father on educational planning for everyone except the white cadets.

The career choices of the cadets and non ROTC students followed their college majors. About 16% of the cadets gave military officer as their first career choice and over 50% identified it as one of their first three choices. More male than female cadets (60% vs 35%) placed military officer in their first three choices, but the three ethnic groups were similar. Cadets and non ROTC students tended to agree on the most and least important dimensions of a job and on the dimensions most and least expected to be satisfied in the Army, but cadets' ratings of expected Army satisfaction were significantly higher than the generally positive non-ROTC student ratings. Females and Hispanics rated the potential Army satisfaction highest.

Non-ROTC students possessed generally accurate information about ROTC and the Army but not as much knowledge as cadets. There were relatively few significant differences between males and females or among the three ethnic groups on a knowledge test. Relatively more cadets became aware of ROTC from other people while relatively more non-ROTC students became aware from television and radio or newspapers and magazine advertisements. Relatively more black cadets became aware of ROTC from media ads.

A higher proportion of cadets than non-ROTC students reported that people were influential on their decision to join ROTC while relatively more non-ROTC students reported that their personal beliefs and career goals were influential on their decision not to join. There were very few significant sex or ethnic background differences in these influences.

Cadets and non-ROTC students agreed on the most attractive and least attractive aspects of the Army as an institution, but the cadets provided significantly higher ratings than the generally negative non-ROTC student ratings. Again, females and Hispanics provided the highest ratings.

A higher proportion of cadets than non-ROTC students, and more males than females, felt an unconditional duty to serve in the military, or a duty to serve if needed.

Implications of findings for model development. In sum, the ROTC cadets were found to be very different from the rest of the college population; obtained differences replicated almost perfectly those revealed in AIR's 1975 career commitment model survey. ROTC membership is probably the single best indicator of commitment to an Army officer career for college students enrolled in a campus offering Army ROTC. The 1979 replication supports the continuing relevance of the 1975 model in differentiating college students with varying levels of career commitment to an Army officer career. Having established the current validity of the model, the study turned to expanding it, to enable answering of the new issues posed in the first chapter.

Expansion of the Concept of Commitment

Expansion was aimed at enriching the conceptual notion of career commitment beyond "intention to remain," and at incorporating performance as a variable in the model.

To obtain up-to-date theoretical and empirical input for use in model expansion, literature reviews, in-depth interviews, and the just-described survey of college students were conducted. As previously mentioned, results from each of these preliminary activities are written up separately in the appendices to this report and in a stand-alone monograph. Only the most salient findings will be discussed here.

One of the key concepts in the expanded notion of commitment is that commitment is a multidimensional construct. Drawing from the work of Etzioni (1975), we postulate that a person can be committed to an organization in any one or a combination of three ways:

1. moral involvement, which represents a strong internal commitment based upon identification with the mission, goals, and values of the organization;

2. calculative involvement, which represents a rational, "lukewarm" commitment based upon an evaluation of rewards and costs of staying versus leaving; and

3. alienative involvement, in which the person is externally, involuntarily committed though coercion or lack of external alternatives.

Concepts analogous to those of Etzioni can be seen in the work of other investigators in the field of organizational commitment. March and Simon (1958), for example, describe worker motivation as being of two types: motivation to participate and motivation to produce. Motivation to participate refers to the desire to maintain organizational membership,

and is similar to Etzioni's calculative involvement. Motivation to produce, on the other hand, reflects a more highly positive feeling toward the organization; it is thus analogous to moral involvement.

Angle and Perry (1978), using factor analytic techniques, derived two dimensions of organizational commitment that were highly similar to March and Simon's categories. Angle and Perry labelled the two dimensions value commitment and membership commitment. Value commitment relects the employee's identification with and positive feelings toward the organization; it is thus analogous to March and Simon's motivation to produce and to Etzioni's moral involvement. Membership commitment, a measure of the employee's concern with remaining in the organization, is essentially identical to March and Simon's motivation to participate, and thus has much in common with calculative involvement.

Expansion of the Career Commitment Model

Figure 4 portrays the elaboration of the 1975 model that will be used to guide the present study's instrument development and data analysis efforts. The leftmost boxes in Figure 4 stand for the individual and environmental variables which the previous study found to be good predictors of intention to remain in ROTC/Army. These variables are hypothesized to be good predictors of moral, calculative, and alienative commitment, the next set of variables in the causal sequence. Moral commitment is hypothesized to correlate positively with intention to remain, as well as with level of effort and performance. Calculative and alienative commitment are hypothesized to correlate significantly with intention to remain, but not with level of effort or performance. In short, only those cadets "morally" involved in ROTC will exert extra effort on ROTC-related activities, and this extra effort will be reflected in superior performance on the part of these cadets, all other things (such as career-related abilities) being equal.

Because members of the study sample will be in college ROTC and not in the Army during the first three years of the study, the model for the initial study years ends with the dependent variables of performance as a cadet and intention as a cadet to remain in the ROTC/Army career path. As sample members grow older and become Army officers, the final dependent variables of performance as an officer and length of service as an Army officer can be measured, and the ability of the model to predict these ultimate dependent variables can be assessed.

It should be noted that the model depicts the slightly unorthodox hypothesis that performance affects length of service. Logically, it might be thought that this should be reversed: remaining in a career is a prerequisite to performance in the career. Note, however, that although retention is a prerequisite, it does not really affect performance. Longer retention in a career, for example, is not necessarily predictive of better performance. There is a growing body of evidence, on the other hand, that better performance in a career will lead to longer retention in the career (e.g., Hall, 1976). This hypothesis will be tested in the present study.

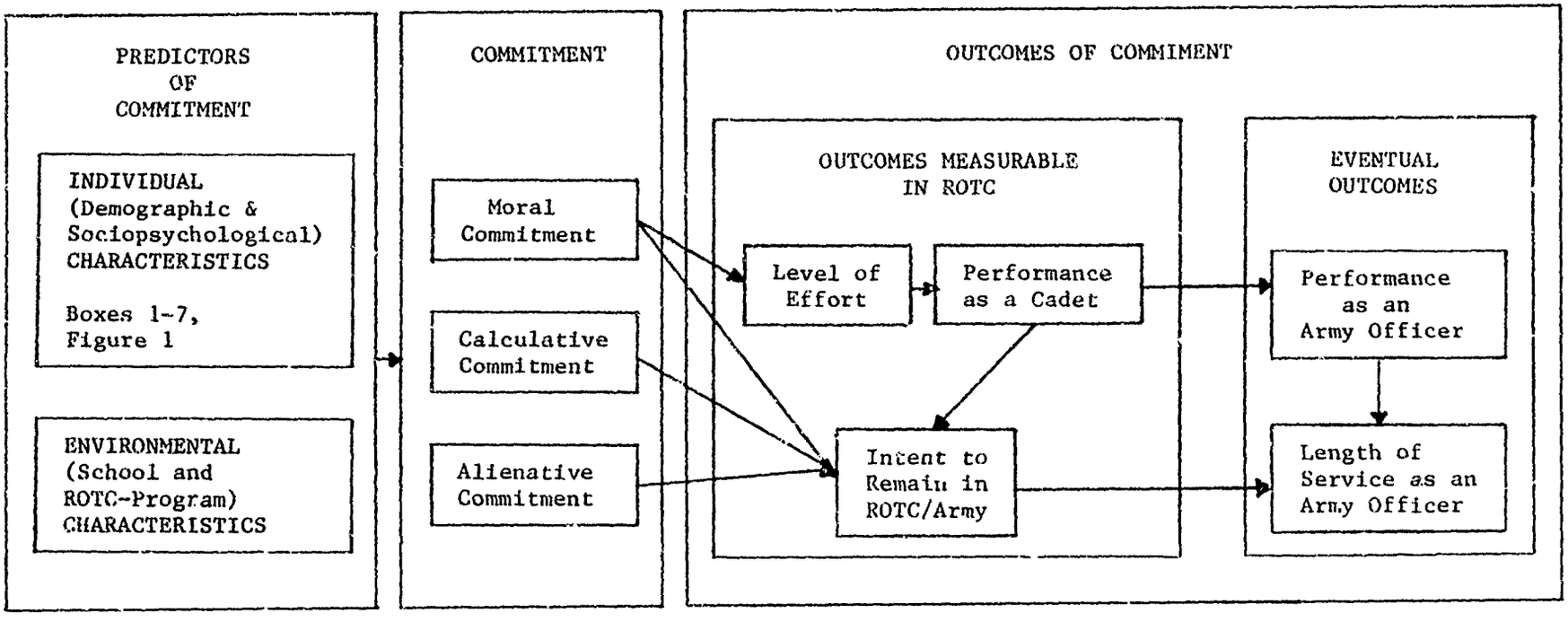

Figure 4

Elaboration of the AIR Commitment Model

CHAPTER III

INSTRUMENT DEVELOPMENT ACTIVITIES AND RESULTS

The previous chapter described the commitment and performance model guiding the present study's instrument development and data analysis efforts. The present chapter details how each of the model's components is being measured. The next chapter will discuss data analysis plans for the first data collection round.

The Pretest

Three separate instruments--one for ROTC cadets, one for non-ROTC students, and one for ROTC faculty--were developed for the first year's testing of the model. Before discussing these instruments, it should be pointed out that all items were pretested. The ROTC student questionnaire was administered to 42 ROTC cadets attending Summer Advanced Camp at Ft. Lewis, Washington. To the extent that it was feasible, actual test conditions were maintained for the pretest (thus, for example, the questionnaire was given in a group setting, cadets were asked to sign consent forms and were assured of the confidentiality of findings). The cadets were asked to keep a record of the amount of time it took them to complete the questionnaire, and to mark for later discussion any items they found difficult or confusing. A primary concern was that students be able to finish the questionnaire within a class period (generally 50 to 60 minutes). Although the instrument is long (in excess of 200 variables), this goal was met. The cadets provided specific and valuable feedback on individual questionnaire items; many of their comments were incorporated in the final version of the instrument. Several items were reworded to make them clearer, one redundant item was eliminated, and additional answer categories were provided for several items.

The non-ROTC student questionnaire consists of a subset of the items in the ROTC questionnaire and no separate pretest of this instrument was conducted.

The faculty questionnaire focused on school- and ROTC-program related information. It was pretested by means of a telephone interview with an ROTC staff officer at five of the 20 participating institutions.

Measurement of the following components of the model will now be discussed in turn: (a) the individual (demographic and sociopsychological) predictors; (b) the environmental (school- and ROTC-related) predictors; (c) moral, calculative, and alienative commitment; (d) level of effort; (e) performance; and (f) intention to remain in ROTC/Army.

For the interested reader, the complete questionnaires are found in Appendices D (the ROTC student questionnaire), E (the non-ROTC student questionnaire), and F (the faculty questionnaire).

The Individual (Demographic and Sociopsychological) Predictors

The previous AIR study of commitment (Card, et al., 1975) isolated many demographic and sociopsychological variables that distinguished ROTC cadets from their classmates, and that correlated highly with career commitment among ROTC cadets. These variables were listed in Boxes 1-7 of Figure 1. They are included in the current longitudinal study for both the ROTC and non-ROTC student samples. Because the variables were described in detail in the previous study's final report (Card, et al., 1975), no additional discussion will appear here. The variables and their mapping to specific questionnaire items in Appendices D and E are provided in Table 2.

The Environmental (School- and ROTC-Program Related) Predictors

Prior research conducted by AIR (Card, 1976) showed that significant differences in commitment, attitudes toward ROTC, and attitudes toward the Army exist among cadets from different ROTC programs. This research also suggested that ROTC program characteristics such as the size of the program and the relationship between cadre and cadets are related to cadets' commitment to an Army officer career.

Items measuring these and related predictors constitute the ROTC faculty questionnaire in Appendix F. These items are not being asked of the cadet or student samples, because they require factual information about the ROTC program beyond students' knowledge.

Table 3 presents the list of topics covered by the faculty questionnaire, and maps the individual questions in Appendix F onto the major types of school and program characteristics hypothesized to relate to ROTC cadets' commitment to an Army officer career.

Commitment

Commitment to ROTC/Army was measured only for the ROTC sample. Item sets measuring the constructs of motivation for joining or remaining in ROTC, organizational involvement, alternatives to an Army officer career, and spouse and family support for an Army officer career were used to measure commitment. Each item was aimed at discriminating individuals "morally," "calculatively," and "alienatively" committed to ROTC/Army, in keeping with the model described in Figure 4. Table 4 presents the items making up the commitment scales, and gives scoring details for each item. Each item is being scored on a five-point scale. The "high commitment" response to be given a score of "5" is given in the last column of Table 4.

The scoring of the 12 item sets dealing with "Specific Cost/Benefit Analysis" (B.2-B.13) needs further explanation. These item sets consist of 12 job dimensions which prior research has shown to be predictors of job satisfaction: Salary, Amount of personal responsibility, Location of the job, Opportunity to stay in one community, Amount of personal freedom, Chance for adventure and variety, Chance to help others, Job security, Contentment of spouse and family with job, Advancement opportunity, Freedom from sex discrimination, and Freedom from racial discrimination. Cadets will rate each of these dimensions twice: first with regard to

Table 2

Mapping of Variables in the Original Commitment Model to Questionnaire Items in the ROTC Cadet and Non-ROTC Student Questionnaires

Name of Variable	Item Numbers in Instrument (Appendices D and E)
Background Information	
Demographic variables	I-A to E, G to L; II-A
Father's military experience	I-M to Q
Family stability	I-F
Academic Ability	II-G to L
Secondary Socialization Conditions	
Participation in high school extra-curricular activities	II-E
Participation in high school ROTC	VI-A
Parent and peer attitudes toward military	VI-C, D
Financial need	II-D
Values, Interests, and Aspirations	
Personal values	V-A
Academic interests	II-B
Educational and career aspirations	II-C; III-A
Career vs. family salience	V-B
Attitudes	
Attitudes toward ROTC and the Army	VI-B, E to O, Q to AA
Subscription to military ideology	IV-I, M, U to X
Bureaucratic tendencies	IV-A to C, E to H, K, Y
Need for fate control	IV-D, J, N, P, T
Anomie	IV-L, O, Q to S
Political position	I-R
Vocational maturity	III-B to M
Job dimensions of importance	III-N to Y
Information about ROTC/Army	VI-P
Balance of Costs and Rewards of Joining ROTC	
Expected (or actual) rewards of ROTC	VI-F to O
Expected (or actual) costs of ROTC	VI-F to O
New Secondary Socialization Conditions: College Experiences	
Performance in college courses	II-H
Participation in college extra-curricular activities	II-F
Balance of Costs and Rewards of Army Career	
Comparison of expected Army/civilian job satisfaction	III-Z to KK, LL-WW
Expected rewards of Army	VI-Q to AA
Expected costs of Army	VI-Q to AA
Influence on Decision to Join/Not Join ROTC[a]	VI-BB

[a] The answer categories for this item differed slightly between the ROTC cadet and the non-ROTC student versions of the questionnaire, since different factors would be expected to be operating in the two cases.

Table 3

ROTC Detachment Characteristics Potentially Related to Cadets' Commitment to an Army Officer Career

	Detachment Characteristics	Item Numbers in Instrument (Appendix F)
I.	ROTC Program Characteristics	
	A. Age of program	1
	B. Size of program	2-5
	C. Entry modes	7
	D. Campuses served	8
	E. Overall program quality	9
	F. Overall program social climate/morale	10
II.	ROTC Curriculum	
	A. Core activities	11
	B. Extracurricular activities	12
	C. Uniform policy	13
III.	ROTC Program Philosophy	
	A. Program goals	
	1. What goals are	14
	2. Meeting of goals	15
	3. Factors retarding goal achievement	16
	B. Recruitment and retention strategies	17-18
	C. Emphasis of program (courses, sports, etc.)	19
	D. "Unique" aspects of program, if any	20
	E. Scholarship program	
	1. Numbers granted	21
	2. Goals	22
	3. Award criteria	23
	F. Basic vs. Advanced Course emphasis	24
	G. Service type emphasis	25
	H. Staff uniform policy	26
IV.	ROTC Cadets	
	A. Overall quality	27
	B. Participation	28
	C. Grades	29
V.	Supporting Environment	
	A. Student body	
	1. Size	6
	2. Support for ROTC	30
	B. Administration/faculty	31
	C. Army	32
	D. Political climate	33
VI.	Administrative Status of Detachment	34

Table 4

Items Comprising the Measures of Commitment

Commitment Element	Item No. (Appendix D)	Questionnaire Item[a]	Response Option Scored "5"
A. Moral Commitment			
1. Immediate Benefits vs. Career Exploration	VIII-C	Why are you taking ROTC?	1
2. Strength of Involvement	VIII-L	To what extent do you feel involved in ROTC and the Army as a long-term profession?	1
3. Loyalty to Organization	VIII-B	How loyal do you feel toward ROTC?	5
4. Pride in Organization	VIII-A	How do you feel about being associated with ROTC?	1
5. Congruence of Personal and Organizational Values	VIII-F	How similar are your goals and values to those of the Army?	1
6. Lifestyle Compatibility	VIII-H	Is your desired lifestyle compatible with the Army lifestyle?	5
7. Caring about Fate of Organization	VIII-G	How much do you care about the future well-being of the U.S. Army?	5
B. Calculative Commitment			
1. General Cost/Benefit Analysis	VIII-I	Considering just the day-to-day aspects of doing a job, in your opinion how do Army officer jobs compare to other jobs?	1
Specific Cost/Benefit Analysis		How satisfactory do you think (a job in the Army/your most likely civilian job) could be for each of these aspects:	
2.	III-Z,LL	Salary	(See text)
3.	III-AA,MM	Amount of personal responsibility	(See text)
4.	III-BB,NN	Location of job	(See text)
5.	III-CC,OO	Opportunity to stay in one community	(See text)
6.	III-DD,PP	Amount of personal freedom	(See text)
7.	III-EE,QQ	Chance for adventure and variety	(See text)
8.	III-FF,RR	Chance to help others	(See text)
9.	III-GG,SS	Job security	(See text)
10.	III-HH,TT	Contentment of spouse and family with job	(See text)
11.	III-II,UU	Advancement opportunity	(See text)
12.	III-JJ,VV	Freedom from sex discrimination	(See text)
13.	III-KK,WW	Freedom from racial discrimination	(See text)
14. Parent's Opinion of Army Career	VII-M	How do you think your parents would rate the career of Army officer?	1
15. Spouse's Opinion of Army Career	VII-N	How do you think your boyfriend, girlfriend, or spouse would rate the career of Army officer?	1
16. Parents' Feelings if Respondent an Officer	VII-O	How do you think your parents would feel if you were a career Army officer?	1
17. Spouse's Feelings if Respondent an Office	VII-P	How do you think your boyfriend, girlfriend, or spouse would feel if you were a career Army officer?	1
C. Alienative Commitment			
1. Freedom to Leave	VIII-E	How free do you feel to leave ROTC?	1
2. Number of Alternatives	VIII-J	Assuming that a career as an Army officer is one possibility for you, how many real alternatives do you think you have to such a career?	1

[a] See Appendix D for response categories.

each dimension's potential for satisfaction in the Army, and then for each dimension's potential for satisfaction in the respondent's most likely civilian job. The score on each of the 12 items will be the arithmetic difference between the Army potential-satisfaction rating and the civilian job's potential-satisfaction rating. Each of these difference scores will be normalized and translated into a five-point scale for use in subsequent analyses.

The moral, calculative, and alienative commitment scales are made up of 7, 17, and 2 items, respectively; each item is scored from 1 to 5. Total scores on the scales can thus range from 7 to 35, 17 to 85, and 2 to 10, respectively.

Level of Effort

The level of effort expended on ROTC-related activities will be measured for the cadet sample via six descriptive statements to which cadets respond on a five-point scale ranging from "describes me very well" to "does not describe me well at all." The items are:

1. I try to do as little work as possible for my ROTC class. (Item VIII-M, Appendix D)

2. I seldom hang around the ROTC facilities on my own time. (Item VIII-N)

3. I volunteer for ROTC-related tasks and duties whenever I can. (Item VIII-O)

4. My only contact with ROTC is when I come to class. (Item VIII-P)

5. I spend a lot of time in ROTC-related extracurricular activities. (Item VIII-Q)

6. I'm putting a lot more effort into ROTC than the other people who are taking it. (Item VIII-R)

Performance as a Cadet

The literature review in Appendix B suggests that the ideal kind of cadet performance measure would consist of behaviorally anchored rating scales to be used by the cadets' instructors and/or peers. These were ruled out, at least in the first year, for two reasons. First, the large numbers of cadets in the Military Science I and II samples would make it difficult for instructors or peers to know each cadet well enough to provide a sound performance rating. Second, cadets in the first two years of ROTC probably have not had a chance to exhibit a large repertoire of behaviors relevant to performance as an officer. We anticipate the use of behaviorally anchored rating scales later in the study when cadets and instructors are more familiar with one another, and when the cadets have had more opportunity to display relevant behaviors.

In the first data collection round, then, we will depend primarily on cadets' self-ratings of their own aptitudes and abilities. Far from being weak substitutes for behaviorally anchored rating scales, self-ratings are known to be highly reliable and valid predictors of performance (see Appendix B). As a matter of fact, even single item self-ratings have been found to possess high validity, although their reliability is lower than that obtained with multi-item scales (Hase & Goldberg, 1967). The cadet performance measure developed for the present study consists of several brief self-ratings within each of six performance dimensions: Military appearance, Leadership, Academic ability, Athletic ability, Planning and organization, and Personal qualities.

The dimensions were derived largely from the findings of the interviews conducted with ROTC cadets and staff (Appendix C). A variant of the critical incident technique was used in the interviews to elicit information concerning cadet performance. Instructors and cadets were asked: "Think of a time in the last six months when a cadet in your program did something that you consider evidence of outstanding performance. What did the cadet do? List any specific incidents that come to mind." The question was repeated with the word "outstanding" replaced by the word "bad."

The answers to these questions were classified and sorted into seven mutually exclusive categories; these categories became the tentative dimensions of performance. Questionnaire items were then written which attempted to measure each of the inductively generated performance dimensions. In a technique similar to retranslation (Smith & Kendall, 1963), two independent raters from outside the project staff were then given the items and the list of dimensions, and were asked to sort the items back into the appropriate dimensions. This technique serves to eliminate items and dimensions that lack face validity (those that do not appear to measure what they were intended to measure).

The result of this effort was a set of six performance dimensions and 39 items measuring these dimensions. Both are shown in Table 5. The scoring of the items is self-evident. Item scores will be summed to yield six performance subscale scores; these scores will in turn be summed to yield one overall performance index.

As cadets progress through ROTC, become more familiar with one another and their instructors, and engage in increasingly military-related behaviors, the specific items forming the measure of performance potential will be revised by adding behaviorally anchored rating scale items. The six dimensions of performance are likely to remain the same, however, throughout the period of the study.

Intention to Remain in ROTC/Army

This construct is being measured only for ROTC students. Items making up the Intent to Remain scale are nearly identical with those used in the previous cross-sectional commitment study. They are:

Table 5

Items Comprising the Measures of Performance

Performance Dimension	Item No. (Appendix D)	Questionnaire Item[a]
1. Military Appearance	VIII-S	I work at dressing neatly all the time.
	VIII-X	I have a good military bearing.
	VIII-Z	My posture could be better.
	VIII-FF	I would make a sharp looking Army officer.
	VIII-NN	I don't wear sloppy clothes.
	VIII-PP	I find it hard to stay at the proper weight.
	VIII-HH	I like to keep my hair fairly long.
2. Leadership	VIII-Y	I think I would find it easier to follow orders than to give them.
	VIII-MM	I just naturally end up in charge of a group.
	VIII-SS	I am an excellent leader.
3. Academic Ability	II-G	What was your approximate grade average in high school?
	II-H	What has been your approximate grade average since entering college?
	II-I	How would you rate your academic ability compared to your high school graduating class?
	II-J	What was your SAT-Verbal score?
	II-K	What was your SAT-Mathematical Score?
	II-L	What was your ACT score?
	VII-D	What has been your grade average in ROTC courses?
	VII-E	How satisfied are you with your performance thus far in ROTC?
4. Athletic Ability	VII-Q	How would you rank your athletic ability compared to your high school graduating class?
	VII-R	How many sit-ups do you think you can do without stopping?
	VII-S	How many varsity sports do you participate in or plan to participate in during college?
	VIII-LL	I am not very good in sports.
	VIII-VV	I keep myself in top physical shape.
5. Planning and Organizing	VIII-T	I am not very good at organizing complex activities.
	VIII-V	I am a skilled planner.
	VIII-II	I am a poor organizer.
6. Personal Qualities		
a. Self-confidence	VIII-U	I like to speak in front of an audience.
	VIII-OO	I get rattled easily.
	VIII-TT	I lack self-confidence.
b. Decisiveness	VIII-BB	I am indecisive.
	VIII-CC	I never have trouble choosing the appropriate action.
c. Enthusiasm	VIII-AA	I take on new projects with enthusiasm.
	VIII-JJ	I used to have a lot more enthusiasm and drive.
d. Dependability	VIII-W	I have a hard time meeting deadlines.
	VIII-EE	I am well known for my reliability.
	VIII-RR	I often make promises I can't keep.
e. Perseverance	VIII-HH	I sometimes give up too easily on a problem.
	VIII-KK	I usually reach my goals despite any difficulty.
	VIII-QQ	I see a job through regardless of the obstacles.
f. Ethical standards	VIII-CC	I see nothing wrong with disobeying the direct order of a superior Army officer.
	VIII-DD	I think it is all right to get high.
	VIII-GG	I can't see anything wrong with breaking rules.
g. Sociability	VIII-WW	I find it difficult to make friends.
	VIII-YY	I really enjoy talking with people about their problems.

[a] See Appendix D for response categories.

1. Do you intend to take ROTC classes next year? (Item VII-A, Appendix D)

2. Are you looking forward to continuing ROTC next year? (Item VII-B)

3. Do you intend to go all the way through ROTC? (Item VII-C)

4. How many years do you intend to serve in the Army as an Active Duty officer? (Item VII-H)

5. How many years to you intend to serve in the Army in the Reserves or National Guard? (Item VII-I)

6. Are you looking forward to Army service after college? (Item VII-J)

7. Do you intend to make a career of the Army? (Item VII-L)

CHAPTER IV

DATA ANALYSIS PLAN FOR THE FIRST DATA COLLECTION ROUND (YEAR 2)

For obvious reasons, some of the major research questions posed in Chapter I (those involving trends over time) will not be answerable until at least two rounds of data collection have been performed. The analyses to be described in this chapter will be limited to those possible with data collected in the first round (Year 2 of the study). These analyses center around:

1. validation and revision of the cadet commitment measures
2. validation and revision of the cadet performance measure
3. testing of the cadet commitment and performance model
4. obtaining of baseline data for the longitudinal study
5. subgroup differences in cadet commitment and performance
6. antecedents of drop-outs from college ROTC
7. environmental (school and ROTC-program) determinants of cadet commitment and performance
8. antecedents of commitment to the role of a Reserve officer

Validation and Revision of the Cadet Commitment Measures

Chapter III described the measures of commitment that were developed for the present study. To recap briefly, the measures consist of scores on scales measuring moral, calculative, and alienative commitment.

The psychometric properties of the commitment scales will be assessed first. The reliability of each of the scales will be checked using the coefficient alpha statistic, a measure of homogeneity consisting of the ratio of individual item variances to total score variance.

Second, the construct validity of the measures will be assessed using factor analytic techniques. It is hypothesized that factor analysis will group the items in the commitment measures into three clusters corresponding to the three types of commitment postulated by the model.

The concurrent validity of the measures will be tested by examining their ability to "predict" the criterion of cadets' intention to pursue an Army officer career. Operationally, this will involve determining the significance of the correlations between commitment score and the score on the Intent to Remain scale.

The commitment measures will be revised, as necessary, by revising or eliminating those items which are found not to correlate significantly with total scale scores, or with the criterion score.

Validation and Revision of the Cadet Performance Measure

The performance measure, like the commitment measure, was described in Chapter III. It consists of a set of items measuring six dimensions of performance: Military appearance, Leadership, Academic ability, Athletic ability, Planning and organizing, and Personal qualities desirable in an officer. The overall performance score for an ROTC student will consist of the sum of the scores on each of these dimensions.

The procedures used to assess the performance measure will be similar to those described above in connection with the commitment measure. First, the reliability of the measure and its six subscales will be tested using the coefficient alpha statistic. The face validity of the measure has already been assured by means of the retranslation procedure described in Chapter III.

Factor analysis will be utilized to determine the construct validity of the measure. As with commitment, it is hypothesized that the factor analysis will cluster the performance items into categories corresponding to the six postulated dimensions. The measure's concurrent validity will be assessed by computing the correlation between the total score on the performance scale and, where available, the ROTC course grade average. In subsequent years of the study the validation criterion will shift from ROTC grades to Advanced Camp scores, Basic Officer Course scores, and officer performance evaluations.

Finally, the performance measure will be revised by restructuring or eliminating any items that do not correlate significantly with the pertinent subscale score, the total scale score, or the criterion score.

Testing of Cadet Commitment and Performance Model

The model in Figure 4 will be tested by means of correlational and path analysis. The causal sequence and relationships implied by the arrows in the figure will guide the set-up of the equations for the path analysis.

In addition, scores on the three commitment scales will be used as moderator variables, to examine whether the relationship between the model's predictor variables and intent to remain in ROTC/Army is different for cadets morally, calculatively, and/or alienatively involved with the career.

Obtaining Baseline Data for the Longitudinal Study

The data collected in the first round, in addition to answering several immediate questions, will serve as baseline data for use in future trend analyses. Of particular interest are the following two classes of data:

1. For ROTC students--scores on the commitment and performance scales and subscales, and scores on all of the predictor variables in the model.

2. For non-ROTC students--scores on the model's predictor variables, with special attention paid to the military-related beliefs and attitudes held by this group.

The study will track changes in these variables over time, as well as changes in cadet-student differences for the variables common to the two groups.

Subgroup Differences in Cadet Commitment and Performance

Chapter I listed several ROTC student subgroups (e.g., Blacks vs. Whites, males vs. females) of special interest in the current study. The commitment and performance scores will be examined separately for each of these subgroups by means of multiple classification analyses. These analyses will assess the significance of the difference in the commitment and performance scores of the subgroups of interest, both with and without controls for the most important predictor variables in the model.

The multiple classification technique will also be used to assess differences in commitment and performance between first- and second-year ROTC students. It should be noted, however, that any of three sources could contribute to differences between these two groups: changes in the cadets, the drop-out effect, or cohort differences. The precise determinants of any observed differences can be pinned down only with data collected in future years of the study.

Antecedents of Drop-Outs from College ROTC

The present study is interested not only in the characteristics of those who remain in ROTC, but also in the factors that lead some people to drop out of ROTC. Arrangements will be made with each of the 20 ROTC units participating in the study to inform AIR of ROTC cadets in the longitudinal samples who leave the program. Those who drop out will be profiled in terms of the variables in the commitment model and compared with students who remain in the program. In addition, stepwise discriminant function analysis will be used to obtain an ordering of the variables that are best able to distinguish those who leave ROTC from those who remain.

Environmental (School and ROTC-Program) Determinants of Cadet Commitment and Performance

As described in Chapter III, Professors of Military Science or their representatives at the 20 participating colleges are being asked to provide information on characteristics of their school and of their ROTC program. These environmental factors are hypothesized to influence the commitment of their cadets. The relation between the environmental variables and commitment and performance will be assessed in two ways:

first, by examining the magnitude of the correlation between each of the factors and the mean commitment and performance scores of cadets enrolled in the program; second, by performing a stepwise regression to isolate the most important environmental factors influencing commitment and performance.

The relative importance of individual versus environmental determinants of commitment and performance will also be assessed via a series of multiple classification analyses.

Antecedents of Commitment to the Role of a Reserve Officer

One of the functions of ROTC, as its name implies, is to train students for service in the Army Reserve. It is therefore important that the present study be able to distinguish between commitment to (a) a Regular Army officer career, (b) an Active Duty Reserve officer career, and (c) service in Reserve Component Duty. To allow this comparison to be made, a dependent variable will be formed on the basis of ROTC students' answers to questions VII-K (type of service planned) and VII-I (intended length of service). The dependent variable will consist of six categories of type/length of service planned: (a) Regular Army/long (10 or more years' service planned); (b) Regular Army/short (fewer than 10 years); (c) Active Duty Reserve/long; (d) Active Duty Reserve/short; (e) Reserve Component Duty/long; and (f) Reserve Component Duty/short.

The relationship between the model's predictor variables and this categorical dependent variable will be assessed by means of crosstabulations and one-way analyses of variance, in an attempt to uncover the characteristics predisposing a person to favor service stints varying in length and type.

In addition, discriminant analysis will be used to isolate the most important characteristics distinguishing the six groups.

Results from all these analyses and their implications for the selection and retention of cadets meeting the personnel needs of the Army will be detailed in the Year 2 final report.

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Appendix A

ORGANIZATIONAL COMMITMENT: THEORY, RESEARCH, AND MEASUREMENT

by Douglas T. Hall, Ph.D.

Abstract

This paper reviews the conceptual and empirical work to date in the area of organizational commitment. First, a model of the commitment process is proposed. Three distinct attitudinal orientations toward the organization are identified (moral, calculative, and alienative involvement). These are distinguished from behavioral intentions, which are hypothesized to have stronger impact on outcomes such as retention. Next the empirical literature is reviewed and summarized. Future directions for research on organizational involvement are proposed. Finally, in the Appendix, the major measures of organizational commitment are reviewed.

The increase in the attention given to the concept of organizational commitment over the last few years has been impressive. Perhaps equally impressive has been the apparent downward trend in the mean level of commitment which organization members have been experiencing in recent years. Articles such as "Is company loyalty dead?" (International Management, November 1974), "Exit the organization man--enter the professional man," (Personnel Journal, March 1975), and "The boom in executive self-interest," (Business Week, May 24, 1976) reflect this concern about commitment versus self-interest. Survey research shows evidence of declining feelings of employee commitment to their employers (Smith, Scott, and Hulin, 1977; Renwick and Lawler, 1977). Charles Moskos (1977) reports that military personnel are moving from an institutional orientation (self-sacrifice and dedication to military duty as a "calling") to an occupational orientation (characterized by self-interest and marketplace values, in which the military service is seen as "just another job"). Even the commitment of priests and ministers has become less absolute, and is contingent upon the quality of a particular job assignment and supervision (Hall and Schneider, 1973).

We are in an era in which personal freedom and self-fulfillment are central values in people's lives. This orientation toward self-fulfillment (and away from organizational commitment) is a new career form which Hall (1976) calls the protean career:

> The protean career is a process which the person, not the organization, is managing. It consists of all the person's varied experiences in education, training, work in several organizations, changes in occupation field, etc. The protean career is not what happens to the person in any one organization. The protean person's own personal career choice and search for self-fulfillment are the unifying or integrative elements in his or her life. The criterion of success is internal (psychological success), not external. In short, the protean career is shaped more by the individual than by the organization and may be redirected from time to time to meet the needs of the person. (Hall, 1976, p. 201)

While this shift toward a greater self-orientation undoubtedly has its benefits, it does present problems for work organizations and other social institutions, which require a certain measure of loyalty and involvement over time. The problem, then, is how to strengthen the bonds between the new protean-style person and his or her organization?

This paper will review the conceptual and empirical work to date in the area of organizational commitment. First, we will examine various theoretical facets of commitment, including the factors in the person's "life space" which affect the bonds between person and organization. Next, the empirical literature will be reviewed, in an attempt to identify the most important correlates of commitment. In the last section, we will identify the gaps in the literature (both conceptual and methodological) and propose directions for future commitment research. Finally, in the Appendix we will review the current measures of commitment which have been used.

The Theory of Commitment

In common usage, the term commitment has many different shades of meaning:

1. Being psychologically attached to a cause, person, group, or organization. This results in feelings of loyalty and identification.

2. Being involuntarily attached to a cause, person, group, or organization. This could be the result of either an external force (e.g., the draft) or a lack of other external alternatives.

3. Making a promise or engaging in a behavior which binds (commits) one to a course of action (e.g., signing up for another tour of duty).

4. Being in a role which obligates one to perform certain activities (e.g., the officer whose position commits him or her to exhibit certain kinds of leadership).

5. Making investments in or sacrifices for a certain course of action, which imply a degree of commitment and which in turn increase one's level of commitment (e.g., the "side bet" notion, such as buying a house, thereby increasing one's commitment to a particular location, and also to one's present employer).

When we talk about commitment, we are really dealing with the nature of the bonds in the relationship between the person and the organization. What is it that links the person to a social system? Schein (1971), Barnard (1938), and March and Simon (1958) have discussed the concept of the psychological contract which determines the strength of the person-organization relationship.

> The notion of a psychological contract implies that the individual has a variety of expectations of the organization and that the organization has a variety of expectations of him. These expectations not only cover how much work is to be performed for how much pay, but also involve the whole pattern of rights, privileges, and obligations between worker and organization. For example, the worker may expect the company not to fire him after he has worked there for a certain number of years and the company may expect that the worker will not run down the company's public image or give away company secrets to competitors. Expectations such as these are not written into any formal agreements between employee and organization, yet they operate powerfully as determinants of behavior. (Schein, 1971, p. 12)

The "glue" which binds person to organization is the nature of authority, or the basis of consent in the organization. Max Weber (1947) identified three major types of organizational authority. Traditional authority is based on a universal acceptance of a ruler's right to exercise that authority. The "divine right of kings" notion is probably the purest form of legitimate authority. However, this is also found in modern organizations to the extent that subordinates defer to a superior on the basis of his or her formal

position. Charismatic authority is based upon the appeal of an attractive leader who is able to inspire excitement and mass action among his or her followers. The focus here is on the person, not the position. Rational-legal authority, according to Weber, represents a more sophisticated form of administration (the bureaucratic form) in which offices and rules are arranged so that (a) rational criteria are the basis of decisions, and (b) a person's legal authority is closely linked to his or her expertise. It is possible, however, to separate these two components, the rational and the legal; thus, we can think of authority based on expertise or competence and authority based on legal power, the ability to reward and punish.

If there is not a fit between the individual's and the organization's expectations regarding the type of authority and the benefits exchanged, the relationship will be terminated:

> ...an organization cannot function unless the members of it consent to the operating authority system, and this consent hinges upon the upholding of the psychological contract between organization and member. If the organization fails to meet the expectations of the employee, and, at the same time cannot coerce him to remain as a member, he will most likely leave. Thus, the problem of motivation and organizational incentives or rewards is best thought of as a complex bargaining situation between organization and member, involving the decision of whether to join, the decision of how hard to work and how creative to be, feelings of loyalty and commitment, expectations of being taken care of and finding a sense of identity through one's organizational role, and a host of other decisions, feelings, and expectations. (Schein, 1971, p. 15)

A particularly lucid and useful framework for analyzing the psychological contract has been developed by Amatai Etzioni (1975), who argues that each type of power or authority which an organization may exercise tends to result in a particular form of employee involvement and behavior. Etzioni defines each type of power as follows:

> Coercive power rests on the application or the threat of application, of physical sanctions such as infliction of pain, deformity, or death; generation of frustration through restriction of movement; or controlling through force the satisfaction of needs such as those for food, sex, comfort, and the like.
>
> Remunerative power is based on control over material resources and rewards through allocation of salaries and wages, commissions and contributions, "fringe benefits," services, and commodities.
>
> Normative power rests on the allocation and manipulation of symbolic rewards and deprivations through employment of leaders, manipulation of mass media, allocation of esteem and prestige symbols, administration of ritual, and influence over the distribution of "acceptance" and positive responses. (Etzioni, 1975, p. 5)

One of the important means of achieving organizational objectives is the development of positive orientations (attitudes and motivation) on the part of members. This member state is termed involvement, which "refers to the cathectic-evaluative orientation of an actor to an object, characterized in terms of intensity and direction." (Etzioni, 1975, p. 9.)

Three types of involvement can be identified:

Moral involvement "designates a positive orientation of high intensity" (Etzioni, 1975, p. 10). It is based upon internalization of organizational values and norms, and identification with authority. Examples would include the involvement of the parishoner in his/her church, the devoted member in his party, and the loyal follower and his leader.

Calculative involvement is a low-intensity relationship based upon rational exchange of benefits and rewards.

Alienative involvement is an intense negative orientation, which may be found in exploitive relationships, "relations among hostile foreigners, prostitutes vis-a-vis clients, inmates in prisons, prisoners of war, people in concentration camps, [and] enlisted men in basic training..." (Etzioni, 1975, p. 10).

By combining the three types of power and the three kinds of involvement, a typology of compliance can be developed, as follows:

Kinds of Power	Kinds of Involvement: Alienative	Calculative	Moral
Coercive	1*	2	3
Remunerative	4	5*	6
Normative	7	8	9*

Theoretically, all nine combinations of power and involvement are possible, but the most frequent are the "congruent types" found along the diagonal, marked by asterisks (*). Coercive power is most likely to produce alienated members, remunerative power leads to a "lukewarm" calculative orientation, while normative power produces strong positive orientation: moral involvement, or internal commitment.

This typology is useful in analyzing what kind of involvement is possible in an organization. If an organization possesses strong symbols (such as patriotism, service, or some other calling or cause), it has normative power available, which can lead to moral involvement on the part of members. However,

if that normative power is weaker, as seems to be the case in some military organizations, and if there is no coercive power (i.e., since there is no draft), the only source of power left is remunerative. However, according to Etzioni's model, it is extremely unlikely that moral involvement will result from remunerative power. The best that can be hoped for is a calculative involvement on the part of members. Calculative involvement can still lead to good performance, but the remuneration must be adequately high to "buy" this involvement.

"Dual structures" are also found. In these cases some combination of two types of power are operative. For example, Etzioni lists combat units as an example of a normative-coercive combination. A peacetime (non-draft) military organization might be considered a dual normative-remunerative system.

To summarize, then, there are three types of involvement which can form the bonds between the person and the organization. Moral involvement is the strongest form of internal commitment, representing a high internalization of organizational goals and identification with the organization. Calculative involvement represents a low-intensity positive attachment which is contingent upon an exchange of benefits. Finally, alienative involvement represents a negative orientation in which the person is involuntarily held in the organization.

A Model of Organizational Commitment

One of the problems with the concept of organizational commitment is that it has been defined in a variety of ways (not just operationalized in different ways, but conceptualized very differently).

Some studies have used the term commitment, while others have used identification. (Generally, "identification" has been used to tap attitudes toward the organization, while "commitment" has been used in a broader way to include both attitudes and behaviors, such as willingness to exert effort and intentions to remain a member.) Further, there have been two separate areas of literature dealing with commitment, one in organizational behavior, and the other in social psychology. Let us consider how commitment has been conceptualized in each of these areas of the literature. Then we will propose a conceptual model, based upon Etzioni's three forms of organizational involvement, to sort out some of the conceptual confusion.

Definitions of Commitment in the Organizational Literature

Organizational behavior researchers have tended to define organizational commitment in terms of a combination of attitudes and behavioral intentions. Porter, Steers, Mowday, and Boulian (1974) define commitment as: (a) belief in and acceptance of the organization's goals and values, (b) willingness to exert considerable effort on behalf of the organization, and (c) desire to remain in the organization. Other researchers have adopted this definition (Gould, 1975; Steers, 1977). Sheldon's earlier work (1971) used the first two of Porter, et al.'s dimensions. Kanter (1968; 1972) defined commitment in terms of a member's willingness to devote energy and loyalty to the

organization. Buchanan (1974) used three components: (a) identification with the goals and values of the organization; (b) psychological involvement in one's work role; and (c) loyalty, affection for, and attachment to the organization. Hrebiniak and Allutto (1972) used perhaps the "cleanest" measure of commitment, the person's degree of willingness to leave the organization.

These definitions of commitment represent a number of variables which should be separated. First, we can break them into attitudes and behaviors (or willingness or intentions to behave).

The attitudes, which all seem to tap moral involvement, include:

1. Identification with the organization (acceptance of its goals). (One basis for attachment to the organization.)

2. Involvement in the organizational work role. (Assessing the strength of attachment.)

3. Warm, affective regard for (or loyalty to) the organization. (The evaluation of attachment.)

The behavior-type variables include:

1. Willingness to exert effort.

2. Desire or willingness to remain in the organization.

Social Psychological Definitions of Commitment

Social psychologists, on the other hand, tend to define commitment as a unidimensional behavioral construct, the degree to which a person is bound to behavioral acts, or a course of action (Kiesler, 1971; Salancik, 1977). As Salancik (1977) points out, the problem with the approach of organizational researchers is that (a) they say little about the process through which a person comes to be committed. Also, (b) a person can feel bound to a course of action in an organization while still scoring low on many organizational measures of commitment. Or, (c) a person may report that he or she is highly committed on a questionnaire while his or her later behavior may be contradictory, suggesting low commitment (i.e., the distinction between one's espoused theory versus one's theory-in-use (Arguris and Schon, 1975)). To Salancik this person would not be truly committed because the real test of commitment, action, was lacking.

The problem with the behavioral (social psychological) definition of commitment is that forces other than commitment can affect behavior. Other demands, desires, constraints, etc. also affect our actions. For example, there may be competing commitments operating on a person, and he or she may take an action which satisfies the strongest commitment. Take today (Monday, two weeks before an important deadline), as an illustration. I am working at home to finish this paper, and my daughter asked me if I would take her for a bike ride . . . it is a lovely day, alas. Does my saying no to her reflect a low commitment to her and a high commitment to this paper? No, it suggests the relative strengths of the two commitments in this particular situation--

this is a time period I reserved for work, and I made a prior commitment to finish this paper. We went to a movie yesterday, while the paper sat on my desk. Behavior alone can be a misleading basis for inferring commitment. Perhaps consistencies in behavior over a period of time would be a more valid indicator.

Another problem with the social psychological view of commitment is that it confuses the process of becoming committed with the outcome of being committed. As Staw (1976) has shown, there is an escalation process such that some initial level of commitment, or an external event, leads to a particular action. This action increases one's feelings of commitment, which leads to further committing action, etc. This self-reinforcing cycle can lead to such diverse outcomes as foreign policy disasters (Janis, 1972) and career success (Hall, 1971). Salancik's definition of commitment reflects this confusion between the development and the assessment of commitment:

> To act is to commit oneself. A person may talk about how important it is to keep the population growth rate down, but to be sterilized is to give eloquent, unshakable force to the statement. An adulterer may proclaim unrelenting devotion to a lover, but to give up children, home, and joint bank accounts is to put meaning into the proclamation. Thus, at a minimum, a concept of commitment implies that behavior, or action, be a central focus. (Salancik, 1977, p. 4)

Presumably, the commitment of the sterilized person and the separated adulterer would be increased by the actions mentioned above. But are these actions causes or effects of commitment? They are both part of a spiraling commitment process, but at what point do we stop and measure commitment?

Organizational Commitment

Despite its problems, the social psychological stress on behavior is useful in identifying a critical problem with the notion of organizational commitment. If commitment entails being bound to behavioral acts, where is the action in organizational commitment? An organization is an object, not an action. The definitions of organizational researchers cited earlier show the variety of organizational actions that we include under the organizational commitment rubric: exerting effort, remaining in the organization, and accepting and espousing the organization's goals. One way to reduce this confusion would be to isolate specific types of organizationally relevant behavioral intentions (intention to exert effort, to stay, etc.). Then we could study these more specific intentions and forget about the idea of organizational commitments. In this way, we could use organizational commitment as a global umbrella term, describing a set of complex processes, much as we now use the terms "motivation" and "climate."

Exploding Commitment to Salvage It

Rather than worrying about what organizational commitment is, let's stop trying to arrive at a single, all-inclusive definition. Let us instead take the different views of commitment that we have seen so far and recognize that they all represent different facets of a complex concept. Let us try to put these parts together in some logical order without worrying about which

part is organizational commitment. (The parable of the three blind men and the elephant comes to mind here.) This process of analysis is similar to the way Levinson (1959) clarified the concept of role by breaking it down into its component parts (role expectations, role perceptions, and role behavior) and rejected the notion of a unitary concept of role.

A Model of the Commitment Process

Let's start with the organizationally relevant member behavior of interest. The model to be used, based upon the work of Gould and Hall (1977), is shown in Figure 1. Remaining in the organization and exerting effort are the two that have been used most often, but other organization outcomes could also be considered: good performance, good attendance, high quality, etc. Let's define these in terms of objective measures of behavior.

Next, we can examine behavioral intentions, the person's willingness, desire, or intention to engage in these activities. (You could call these the person's experienced commitment to each course of action, but I'd just as soon avoid using the word commitment at all.) Behavioral intentions represent two of the three Porter, et al., components of organizational commitment, one of Sheldon's, and Hrebeniak and Allutto's only component.

If we agree with Locke (1968) that behavioral intentions are the most direct influence on behavior, then attitudes toward the organization probably affect behavior through their effects on behavioral intentions. As Etzioni (1961) showed, three different orientations toward an organization can result from three different control systems: coercive controls lead to alienative involvement, remunerative or utilitarian controls lead to calculative involvement, and normative controls lead to moral involvement. All three attitudes can lead to strong intentions to remain, although we might not think of alienative involvement as being similar to commitment. Most of the attitudes included under the organizational commitment literature have tapped different aspects of moral involvement: identification, involvement, and loyalty.

Inputs to Organizational Attitudes

Next we can examine those factors which lead to each of the three types of organizational attitudes. Research on organizational identification has stressed intrinsic factors in the work environment. These factors include various forms of fit between the person and the organization; i.e., the fit between personal values and organizational goals, between personal needs and job activities, and between personal self-image and organization climate (Hall, Schneider, and Nygren, 1970; Hall and Schneider, 1972; Gould, 1975; Brown, 1969).

Economic and exchange variables may have more impact on the other two types of involvement. The absence of external alternatives, for example, may increase alienative involvement, the feeling that one is trapped in the organization (Sheldon, 1971). Rewards and inducements from the organization, as well as personal investments and side bets may lead to feelings of calculative involvement, i.e., "I've got so many good years invested in this organization, and it's been so good to me, I can't afford to leave" (Becker, 1960; Sheldon, 1971, Hrebiniak and Allutto, 1972). (Unfortunately, few studies have

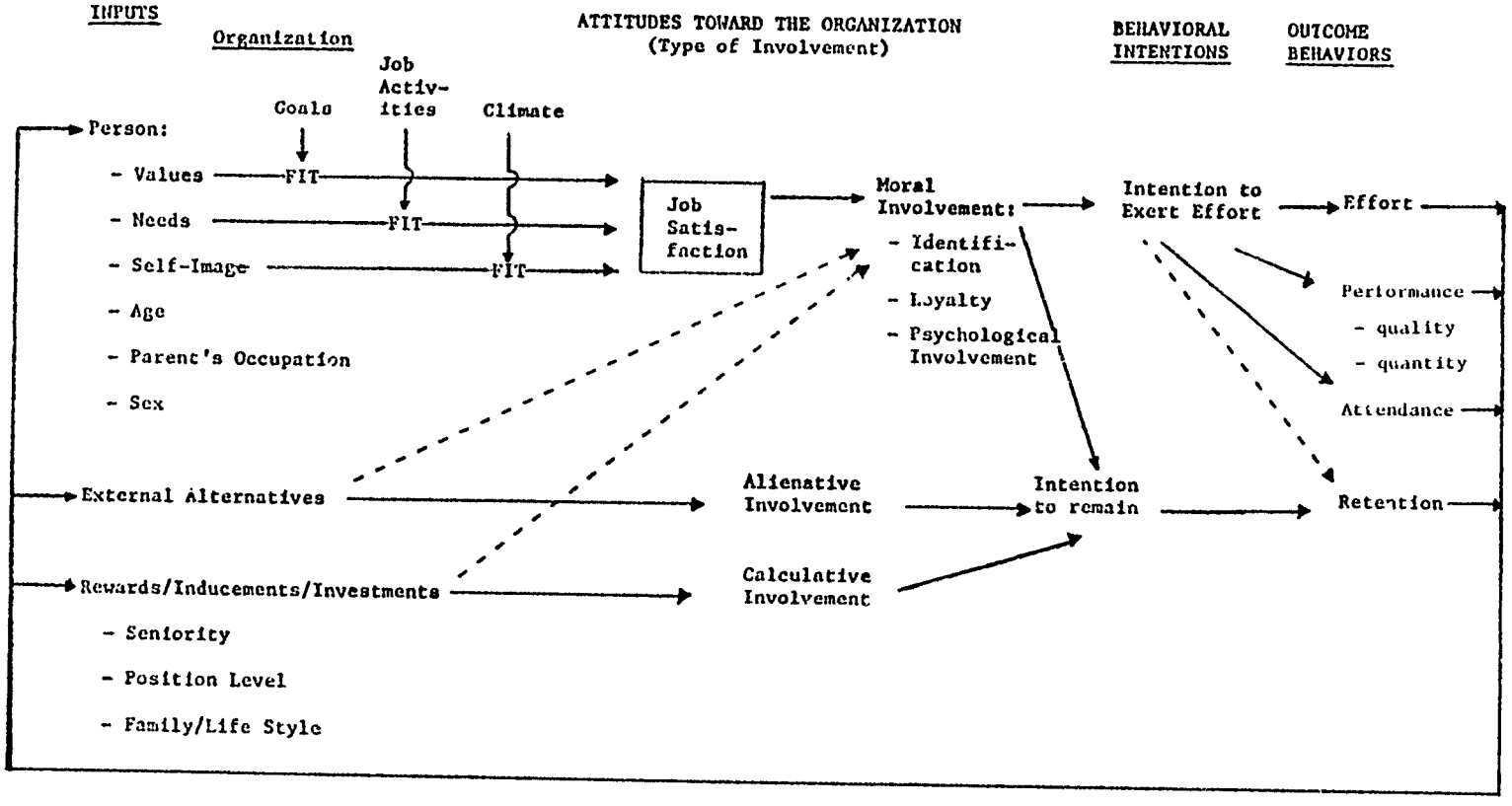

Figure 1. A Model of the Organizational Commitment Process

attempted to measure these economic and exchange variables directly and have tended to use surrogates, such as length of service, instead; however, intrinsic rewards from an organization also tend to be correlated with length of service, which tends to "muddy up" this variable.)

On the model, dotted lines have been drawn from external alternatives and rewards/inducements to moral involvement. Both of these relationships involve cognitive consistency explanations of commitment. As Staw (1977) has indicated, if rewards are insufficient to justify a course of action, this could lead a person to develop greater moral involvement as an alternative form of justification. Also, if a person has made great investments and side bets associated with membership in an organization, feelings of moral involvement may develop simply to make the person's attitudes consistent with his or her behavior.

Note that there is also a feedback process between outcome behaviors and inputs. Over time, performance, effort, and continued membership represent investments in the organization. Also, the longer one stays in one organization, the more external alternatives one turns down over the years. Finally, good performance can provide greater intrinsic rewards, such as job satisfaction, which leads to greater moral involvement. This feedback process reflects the commitment escalation process described by Salancik (1977), Staw (1976), and Hall (1971).

Moral involvement seems logically related to intention to remain and intention to exert effort. However, calculative and alienative involvements are only related to organizational membership, not to effort or performance. Similarly, intention to remain should relate best to actual retention, by definition, and not to effort or performance. Likewise, intention to exert effort should be related to actual effort and (assuming the requisite ability) performance. In a sense, effort intentions may also be linked to retention since it is hard to exert effort without also being there.

The main point in all this is that we cannot lump together a whole set of organizational attitudes and behavior intentions and expect them to correlate with a set of outcomes without any theory to explain why they should. If we separate out the component attitudes and behavioral intentions, we should be able to make more accurate predictions about employee behavior. We can also in this way expand our understanding of the different forms organizational involvement can take. For example, we know a great deal about moral involvement, and we have reasonable measures of alienation, but to my knowledge we have done little work on the measurement of calculative involvement. We also need good direct measures of external alternatives and rewards/inducements/investments. By abandoning the idea of defining and measuring commitment, and by concentrating on the discrete components of the commitment process, we can significantly advance our understanding of the ways a person's bonds to an organization are strengthened or weakened.

The Empirical Literature in Relation to the Commitment Model

Now that we have established a conceptual framework for analyzing the commitment process, let us see what empirical data exist for the different parts of the model. This review will be organized in terms of three classes

of predictors of organizational involvement: demographic variables (age, sex, education, etc.), sociopsychological variables (needs, attitudes, values, interests, etc.), and situational or experience variables (e.g., job characteristics, relevant college experiences). Finally, we will examine organizationally important outcomes that have been found to be related to each type of involvement, outcomes such as retention, absenteeism, performance, work quality, and member satisfaction. The studies reviewed are summarized in Table 1.

Demographic Correlates of Involvement

Age. In general, demographic factors have been significantly but not strongly related to moral involvement. Let us first consider age. March and Simon (1958) argued that as one's age increases, the person's alternatives for employment will become more limited, which will lead the person to identify more with the present employer. In support of this prediction, Lee (1971) found the mean age of high identifiers to be higher than that for low identifiers among a group of scientists and supervisors in the U.S. Public Health Service. Angle and Perry (1978) report similar results with mass transit employees, another group of public-sector workers. Sheldon (1971), using age as an indicator of investment in the organization, found a moderate positive relationship between age and commitment, as did Angle and Perry (1978). Steers (1977) found age to be related to commitment in a sample of hospital employees, but not in a sample of scientists and engineers.

Part of this inconsistency in findings was clarified by Gould (1975), who distinguished between what he called identification (attitudes toward the organization) and commitment (a combination of attitudes plus behavior intentions). Gould found age to be significantly related to his identification measure but not to commitment. Therefore, age may be more strongly related to the development of positive attitudes toward the organization than it is to behavior intentions (e.g., willingness to exert effort on behalf of the organization or to remain in the organization).

Length of service. Closely related to age is length of service, or tenure. There have also been inconclusive results relating this variable to moral involvement. Brown (1969) found no relationship with a sample of T.V.A. employees. However, he used groups as the unit of analysis, and the dynamics of group aging may differ from individual aging. Gould (1975) found a positive tenure-identification relationship in a sample of managers, but not in a sample of social workers.

Hall, Schneider, and Nygren (1970) found tenure to be significantly related to moral involvement among a group of U.S. Forest Service professionals as did Angle and Perry (1978) with public-sector transit employees and Kirschenbaum and Goldberg (1976) among Israeli engineers. A similar relationship was found by Hall and Schneider (1972, 1973) among Roman Catholic priests. However, these researchers found no such relationship in a group of scientists and engineers (Hall and Schneider, 1972). The authors explained these differences by arguing that people with single-organization careers (foresters, priests) would tend to identify more strongly over time, because rewards for tenure are built into the organizations, while people whose careers are spent in several different organizations (scientists and engineers) are not rewarded for long service; in fact, in highly mobile occupations, people must switch organizations to obtain greater rewards, such as salary and rank.

Table 1

Summary of Organizational Involvement Studies

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Bassis, M.S., & W.R. Rosengren (1975)	1,577 maritime students in 2 American maritime academies, 3 in Britain, and 2 in Spain	Intentions to remain (behavioral intention)	No. of years student plans to serve as an officer	Inductees (underclassmen) report greater commitment (but more uncertainty) than upper classmen			
Butler, R.P. (1973)	641 USMA cadets	Likelihood of remaining (behavioral intention)	Military Career Commitment Gradient (MCCOG)	No difference in commitment by academic area of concentration, field of graduate study, or leadership evaluation rating			Commitment related to expected highest rank expectation of making the military a career
Alutto, J.A. & J.A. Belasco (1974)	414 teachers, 482 nurses	Propensity to leave under various inducements (calculative)	Hrebiniak and Alutto		Negative evaluation of collective bargaining and professional associations		
Koch, J.L (1974)	507 technicians in the U.S. Forest Service	Patchen (moral)			Fit between importance of needs and opportunities to satisfy them		
Johnston, H.R., Jr. (1974)	39 professionals in a management consulting firm		Content analysis of interview responses		High active (vs. passive) or task orientation generally related to organization (but not significantly to a specific measure of		

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Rotondi, T. (1976)	47 nonmanagers, 140 mangers in industry	Organization identification defined in terms of similarity, membership, and loyalty. Occupational identification defined in terms of professional activities and attitudes (moral)	Organization identification, Patchen scale. Occupational identification: new items to tap membership in professional societies, interest in occupational literature and occupational pride		Need for affiliation (managers) both related to organization identification. Needs for affiliation and achievement were related to occupational identification for managers and nonmaragers		
Card, J.J. (1977)	102 junior ROTC high school students; 987 non-ROTC high school students; 754 ROTC college students; 879 non-ROTC college students	Importance of quality and reputation of organization for which one works (vs. importance of nature of the work) (moral)	One-item scale			ROTC and JROTC students reported higher organization commitment than non-ROTC or non-JROTC students	
Bridges, C.F. (1969)	564 USMA cadets in class of 1970; measured in 1966, 1967, and 1968. 715 cadets from class of 1971 measured in 1967 and 1968	Likelihood of remaining (behavioral intention)	Military carrer commitment gradient (MCCOG) and Academy Graduation Commitment (AGCOG)			Commitment to military career starts relatively high, then decreases significantly until the beginning of the 2nd class academic year, then remains at that level until graduation. Commitment to graduation starts very high, stays at that level for first year, then increases steadily until graduation	

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Koch, J.L. (1977)	501 technicians in the U.S. Forest Service	Choice of same organization if one could start career over	One 5-point scale item			Status inconsistency (gap between amount of rewards the person receives and amount received by professionals)	
March, R.M. and H. Mannari (1977)	1,033 employees from a Japanese electrical company	Acceptance of lifetime commitment norms (moral)	4 items indicating lifetime commitment norms			Job satisfaction, employee cohesiveness, perceived job autonomy, organization status (lifetime commitment norms not related to later turnover)	
Butler, R.P. and Bridges, C.F. (1978)	396 USMA graduates, class of 1966, 465 graduates, class of 1967	Likelihood of remaining (behavioral intention)	Military career commitment gradient (MCCOG)				Measures of commitment significantly related to retention 7 years after graduation (adjusted correlations of .54 and .39)
Butler, R.P. and C.F. Bridges (1976)	465 USMA graduates, class of 1967, 588 graduates, class of 1969	Likelihood of remaining (behavioral retention)	Military career commitment gradient (MCCOG)				Commitment as measured shortly before graduation was significantly related to retention 7 years later for class of 1967 and 6 years later for class of 1969

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Brief, A.P., R.J. Aldag, and R.A. Walden (1976	75 police officers	Porter (Moral)	Porter			Initiating structure of superior	
Buchanan; J.L. (1974)	297 business and government managers	Attitude scale (moral)				Personal importance of my work to organization, first year group attitudes toward organization, organization dependability, organization commitment norms, first year job challenge, current group attitudes toward organization (for total sample): year 1: - group attitudes toward organization - first year job challenge years 2-4: self-image reinforcement, personal importance of my work to organization year 5 and over: - group attitudes toward organization - realized expectations - work commitment norms	

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Porter, L.W., R.M. Steers, R.T. Mowday, and P.V. Boulian (1974)	84 psychiatric technicians	Porter (moral)	Porter				Turnover more strongly related to (low) commitment than to (low) satisfaction. Commitment differences between stayers and leavers were greatest just before the person leaves (i.e., 6-8 weeks)
Porter, L.W., W.J. Crampson, and F.J. Smith (1976)	212 management trainees in major retail firms	a) desire to remain b) willingness to exert high effort c) acceptance of organization values and goals (Moral)	Organizational commitment questionnaire (Porter et al. measure)				Commitment drops 1.5 - 2 months before leaving the organization
Smith, F.J. (1977)	Employees of a retailing organization	Attitude toward organization (moral)	Part of regular organization survey				Attendance was greater in units with high level of organization commitment, during snow emergency

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Ruh, R.A., R.G. Johnson, and M.P. Scontrino (1973)	2,488 members of six Scanlon Plan companies in the midwest	Patchen (moral)	Patchen			Participation in decision making through the Scanlon Plan	
Aranya, N. and D. Jacobson (1975)	228 Israeli systems analysts	Unwillingness to leave organization if offered attractive inducements to leave	Eight questions listing various inducements to leave. Respondent indicates whether he/she would change organizations or not	Age	Occupational commitment		
Angle, H.L. and J.L. Perry (1978)	1,224 lower level employees of 24 west coast public transit organizations	Porter	Porter	Age, race approached significance ($p < .09$) with blacks and Spanish surnamed lowest, American Indians and Orientals highest. Breadwinner status approached significance ($p < .06$, primary breadwinners lower)		Satisfaction with many facets of the organization (e.g., supervision social service, compensation, working conditions, achievement)	Organization-level adaptability, intention to quit (-) separation rate (-) and tardiness

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Brown, M.E. (1969)	834 TVA employees (Patchen's sample)	Patchen (moral)	Patchen	Not seniority nor rank	Affiliation (-), union concern (-)	Various measures of job scope (autonomy, skill utilization, etc.) leader's initiating structure (-), access to hierarchy, link to institution, group cohesiveness (-) task interdependence (-)	
Card, J.J. (1978)	1,000 high school seniors, 1,600 college students, 600 ROTC graduate Army officers	Past behavior or future intentions related to pursuit of Army officer career (behavioral intention)	New scale. Seven items for cadets,			Satisfaction with Army job/ ROTC program	
Derr, C.B. (in press)	70 U.S. Naval officers	Intentions to remain in the service (behavioral intention)	Interview coding		3 career orientations (current careerists, balanced careerists, second careerist)	Navy assignments (billets), career planning activities	25% were current careerists (high commitment): 50% were balanced (mixed commitment) 25% were second careerists (low commitment)

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Dubin, R., J.E. Champoux, L.W. Porter (1975)	1,014 male and female blue collar and clerical workers from a bank and telephone company	1) desire to remain 2) willingness to exert effort, 3) acceptance of goals	Porter		Workers with a central life intent (CLI) in work have high organization commitment	Workers with a non-job CLI have a low level of organization commitment and are selectively attracted to features of the organization environment	
Evan, W.M.	Literature review, not an empirical study				Work alienation (-)	Organizational hierarchy (-)	Organizational effectiveness
Gould, S.B. (1975)	Managers and social agency employees	Identification: positive attitudes toward organization Commitment: a) acceptance of organization goals b) willingness to exert effort c) plans to remain (moral)	Commitment: Porter	Age related to identification but not commitment	Identification: Existence (-) Relatedness (-) and growth (-) needs for social workers. Existence (+) and relatedness (-) needs for managers	Job satisfaction	
Gould, S.B. (1977)	Probate court employees and part-time university students	Patchen	Patchen		Dominant need moderated	(See sociopsychological factors column)	

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Hall, D.T., B. Schneider, H.T. Nygren (1970)	156 professional foresters in the U.S. Forest Service	Positive attitude toward organization (moral)	Four item attitude scale	Tenure, position (but position was not related to identification with tenure held constant)	Commitment to public service. Importance of security and social needs. "Supportive" and "Involved" self-image	Satisfaction of higher order needs	
Hall, D.T., B. Schneider (1973)	92 Roman Catholic priests	1) degree of acceptance of organization in its present state; 2) degree of activity in demonstrating that acceptance (moral)	Six-point scale combining 1) acceptance and 2) activity (6 = active accept, 5 = passive accept, 4 = passive reform, 3 = active reform, 2 = passive reject, 1 = active reject)	Organization rank, tenure	Fit between personal values and organization goals	Initial assignment characteristics, work climate (superior effectiveness, work challenge, interpersonal acceptance, supportive autonomy), administrative activities, personal development activities, satisfaction with work and supervision (Moral)	
Horn, P.W., R. Katerberg, Jr., C.L. Hulin (undated)	484 mid-western national guard members	Porter (moral)	Porter		Fishbein's attitude model (sum of attitude toward reenlistment, perceived moral obligation, and subjective norm or perceived expectations of others)	Job satisfaction	Organizational commitment (r = .58) predicted retention better than work satisfaction (r = .46). However, the best single predictor of retention was a one item measure of intention to reenlist (r = .67). Retention was measured 6 months after the survey

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Hrebiniak, L.G., J.A. Alutto (1972)	318 teachers, 395 nurses	Unwillingness to leave organization, if offered attractive inducements to leave (calculative)	12-item scale listing various inducements to leave, with varying degrees of attractiveness. Respondent indicates whether he/she would leave in response to each inducement	Sex (women higher), marital status (singles higher), age and father's occupation level, religion (Protestants highest)	Trust	Satisfaction with organization's rewards (low) tension	
Jamal, M. (1974)	377 production workers in six Canadian companies	Not specified	"Organizational commitment questionnaire"			Low job specialization	
Kidron, A. (1978)	237 insurance company clerks and supervisors, 75 hospital employees, 41 university personnel staff members	Two types: 1) moral commitment; identification with organization goals and values, and 2) calculative commitment; willingness to remain in organization given an alternative job with slightly better outcomes (moral and calculative)	Moral commitment: modified version of Hall, Schneider and Nygren (1970) scale (6 items), plus 3 items from Jamal's (1974) scale	Staff members	Protestant ethic values related to moral commitment (not to calculative commitment)		

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Kirschenbaum, A.B., A.J. Goldberg (1976)	194 industrial and management engineering graduates in Israel	Willingness to move for better offer	One-item propensity to move question	Employment experience	Interest in advanced degree (-), people orientation (-), professional standards (-), importance of colleague recognition (-), interest in organization, local career aspirations (-)	Combination of low influence in company and high local career aspirations (-)	
Lee, S.M. (1971)	170 scientists and supervisors in U.S. Public Health Service	Belongingness, loyalty, or shared characteristics (moral)	Unspecified	Age, seniority, education level	Enthusiasm about local community, identification with profession, level of motivation	Numerous measures of job characteristics and job attitudes (e.g., sense of accomplishment, perceived future progress, job satisfaction)	
Lee, S.M., R.J. Litschart (1975)	130 professional employees in a utility company (publicly owned)	Porter	Porter	Rating of community as a place to live. (Not age nor length of service)	Satisfaction with the profession	Being informed in one's job, degree of communication among employees, general job satisfaction, opportunity for professional growth on the job	

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Mowday, R.T., R.M. Steers, L.W. Porter (1978)	Review of series of studies in nine organizations, among 2,563 employees	Porter	Porter	Occupational category difference (no significance level reported), tenure, separate norms presented for men and women. (Inspection suggests women score higher but significance of differences not presented.)	Intrinsic motivation, work as a "central life interest"	Motivational force to perform, job involvement, career satisfaction, job satisfaction	Turnover (-) Absenteeism (-) Performance, intent to leave (-), intended length of service
Ritti, R.R., T.P. Ference, F.H. Couldner (1974)	674 Roman Catholic priests	Not specified	Survey questionnaire		"Traditional Belief Index"	Demands of work are related to satisfaction with work and overall satisfaction as a priest, both of which were related to commitment to the priesthood	
Rotondi, T. (1975)	187 business school alumni	Similarity, membership, and loyalty (moral)	Patchen	No differences between managers and nonmanagers	Work group identification, occupational identification, and external group identification for managers (not for nonmanagers)		

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Sheldon, M.E. (1971)	102 research scientists and engineers.	1) Desire to contribute to organization, 2) plans to stay, 3) overall endorsement of organization (moral)	Three item scale	Age, length of service, and position	Relationship between length of service and organization commitment was		
Stahl, M.J., T.R. Manley, C.W. McNichols	10,687 Air Force personnel of various grades, seniority levels, and educational levels	Attitudinal orientation (moral)	Eight item scale, based on Gouldner (1957) and Moskos (1977)	The following groups had higher institutional commitment to the Air Force and lower occupational commitment (i.e., the feeling that the Air Force is "just a job.") Senior Sergeants: (vs. Junior enlisted), senior officers (vs. junior officers), regular commission holders (vs. reserve commission holders), nondoctorate education (vs. doctorate), non-physicians (vs. physicians)	Career intent was positively correlated with institutional orientation, negatively correlated with occupational orientation. (Multiple r = .48)		

Table 1, continued

Authors	Sample	Definition of commitment	Measure of commitment	Demographic correlates of commitment	Socio-psychological correlates of commitment	Work experiences/ situational correlates of commitment	Organizational outcomes related to commitment
Steers, R.M. (1977)	382 hospital employees; 119 scientists and engineers	Porter (moral)	Porter	Education (-) (both samples), Age (hospital sample only)	Group attitudes toward organization (both samples), need for achievement	Organization dependability, task identity (personal importance to the organization), optional interaction, next expectations (hospital sample only), feedback turnover (-), work quantity, promotion readiness (hospital sample only), attendance (scientists and engineers only)	
Steers, R.M., D.G. Spencer (1977)	115 manufacturing managers	Porter (moral)	Porter	Not age, education, or tenure	Need for achievement	Situational: job scope	
Van Maanen, John (1975)	136 police recruits	Porter (moral)	Porter	Length of service		Decrease in organization commitment	Positive relationship between organization commitment and job performance after two months

Consistent with this idea of the organizational reward system is Lee's (1971) finding that tenure related to identification in his sample of government research scientists, who were in civil service positions where rewards are based on length of service. Similarly, Sheldon (1971) found a positive relationship in a laboratory that had previously been a government organization and which worked mainly on government contracts. Buchanan (1974) found the same relationship in a government sample. Thus, a critical factor in the tenure identification relationship may be whether organizational rewards (which would engender identification) are based upon seniority.

March and Simon (1958) suggested that there may be a curvilinear relationship between moral involvement and tenure. There may be high identification in the early months, before the person has complete information about the organization (i.e., a "honeymoon effect"). Then, as more of the negative aspects of the organization become apparent, identification may drop (i.e., a disillusionment or "reality shock" (Hall, 1976)). Then, a few years later, following successful socialization, identification may increase with subsequent seniority. Vroom and Deci (1971) and Herzberg, Mausner, and Snyderman (1959) found evidence for such a disillusionment process in their research on job satisfaction, a variable strongly correlated with organizational involvement, as will be seen later.

A curvilinear relationship would help explain the inconsistent results reported earlier. Hall and Schneider's (1972) R&D sample and Gould's (1975) social worker group had very low tenure (and a low tenure-identification relationship), while Hall, et al.'s forester and priest groups and Gould's (1975) manager group had very high average tenure (and a strong correlation between tenure and identification). Consistent with the "reality shock" idea, Van Maanen (1975) found a decrease in police involvement over a thirty-month period. In another military group, Bridges (1969) found decreases in the career commitment of West Point cadets through the start of their junior year, followed by a stable level of commitment until graduation. Porter, Steers, Mowday, and Boulian (1975), Bassis and Rosengren (1975), and Porter, Crampon, and Smith (1976) also found some evidence of decreasing involvement in the early months of employment, although the amount of decline seems to be organization-specific.

Education. Education level has been studied far less often than age or tenure. Lee (1971) found that education was positively related to organizational identification, although this may be because more rewards come to better educated people in a group of research scientists such as he studied. Among 10,687 Air Force personnel of various grades, seniority levels, and educational levels, Stahl, Manley, and McNichols (1978) found a negative relationship at very high levels of education; people with doctorates showed lower involvement than people without a doctorate. Steers (1977) also found a negative relationship between education and involvement. To complicate the picture further, Steers and Spencer (1977) and Angle and Perry (1978) reported no link between education and moral involvement.

One explanation for these inconsistent findings may be that work experience factors related to education may be mediating the relationship between education and involvement. That is, a certain education level may lead to having particular work experiences, which could in turn influence the person's level of commitment. In studies where the effects of other work experiences are statistically controlled (e.g., in multiple regression studies),

education shows a significant zero-order correlation with commitment, but the relationship vanishes in a multiple regression analysis (e.g., Angle and Perry, 1978).

The type of education, not just the level attained, may also be critical. A study by Bassis and Rosengren (1975) of 1,577 students in the Merchant Marine examined occupational commitment (defined as how long students planned to remain as officers serving aboard ships) in two different types of maritime schools: those employing a "military" model (strong rules, authority, and stress on proper behavior) and those using the "vocational-professional" model of training. Higher occupational commitment was found in the vocational-professional school environments. The authors conclude:

> ...large numbers of students undergoing military-type socialization express a very high degree of disenchantment. [Also]...there is a considerably larger proportion of students in the vocational-professional schools who remain "undecided" about their future career plans. Together, these two patterns suggest that socialization for career commitment in the military-type schools has a more decisive outcome, and results in an early and clear intention to leave the career at a very early stage. In plainer terms, in comparison with vocational-professional schools, socialization in academies imposing a military life on students appears to discourage large numbers of students from continuing in their chosen career. (Bassis and Rosengren, 1975, pp. 141-143)

Sex. Like education, sex has been rarely examined as a predictor of organizational involvement. In Gould's (1975) social worker sample, women showed higher levels of identification than men, but not higher commitment (goal acceptance, effort, and intentions to remain). Grusky, in a study published in 1966, predicted that women would show higher commitment, since they had to overcome more barriers to attain their positions than men; his prediction was confirmed. Similarly, Hrebiniak and Alluto (1972) found lower organizational commitment for men than for women in a sample of teachers and nurses--like Gould's social workers, female-dominated professions. Thus, the small amount of research on sex differences has tended to find higher commitment among women. However, these studies were conducted before the current concern for equal employment opportunity for women. A more recent study (Angle and Perry, 1978) found no relationship between sex and involvement, with other work experience factors held constant. More data, especially more recent data, are necessary. The more other relevant work experience factors are controlled, the less important sex may be.

Race. An important contemporary question deals with the level of commitment in various racial or ethnic groups. Unfortunately, race has been infrequently studied as a correlate of commitment. Part of the reason for this has been the sampling problems inherent in studying any minority group (e.g., Card, 1977). In the most promising study to date, Angle and Perry (1978) report that race approached significance ($p<.09$) as a predictor of commitment. Blacks and Spanish-surnamed respondents reported the lowest levels of commitment, while American Indians and Orientals were highest. No explanation for this possible relationship was provided. Clearly, more research is needed on this important topic.

Position level. The person's position level or rank in the organization appears to affect involvement, with higher-ranked people showing greater

involvement. Stahl, Manley, and McNichols (1978) found the following groups had higher commitment to the Air Force: senior sergeants (versus junior enlisted), senior officers (versus junior officers), and regular commission holders (versus reserve commission holders). Hall, et al. (1970), Hall and Schneider (1973), and Sheldon (1971) all found rank to be positively related to organizational involvement. One study (Rotondi, 1975) of business school alumni found no differences between managers and nonmanagers, but the nonmanagers were still high status professional personnel.

Early family and socialization experiences seem to be related to adult organizational involvement. Hrebiniak and Alutto (1972) found that Protestants and people whose fathers were in high ranking organizations showed the highest organizational commitment. Similarly, among college students and ROTC graduate Army officers, Card (1978) found that Army commitment was related to military socialization (being in a military family) and frequency of moves while growing up. Thus, the father's occupation seems to show a continuing relationship to a person's attitudes toward an employing organization.

Summary of Demographic Correlates

Many of the demographic factors examined as possible correlates of organizational involvement showed inconsistent results. Position level (or rank) and length of service tended to be positively related to involvement. Sex has tended to be a significant correlate, with women showing greater involvement, but these studies have generally been five or ten years old. Another variable which is currently important--racial or ethnic background--has not been studied as a correlate of commitment. Age and education have been found related to involvement, but less consistently. The person's social background (e.g., early childhood socialization experiences) is also a promising predictor, but it has been studied too infrequently for any generalizations to be made. Overall, personal background factors appear to be significant correlates of organizational involvement, but when the effects of relevant aspects of the work environment are also included, the magnitude of unique variance explained by demographic factors is not large (e.g., one percent in Angle and Perry's (1978) study).

Sociopsychological Correlates of Organizational Involvement

Now let us switch from personal background to another type of personal characteristics: needs, values and attitudes, and self-image.

Needs. Since a work organization provides a setting for task accomplishment and achievement, one would expect that people with a high need for achievement would express a high level of organizational involvement. In fact, need for achievement has been consistently related to involvement in several different occupational settings: hospital employees and scientists and engineers (Steers, 1977), manufacturing managers (Steers and Spencer, 1977), and managers and nonmanagers in industry (Rotondi, 1976). In a similar vein, involvement was found to be related to a person's level of motivation (Lee, 1971; Card, 1978), and task orientation[1] (Johnston, 1974). One would hypothesize that the relationship between need for achievement and organizational involvement would be stronger to the extent that the position or organization expected and rewarded high achievement, but there has been no research yet using organizational rewards as a moderator variable.

Other needs, such as affiliation (Rotondi, 1976; Hall, Schneider, and Nygren, 1970; Gould, 1975), security (Hall, et al., 1970; Gould 1975) and growth (inverse) (Hall and Schneider, 1972; Gould, 1975) have also been found to be related to involvement, but directionality is inconsistent; e.g., Gould (1975) found that the need for security (existence concerns) was negatively correlated with commitment for social workers, but positively correlated for managers. Gould's (1977) analysis indicated that the opportunity to satisfy various needs varies from setting to setting, which should affect the relationship between the strenth of various needs and a member's commitment; the stronger a given need, the stronger was the relationship between the satisfaction of that need and commitment.

A test of Gould's conclusion was provided by Koch (1974), who constructed an index of the congruence between the importance of a person's needs and the opportunity to satisfy them. Koch found that this index of need satisfaction fit was directly related to organizational involvement. Therefore, the best generalization appears to be that involvement is positively related to the opportunity to satisfy important needs on the job.

Values. Personal values have generally been good predictors of organizational involvement. People who hold Protestant ethic work values are likely to have a high moral (but not necessarily calculative) commitment to their organization (Kidron, 1978) and a high level of general involvement in work (Hulin and Blood, 1968; Goodale, 1973; Rabinowitz and Hall, 1977). Amont U.S. Forest Service professionals, Hall, et al. (1970) found that high identifiers were those people who attached the greatest value to public service, a central goal of the Forest Service. Similarly, among a sample of Roman Catholic priests, Hall and Schneider (1973) found that the fit between a priest's own values and his perception of the organization's goals was a significant predictor of commitment. Buchanan (1974) and Kirschenbaum and Goldberg (1976) found that the more compatible a person felt the organization's values were with his or her own personality, the stronger the commitment level was. Also in this vein of person-organization fit was Card's (1978) finding that commitment among ROTC students and Army officers was related to a value set compatible with military life, subscription to military ideology, and a desire for leadership and adventure. Similarly, commitment of professional employees to their employing organization is negatively related to one's value for collective bargaining and professional associations (Alutto and Belasco, 1974). Thus, although pivotal or core values may differ from one organization to another, the more strongly a person accepts the values most central in her or her own institution, the bigger the level of commitment will be.

Personal orientation. Closely related to values is the concept of personal orientation vis-a-vis particular institutions. Examples of personal orientations would be commitment to a profession, to family, or to one's career.

Dubin, Champoux, and Porter (1975) found that workers with a central life interest (CLI) in work had high levels of organizational commitment. The commitment of employees with low CLI was more conditional, dependent on various inducements found in the organizational environment.

In a study which supported Charles Moskos' (1977) thesis, Stahl, Manley, and McNichols (1978) found that the highest commitment to an Air Force career was found among people with a high "institutional" (military as a

"calling") orientation and among those with a low "occupational" (military as a job) orientation. The combination of these two orientations was an especially good predictor of commitment to the Air Force.

In a study of 70 U.S. Navy officers, Derr (in press) identified three distinct orientations: current careerists (those oriented toward their current Navy career), second careerists (those oriented toward their work after retirement from the Navy), and balanced careerists (those equally concerned about the present and the post-retirement career). Current careerists made up one-fourth of the sample, half were balanced careerists, and the remaining fourth were second careerists. Commitment to the Navy was highest among current careerists, next highest among balanced careerists, and lowest among second careerists.

Among professional employees, commitment to the organization is now generally accepted to be independent of commitment to the profession (Hall, 1976). Whether the two orientations are correlated is probably a function of whether the organization stresses professional values (Hall and Lawler, 1970). For example, in three separate studies of technical personnel, Lee (1971) and Aranya and Jacobson (1975) found a positive correlation between commitment to the profession and to the organization, while in Sheldon's (1971) sample the two variables were not related, but professional commitment moderated the relationships between organizational commitment and other variables.

Self-image. Since organizational identification is in part a process by which a person comes to define his or her identity in terms of organizational membership, one would expect that one's self-image or sense of identity would be linked to one's organizational involvement. In fact, one researcher (Patchen, 1970) includes organizational self-image as a component of his definition and measurement or organizational identification.

In their study of professional foresters, Hall, et al. (1970) found that people who saw themselves as "supportive" and "involved" were most likely to identify with their (public-service-oriented) organization. In a similar vein, management consultants who are active (versus passive) tend to be more committed to their firms (Johnston, 1974); management consulting, of course, demands a high level of energy and activity. However, subsequent studies of priests (Hall and Schneider, 1973) and scientists and engineers (Hall and Schneider, 1972) failed to find self-image correlates of identification.

Summary of Sociopsychological Predictors

In general, those sociopsychological factors which indicate a fit or congruence between person and organization tend to be correlated with organizational involvement. The need for achievement, which is congruent with any organization's task concerns, is a consistent correlate. Other needs are correlated to the extent that organizational membership helps lead to their satisfaction. Similarly, personal values which are compatible with those of the particular employing organization tend to be correlated with organizational involvement. In particular, the Protestant work ethic is a quite reliable predictor of involvement. Self-image tends to be a less consistent predictor of involvement than are needs, values, and social involvements.

Work Experiences and Situational Factors

Job scope or challenge. One of the most consistent findings in the literature is the relationship between job challenge or scope and organizational involvement. This link has been found among Roman Catholic priests (Hall and Schneider, 1973), professional foresters (Hall, et al., 1970), scientists and engineers (Hall and Schneider, 1973; Steers, 1977a; Lee, 1971) managers (Steers and Spencer, 1977; Buchanan, 1974), manufacturing employees (Marsh and Mannari, 1977; Jamal, 1974), hospital employees (Steers, 1977), and T.V.A. employees (Brown, 1969).

It appears, then, that the job is a critical link between the person and the organization. Some of the important characteristics of challenging jobs which result in higher involvement are autonomy, variety, task identity (doing a "whole" piece of work), feedback, and task significance (Hackman and Oldham, 1975).

Satisfaction. Closely related to job scope and challenge is the satisfaction that can result from positive job experiences, as well as from other facets of the organizational environment. Hall and Schneider (1972) found that need satisfaction was even more strongly related to identification than was job challenge. They speculated that need satisfaction operates as an intervening variable, such that job challenge leads to need satisfaction, which in turn leads to organizational identification. Ritti, Ference, and Gouldner (1974) found evidence supporting this argument in their study of parish priests.

Card (1978) found that Army career commitment among ROTC cadets and Army officers was related to their satisfaction with the ROTC program and their Army job, respectively. In another military organization, a police department, strong initiating structure from one's superior was positively related to commitment (Brief, Aldag, and Wallden, 1976). The organizational commitment of Roman Catholic priests is related to their satisfaction with work and with supervision (Hall and Schneider, 1973). Other studies have found involvement to be correlated with satisfaction with organizational rewards (Hrebiniak and Alutto, 1972) and need satisfaction (Angle and Perry, 1978; Mowday, Steers, and Porter, 1978; Gould, 1977; Hall, et al., 1970; Koch, 1974). Clearly, job and need satisfaction is an important correlate of organizational involvement.

Career experiences. Not only does the current job assignment affect involvement, but past and future career factors play a critical role as well. The person's initial assignment in the organization seems to have a continuing impact on involvement. The more challenging the first assignment was, and the more the person's initial expectations were met, the higher was his or her later level of identification (Hall and Schneider, 1973; Buchanan, 1974; Steers, 1977).

Also, moving from the task to the social dimension, the more positive the work group's attitudes toward the organization were in the first year (Buchanan, 1974) and the more supportive the work climate was in the first year (Hall and Schneider, 1973), the more the person identified with the organization in later years. Regarding the future, Lee (1971) and Gould (1975) found that identification was highest among people who felt they would experience good future career progress in the organization, while Steers (1977a)

found that high identifiers tended to have high "promotion readiness." Also, participation in a career-relevant training experience, such as ROTC for high school and college students, is related to greater organizational commitment (Card, 1977).

Therefore, the overall pattern of work and career experiences the person has in the organization has a strong impact on his or her organizational attitudes. Through multiple regression techniques, Steers (1977) was able to compare the effects of personal characteristics, job characteristics, and overall career/work experiences. While all three were important, career and work experiences were more closely related to commitment than were personal or job characteristics in both of Steers' samples.

Social involvement. Social relationships are an important mechanism for linking a person to a larger social institution, such as an organization. One would expect that the more attached the person were to groups which were in turn involved in an organization, the more the person would also feel attached to the organization. In support of this idea, Sheldon (1971), Buchanan (1974), and Rotondi (1975) found that the more involved the person was in the work group, the more involved he or she was in the organization. Also, Brown (1969) found that access to the hierarchy and links to the rest of the organization were positively related to involvement. Similarly, the more opportunity the person has to participate in decision-making, the higher her or his level of organizational involvement will be (Ruh, Johnson, and Scontrino, 1973).

A somewhat different slant is provided by Brown (1969), who reported a negative relationship between group cohesiveness and organizational identification. However, the employees he studied were unionized, possibly with counter-organizational norms. If group norms are counter to organizational norms, then commitment to the group and commitment to the organization become incompatible.

This idea is supported by Steers' (1977) finding that the more positive the group's attitudes were toward the organization, the more organizational commitment the person would feel. Also, the more trust the person has in the organization (Hrebiniak and Alutto, 1972) and the more enthusiastic the person is toward the local community, the higher the organizational involvement will be.

Summary of Work Experience and Situational Factors

Work experience and situational factors seem to present the clearest, most consistent correlates of organizational involvement of the three classes of predictors reviewed here. The following four components of the work environment are all critical in the development of high involvement:

- A challenging job assignment (i.e., high autonomy, variety, task identity, feedback, and task significance).
- Opportunities for need satisfaction and job satisfaction.
- Positive career experiences (especially a challenging initial assignment, supportive work groups in the first and later assignments, and good future career prospects). And

- Social involvements (if the local group is integrated into the organization).

Organizational Outcomes Related to Organizational Involvement

The studies that have been reviewed to this point have used organizational involvement as a dependent variable or outcome of some other personal or situational influences. Far fewer studies have examined commitment as a predictor of some other organizationally-relevant outcome.

Theoretically, one would expect organizational involvement to predict outcomes related to employee membership and participation in the organization (or, inversely, withdrawal behavior). For example, committed employees should show lower turnover (i.e., higher retention), lower absenteeism, and lower tardiness. Since committed employees might put more thought and care in their work, the quality of their performance should be higher than that of less committed people. The quantity of performance might not be as strongly related to commitment as quality, since exercising more care and effort may take time, which would work against a high volume of output.

Organizational commitment has been found to be a good predictor of retention among psychiatric technicians (Porter, Steers, Mowday, and Boulian, 1974) and management trainees (Porter, Crampon, and Smith, 1976). In fact, commitment predicted retention even better than one of the best traditional predictors, job satisfaction (Porter, Steers, Mowday, and Boulian, 1974). Both of these studies also found that the commitment differences between "stayers" and "leavers" was greatest just before the leavers terminated employment. A review of studies employing the Porter commitment measure found that commitment was predictive of turnover, absenteeism, performance, intent to leave, and intended length of service (Mowday, Steers, and Porter, 1978).

In an ingenious study of employee attendance during a major blizzard (when most business and transportation activity was stalled) in the midwest, Smith (1977) reasoned that only truly committed employees would fight the weather and come to work. And, in fact, organizational commitment was highly correlated with absenteeism during the weather emergency.

In a study of the future career orientations of U.S. Navy officers, Derr (in press) found that those with the highest Navy commitment were those most oriented to remaining in the Navy. Those with lower commitment were more involved in plans and activities which would prepare them for a second career in a civilian occupation.

A series of studies by the Office of Institutional Research at the U.S. Military Academy describe and validate the Military Career Commitment Gradient (MCCOG), a one-page probability estimate scale on which a person gives a self-report of his or her likelihood "that I will continue my active military service career as long as I possibly can." Over a time span of seven years, MCCOG scores obtained prior to actual commissioning predicted significantly whether a person would remain on active duty after the initial tour. This relationship was found for three classes, 1966, 1967, and 1969 (Butler and Bridges, 1976; Butler and Bridges, 1978). The MCCOG was also a good predictor of expected future rank (Butler, 1973). The authors conclude that "these

findings lend support to the theory that the individual's direct estimate of his future tenure is a good predictor of turnover" (Butler and Bridges, 1978, p. 181).

Less work has been done relating commitment to performance. Van Maanen (1975) found that organizational commitment was related to police "street" performance after two months of employment. In a review of the organizational literature, Evan (1977) concluded that organizational commitment of members is related to the overall effectiveness of the organization. Steers (1977), on the other hand, found that commitment was not related to overall performance.

Angle and Perry (1978) report a very thorough, comprehensive study of organizational commitment versus organization-level performance among 1,224 employees in 24 public transit organizations. They found that the mean level of employee commitment in an organization was significantly related to organizational adaptability and organization-wide rates of turnover, tardiness, and employee intentions to quit.

Summary of Outcomes Related to Commitment

Although studies are scarce, it seems clear that organizational commitment is a good predictor of retention (or turnover). It also appears to be related to other forms of employee withdrawal, such as absenteeism. Commitment shows mixed relationships with individual performance, but the theoretical connection between these two variables is less clear. There is also evidence of a strong relationship between the organization-wide level of employee commitment and the performance of the organization as a whole.

Overview: Influences Binding Person to Organization

At this point let us review the current state of the empirical literature in relation to the model of organizational involvement shown in Figure 1. The first conclusion that can be drawn is that most research to date has focused on moral involvement, as opposed to calculative or alienative.[2] Most studies have used variants of either Porter, et al.'s (1974) commitment measure (which taps identification with organizational goals plus behavior intentions), Patchen's (1970) and Hall, et al.'s (1970) (both of which measure identification). The most common measure of calculative involvement has been Hrebiniak and Alutto's (1972), but this has been used less frequently.

The one study which specifically studied two different forms of involvement (moral versus calculative) found differential correlates consistent with the model in Figure 1. Protestant ethic values were related to moral involvement, but not to calculative involvement (Kidron, 1978). More research on (lack of) external labor market alternatives as predictors of alienative involvement and more studies of rewards/inducements/investments as predictors of calculative involvement are clearly needed. As of now, investments have only been measured in terms of surrogates such as length of service (e.g., Sheldon, 1971). More attempts to obtain direct measures of external alternatives, rewards, inducements, and investments are needed.

This explicit examination of different forms of involvement is especially important in organizations such as the Army, where the basis of involvement is shifting. An interview with Lt. Colonel Howard Prince, Ph.D., head of the Department of Behavioral Sciences and Leadership at West Point, indicated that moral involvement (i.e., the military career as a calling) is decreasing. In its place is an increasing stress on calculative involvement--i.e., the military as a rewarding occupation and training ground for a later civilian career. Colonel Prince indicated that this change shows up in various ways at West Point: cadets talk often about their post-military careers, there is less interest in military life style, military dress, and behavior, and there is more of a "nine to five mentality." Cadets show more interest in the geographic location and life style in initial assignments than in the intrinsic work content of the assignment. Family factors and the spouse's career are also becoming increasingly important, but have rarely been studied. If more people are being attracted to the Army on the basis of extrinsic rewards (e.g., education, job training) and a calculative involvement, we need to move about the process by which this form of attachment develops. (See Exhibit 1 for an illustration of the approach to calculative involvement in recruiting.)

Lt. Colonel Nicholas Jans reports a similar change in the basis of involvement of Australian Army officers. His research leads him to the following conclusion:

> Organizational commitment and work involvement of the officers seems to have been taken for granted in the past: "duty" was the motivator. We are told, however, that the "new generation" of officers is likely to have a different set of values, despite the effect which institutional socialization will have on them. The Australian Army recently conducted a study to identify some of the important social "governing variables" which are likely to influence the Army in the future. Among them was the prediction that the Army will experience the same pressures as are being felt by civilian organizations, for greater attention to personal aspirations than has been done in the past. In particular, the study found, officers are likely to seek greater participation in decision-making. (Nicholas Jans, personal communication, November 17, 1978.)

A second conclusion from the empirical literature in relation to the model in Figure 1 is that we have focused far more on the causes of commitment than on its outcomes. In other words, there are many studies of commitment as a dependent variable but not as a predictor.

Related to commitment as a predictor is the fact that there have been very few attempts to use behavioral intentions as a separate variable in the commitment process. Studies using the Porter instrument have combined behavior intentions with goal identification to get a global index of commitment. Studies which have used behavior intentions as a separate predictor have shown good results (Butler and Bridges, 1978).

Finally, the three classes of predictors (demographic, sociopsychological, and experience/situational) all emerge as good predictors of involvement. A summary of the correlates of organizational involvement are shown in Table 2. (To be more precise, we should say they are all good predictors of moral involvement, since that has been the form of involvement studied most often.)

OPPORTUNITIES NOW:

If you're looking for an immediate opportunity, now's the time to take advantage of the best opportunities the Army has ever offered.

$479.40 A MONTH TO START

Before deductions, of course. But with food, housing, and medical and dental care provided, you'll be surprised how far your pay goes. Plus, you can get a bonus up to $3,000. for certain enlistments.

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Today's Army can teach you skills you'll be glad you have later on. From electronics to carpentry, from musicians to mechanics, the Army today has more openings than anyone.

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The Army will pay up to 75% of the tuition for approved courses taken off-duty. Plus the Veterans' Educational Assistance Program can help you accumulate an educational fund of up to $8,100 in just three years.

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Joining the Army can mean a chance to work and live in Europe, Alaska, Hawaii, Korea, the Canal Zone, or almost anywhere in the continental United States.

FIRST COME, FIRST SERVE

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Exhibit 1. An illustration of calculative Army recruiting. (Time, April 16, 1979, p. 103.)

Table 2. Summary of correlates of organizational commitment.

Demographic factors

Age:	Mixed findings. May be related more to attitudes than behavior intentions
Seniority:	May be related to moral involvement when - person is in a single-organization career - organizational rewards are based on seniority (e.g., government or civil service organization) - early (negatively) and later (positively) in the organizational career.
Education:	Mixed findings with level.
Sex:	Women tend to be more involved (but studies are old.)
Position level:	Positively related
Social background:	Father's occupation, family lifestyle
Race and ethnic background:	Not studied

Sociopsychological factors

Needs:	- Need for achievement - Fit between importance of needs and opportunity for need satisfaction in a particular setting.
Values:	- Acceptance of pivotal organizational values. - Protestant work ethic values
Self-image:	Infrequently related.

Work experience and situational factors

- Job scope or challenge
- Need and job satisfaction
- Career experiences
  - Challenging initial assignment
  - Supportive work group in first and later assignment
  - Expectations for good future career progress.

- Social involvements: Commitment to the local group is positively related to organizational commitment, if the group's attitudes toward the organization are positive.

Outcomes

- Retention (or turnover)
- Absenteeism
- Mixed results with individual performance
- Organization performance

Multivariate studies which have tested the relative importance of various predictors have tended to find that the experience factors have somewhat more impact (Angle and Perry, 1978; Steers, 1977; Hall and Schneider, 1972; Lee, 1971). In particular, the challenge or scope of the present assignment is consistently a major correlate of involvement. This is perhaps fortunate, as it may be easier to change members' assignments than it would be to change demographic characteristics or attitudes, in the attempt to increase commitment.

In conclusion, then, the factors in the person's environment (shown in Figure 2) appear to affect the link between the person and the organization. Early childhood socialization (parents' occupation and life style and childhood peers) influence basic values and attitudes (sociopsychological factors), which may influence educational and early occupational aspirations. The first work assignment appears to have a lasting impact on organizational involvement. Most important, however, are the factors in the present work environment: the challenge or scope of the job, the supervisor (and opportunities to participate in decision-making), the work group, life style, organizational rewards, all in relation to external alternatives. And finally, even if all of these factors are positive, if the expected future rewards in the organizations are low, the level of involvement may also be low.

Toward the Future in Organizational Involvement Research

In summary, it appears that future research on organization involvement would benefit from the following:

1. More focus on the different forms of organizational involvement (moral, alienative, and calculative). (For specific occupational groups, such as Army officers, where the two dominant forms are calculative and moral, an examination of these two may be sufficient.)

2. More attempts to measure and study external alternatives as a predictor of alienative involvement and rewards/inducements/investments as predictors of calculative involvement.

3. More use of "pure" behavior intention measures to predict specific member behaviors, such as retention, effort, and attendance. Developing complex scales of employee attitudes for different forms of involvement may be a waste of time and effort if the main purpose of the research is to predict behaviors such as retention. Predictive instruments employing behavioral intentions may be far more effective and efficient.

4. More research on extra-organizational factors, such as family stage, spouse career, and life style, as predictors of employee membership or withdrawal behaviors. As dual careers and concerns for quality of life become more important, employees' job decisions are influenced increasingly by these external factors (Hall and Hall, 1979).

Early Socialization	→	Early Career Experiences	→	Present Work Environment	→	Future Career
Parents		Education		Present assignment		Expected future rewards in this organization
Early peer group		Initial assignment		Present supervisor		
				Present work group		Expected external future rewards
				External alternatives		
				Rewards/ inducements/ investments		
				Family/ life style factors		

Figure 2. Factors which link a person to an organization.

Appendix 1

Measures of Organizational Involvement

Three measures of organizational involvement have been used most widely to date. The Organizational Commitment Questionnaire (OCQ), developed by Lyman Porter and his colleagues (see e.g., Porter, Steers, Mowday, and Boulian, 1974) is the most commonly used questionnaire, while variants of instruments developed by Patchen (1970) and Hrebiniak and Alutto (1972) have also been employed in several studies. These questionnaires will be described here, along with two military-specific instruments: the West Point Military Career Commitment Gradient (MCCOG). and an operationalization of Moskos' institutional versus occupational military career models.

Porter et al.'s Organizational Commitment Questionnaire (OCQ)

The CCQ, shown in Table A1, is the most familiar measure of commitment in the literature today, and, as a progress report by Mowday, Steers, and Porter (1978) shows, it has impressive scale characteristics. The instrument is based upon a definition of organizational commitment as having three components: 1) a strong belief in and acceptance of the organization's goals and values; 2) a willingness to exert considerable effort on behalf of the organization; and 3) a strong desire to maintain membership in the organization. Thus, in terms of the model shown in Figure 1, Porter et al. define commitment as a combination of an attitude (moral involvement) and two behavior intentions.

Table A1

The Porter et al. Organizational Commitment Questionnaire (OCQ)

(From Mowday, Steers, and Porter, 1978)

Instructions

Listed below are a series of statements that represent possible feelings that individuals might have about the company or organization for which they work. With respect to your own feelings about the particular organization for which you are now working (company name), please indicate the degree of your agreement or disagreement with each statement by checking one of the seven alternatives below each statement.

1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.
2. I talk up this organization to my friends as a great organization to work for.
3. I feel very little loyalty to this organization. (R)
4. I would accept almost any type of job assignment in order to keep working for this organization.
5. I find that my values and the organization's values are very similar.
6. I am proud to tell others that I am part of this organization.
7. I could just as well be working for a different organization as long as the type of work were similar. (R)
8. This organization really inspires the very best in me in the way of job performance.
9. It would take very little change in my present circumstances to cause me to leave this organization. (R)
10. I am extremely glad that I chose this organization to work for, over others I was considering at the time I joined.
11. There's not too much to be gained by sticking with this organization indefinitely. (R)
12. Often, I find it difficult to agree with this organization's policies on important matters relating to its employees. (R)
13. I really care about the fate of this organization.
14. For me this is the best of all possible organizations for which to work.
15. Deciding to work for this organization was a definite mistake on my part. (R)

Note. Responses to each item are measured on a 7 point scale with scale point anchors labeled: 1) strongly disagree; 2) moderately disagree; 3) slightly disagree; 4) neither disagree nor agree; 5) slightly agree; 6) moderately agree; 7) strongly agree. An "R" denotes a negatively phrased and reverse scored item.

The internal consistency reliability (coefficient Alpha) of the instrument has been very high, ranging from .82 to .93, with a median of .90. Factor analyses generally result in a one-factor solution, indicating the instrument is measuring a single common underlying construct. Test-retest reliability has ranged from r = .53 to r = .75 over periods from two months to four months. There is some evidence of convergent and discriminant validity and strong evidence of predictive validity (especially for turnover).

Overall, the OCQ is an excellent measure of organizational commitment. Conceptually, combining attitudes and behavioral intentions is not as "clean" as it could be, but empirically the two aspects of involvement are sufficiently highly correlated to justify this sort of aggregate index of commitment. The fact that norms and results from multiple studies are also available add to the appeal of this measure. For more information, the reader is referred to the excellent analysis of the OCQ provided by Mowday, Steers, and Porter (1978).

Patchen's Measure of Organizational Identification

Patchen (1970) defines identification in terms of 1) perceived similarity between self and organization; 2) self-concept definition in terms of membership in the organization; and 3) loyalty to the organization (e.g., as shown by a willingness to defend the organization from criticism). This is thus more a "pure" measure of moral involvement than is Porter's.

Patchen suggests an index of weighted averages for the individual items in his scale. Inter-item correlations are high (generally in the .50's or higher, as reported by Lee and Litschert, 1975/76). Internal

consistency reliabilities are generally in the .80's or higher. Less work on validity has been done on Patchen's scale than on Porter's, but the pattern of results from the studies where it has been used show reasonable construct validity. The Patcher scale is shown in Table A2, as modified by Hinton (1979) for a military sample, the Naval Reserve. The numbers on the blanks next to each item are scores.

Table A2. The Patchen Organizational Identification Scale

For each of the following items, check the response which best indicates your feelings about the Naval Reserve.

9.60 If you could begin working in another part-time job, doing a similar kind of work as you do in the Naval Reserve, how likely would you be to join the Naval Reserve over again?

_1_ Definitely would choose another place over the Naval Reserve

_2_ Probably would choose another place over the Naval Reserve

_3_ Wouldn't care whether it was the Naval Reserve or some other place

_4_ Probably would choose Naval Reserve over another place

_5_ Definitely would choose Naval Reserve over another place

9.61 How do you feel when you hear (or read about) someone criticizing the Naval Reserve or comparing it unfavorably to other military organizations?

_1_ I mostly agree with the criticism

_2_ It doesn't bother me

_3_ It gets me a little mad

_4_ It gets me quite mad

_5_ I never hear or read such criticism

9.62 Following are two somewhat different statements about the relations between Reserve management personnel and Naval Reservists:

A. The relations between Reserve management and Naval Reservists at this Reserve center are much different than relations between management and employees at most other organizations because at this Reserve center both are working together toward the same goals.

B. Relations between Reserve management personnel and Naval Reservists are about the same as management and employee relations in most other organizations, management is looking out for the organization's interests, and the Reservists have to look out for their own interests.

Which of the two statements comes closest to your opinion?

_1_ Agree completely with A. _2_ Agree more with A than with B.

_3_ Agree more with B than with A. _4_ Agree completely with B.

9.63 Since you have joined the Reserve, how many times has your unit had a dinner, picnic or other social event outside of drill hours?

_1_ Five or more times

_2_ Four times

_3_ Three times

_4_ Twice

_5_ Once

_6_ None

9.64 If any social events were held, how many did you attend?

_1_ Five or more

_2_ Four

_3_ Three

_4_ Two

_5_ One

_6_ None

9.65 If someone asked you to describe yourself and you could tell only one thing about yourself, which of the following answers would you be most likely to give?

___ I came from (home state)

___ I work for (work organization)

___ I am a (civilian occupation)

___ I am a (Naval Reservist)

___ I am a graduate of (my school)

If you could give two answers, which of the items would you choose second? Put a number 2 next to that item, a 3 by that item you would choose third, etc.

9.66 If you have or were to have a son or daughter, how would you feel if someone suggested that he or she join the Naval Reserve?

_1_ Would completely approve

_2_ Would generally approve but with some reserva

_3_ Would neither approve nor disapprove

_4_ Would disapprove a little

_5_ Would strongly disapprove

9.67 In general, how often do you tell someone in your immediate family (spouse, child, parent, etc.) about some activity pertaining to the Naval Reserve?

_1_ Once a week or more

_2_ Several times a month

_3_ About once a month

_4_ About once a year

_5_ Don't have any immediate family to talk with

9.68 In general, how often do you tell someone outside your immediate family (friends, neighbors, etc.) about some activity pertaining to the Naval Reser

_1_ Once a week or more

_2_ Several times a month

_3_ About once a month

_4_ About once a year

_5_ Never

Hrebiniak and Alutto

Hrebiniak and Alutto's (1972) scale, shown in Table A3, is a measure of propensity to leave as a function of various alternative external inducements. Thus, it is a measure of calculative involvement (in contrast to Porter's and Patchen's scales, which tap moral involvement). The theoretical basis of the scale is an exchange model, refined by Becker's (1960) side bet notion, which "suggests that the more one has at stake in an organization, or similarly, the more one has accrued and thus could lose by leaving the employing system, the greater the personal commitment to the organization" (1972, p. 556).

In the Hrebiniak and Alutto scale ("Attitude Toward Changing Employing Institution"), the responses of "no, definitely not," "uncertain," and "yes, definitely" were coded 3, 2 and 1, respectively, so that a high number indicates high commitment. Item analysis indicated that the most reliable items were the form which indicated a "slight increase" in inducements from another organization: slight increase in pay, in freedom to be professionally creative, in status, and in friendliness of coworkers. These four items were used as the final scale, with possible scores ranging from a low of 4 to a high of 12. The Spearman-Brown reliability estimate for these four items was .79.

Military Career Commitment Gradient (MCCOG)

The MCCOG was developed in the office of Institutional Research at the U.S. Military Academy as a predictor of retention for Army officers. Reproduced in Table A4, it is a one-page scale with labels to define various (self-rated) probability estimates that the person will make a career of the military. Research on career choice processes has shown

Table A3

ATTITUDE TOWARD CHANGING EMPLOYING INSTITUTION

(Hrebiniak and Alutto, 1972)

Assume you were offered a position as a teacher (nurse), but with another employing organization. Would you leave your present organization under any of the following conditions? (Please indicate what you would do by placing a check mark in the appropriate space.)

	Yes Definitely	Uncertain	No Definitely Not
1) With no increase in pay.	___	___	___
2)* With a slight increase in pay.	___	___	___
3) With a large increase in pay.	___	___	___
4) With no more freedom to be professionally creative.	___	___	___
5)* With slightly more freedom to be professionally creative.	___	___	___
6) With much more freedom to be professionally creative.	___	___	___
7) With no more status.	___	___	___
8)* With slightly more status.	___	___	___
9) With much more status.	___	___	___
10) To work with people who are no friendlier.	___	___	___
11)* To work with people who are a little friendlier.	___	___	___
12) To work with people who are much friendlier.	___	___	___

* Most reliable items. Used for final scale.

Coding: "No, definitely not" = 3
"Uncertain" = 2
"Yes, definitely" = 1

Table A4

Military Career Commitment Gradient (MCCOG)

(From Butler and Bridges, 1978)

This item concerns the intensity of your desire for a career as an officer in the military service. It consists of (1) a question and (2) a response gradient extending continuously between two defined extreme values.

Selected areas on the gradient are described, both verbally and in terms of probabilities, to provide you with some meaningful reference points and to provide for more precision in scalar interpretation.

At selected scalar points, percentages beside the gradient indicate the judged probability (number of judged chances in 100) of one voluntarily continuing his active military career until mandatory retirement. Note, however, you definitely should NOT limit yourself to the few points for which descriptions are provided.

Because of the procedures for analyzing this item, it is very important that you follow these instructions precisely, step by step.

INSTRUCTIONS. Complete each step before going to the next one.

Step One. Thoughtfully read the question in the box below:

QUESTION:
To what degree are you now certain that you will continue an active military career until mandatory retirement?

Step Two. At the bottom of the gradient, on the opposite page, read the definition of that extreme point on the gradient.

Step Three. At the top of the gradient, read the definition of that extreme point.

Step Four. At the middle of the gradient, the 50% probability point, read the description of that point.

Step Five. Locate the general area on the gradient which seems to correspond best with your current commitment: thoughtfully read the descriptions of the near points and check the space on the gradient that most closely represents your current level of commitment. Do NOT limit yourself to the few points described verbally.

Step Six. Select the coded letter and number combination at the left of the checked space on the gradient. Enter this as illustrated below. For example, if you had checked the space coded "f1", you would mark the answer sheet as follows:

MILITARY CAREER COMMITMENT GRADIENT

CODE	
j9	"∞"—There is infinite probability that I will continue my active
j7	military career as long as I possibly can, a career as an officer
j5	in active military service is more important to me than is any-
j3	thing else in the world. There is absolutely no chance at all
j1	that anything in the world could ever develop that could cause
i9	me to voluntarily resign.
i7	
i5	
i3	
i1	99.995%
h9	
h7	
h5	
h3	
h1	
g9	
g7	99.9%—I am virtually certain that I will continue my active military
g5	career as long as I am allowed to do so--that I will NOT
g3	voluntarily resign.
g1	
f9	
f7	
f5	
f3	99%—I am almost certain I will make a continuing military career if
f1	possible.
e9	
e7	
e5	95%
e3	
e1	
d9	
d7	90%—I am confident that I will make a continuing military career and
d5	NOT voluntarily resign.
d3	85%
d1	
c9	
c7	
c5	75%—I am very likely to continue my military career as long as possible.
c3	
c1	
b9	65%—I probably will remain in the military service after completion of
b7	my military obligation as an officer.
b5	
b3	50%—I am not inclined the least bit either way at present.
b1	
a9	
a7	35%—I am not sure but probably will resign after completing my military
a5	obligation as an officer.
a3	25%—I am very likely to resign when I can honorably do so after com-
a1	pleting my military obligation as an officer.
	15%
	10%—At this time, I am confident I will resign my commission after
	completing my military obligation.
	5%
	1%—As of now, I am almost certain that I will get out of the military
	service as soon as I possibly can.
	0.1%—I am virtually certain that I will resign when I can.
	0.005%
	In my personal feelings, attitudes and thoughts, I am utterly
	committed to a completely non-military occupational career and
	life as soon as it is at all possible. There is absolutely no
	possibility whatsoever that I will continue as an officer in
	"0" the military service beyond my minimal obligated military duty.

that straightforward behavior intention measures such as this are excellent predictors of future career, decisions, often better than complex attitude or value scales (Hall, 1976). The MCCOG has excellent predictive validity, correlating .54 in one West Point class and .39 in another with retention seven years after graduation (Butler and Bridges 1978).

Moskos' Institution-Occupation Model

Stahl, Manley, and McNichols (1978) have developed a scale to measure Charles Moskos' concepts of the institutional and occupational models of military commitment. This scale, developed for Air Force personnel is shown in Table A4.

A factor analysis (with varimax orthogonal rotation) yielded two factors which accounted for 42 percent of the total variance of the eight questions, and these factors were consistent with Moskos' model.

> "The [institution] measure appears to capture the notion of a purpose (mission, accomplishment and national security), transcending individual self-interest, as proposed in the institutional definition (Moskos, 1977). It also captures the notion of discipline and supervision that is part of military tradition . . .
>
> "The [occupation] measure appears to capture the notion that the Air Force is just another job (i.e., comparable job opportunities).
>
> "Also, there is a perceived limit to that job as indicated by the expression of too many non-job-related activities associated with their Air Force positions. This is somewhat at odds with the traditional military viewpoint that a soldier is on call 24 hours a day and anything required of him is part of the job."
>
> (Stahl, Manley, and McNichols, 1978, p. 424).

Table A4

Measure of Moskos' Institution versus Occupation Orientations
(from Stahl, Manley, and McNichols, 1978)

1. If I left the Air Force tomorrow, I think it would be very difficult to get a job in private industry with pay, benefits, duties, and responsibilities comparable with those of my present job.
2. An Air Force base is a desirable place to live.
3. The Air Force requires me to participate in too many activities that are not related to my job.
4. Air Force members should take more interest in mission accomplishment and less interest in their personal concerns.
5. I wish that more Air Force members had a genuine concern for national security.
6. What is your opinion of discipline in today's Air Force?
7. More supervision of member performance and behavior is needed at lower levels within the Air Force.
8. An individual can get more of an even break in civilian life than in the Air Force.

Institution scale:	Items 4, 5, 6, 7
Occupation scale:	Items 1(-), 2(-), 3, 8
Response formats:	Items 1-3, 7 and 8 used five-point Likert scales ranging from strongly agree to strongly disagree. Items 4 and 5 used seven-point Likert scales ranging from strongly agree to strongly disagree. Item 6 used a five-point response ranging from too strict to too lenient.

Scoring for the institution scale is the unweighted sum of items 4, 5, 6, and 7, while the occupation score in the unweighted sum of items 1 (reversed), 2 (reversed), 3 and 8. The correlation for the two scales was -.25. The authors found no evidence of response set, leniency error, or social desirability error.

No measure of internal consistency reliability is reported, although high intrascale correlations are implicit in the factor analysis results. Construct validity was shown through meaningful differences between groups which would be expected to score differently (e.g., senior enlisted personnel were expected and found to have a higher institution score than junior enlisted personnel). Concurrent validity is shown through significant positive correlations between the institution score and the following attitudes: career intent, seniority, and job satisfaction. The occupation scale was significantly negatively correlated with these attitudes.

The authors point out that even though the two scales were weakly negatively correlated with each other, the two dimensions can vary independently. A person can be high on both the institution and occupation scales, or low on both. Stahl et al. conclude that the measure could be used in other branches of the military simply by substituting another service name for "Air Force." They suggest that if these scales were adopted, it would be possible to make longitudinal assessments of changes in members' orientations toward the service.

Footnotes

[1] In the Johnston (1974) study, task orientation was related to several different variables indicative of a positive relationship with the organization, but it was not related to a specific measure of organinational commitment.

[2] It should be noted that there is a sizeable sociological literature on individual alienation or anomie. However, this literature does not consider alienation from an employing organization.

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Appendix B

MEASURING AND PREDICTING OCCUPATIONAL PERFORMANCE: A REVIEW OF RECENT LITERATURE

by William S. Farrell, Jr., Ph.D.

Abstract

The present paper reviews recent literature in the areas of measuring and predicting occupational performance. Logically, the measurement or definition of performance should precede the attempt to predict it. Practically, the two enterprises have been carried on almost independently of one another. Measures of performance have included job sample tests, behavioral rating scales, self-ratings, and personality traits. Predictors of performance are more varied; this review focuses on scholastic achievement, aptitude and vocational tests, peer ratings, and personality traits as potential forecasters of future occupational proficiency. It is concluded that neither the measurement nor the prediction of performance has met with great success, and that a more integrated approach is called for in which measures and predictors are developed together.

Introduction

Measuring occupational performance and predicting occupational performance have been approached largely as separate enterprises. Each has its purposes. The effort to predict performance can be justified on a theoretical basis alone: To the extent that we can predict some aspect of human behavior, we are likely to develop a better understanding of that behavior. In addition, there are economic incentives favoring the development of accurate prediction instruments. Civilian and military organizations spend considerable amounts of money to recruit, hire, and train personnel. It is clearly to an organization's advantage to be capable of predicting, prior to large financial commitments, the likelihood of success for a given individual. Finally, sophisticated prediction tools could be of great benefit to counselors and others whose responsibility it is to provide career guidance.

The definition or measurement of performance is usually undertaken for one of two reasons. From a practical standpoint, an index of performance is useful to an employer who wishes to award promotions and salary increases in an equitable fashion. From a theoretical point of view, a measure of performance is critical as a criterion against which various predictors of performance can be validated. Seen in this light, the issue of measuring occupational performance would come prior to the issue of predicting it. Unfortunately, however, there appears to have been less effort devoted to measurement than to prediction. The reasons for this are not hard to discern. Successful performance in a given occupation involves complex

interrelationships among a number of behaviors, attitudes, and skills. Capturing this performance in a testable, comprehensible theory is difficult; even more difficult is the development of reliable and valid measures that tap this performance.

Predicting occupational performance, on the other hand, can appear deceptively straightforward. One simply obtains several measures and correlates them with an index of subsequent performance. The predictor measures (as they are called) can involve just about anything. Indeed, many studies seem to adopt an attitude of "Why don't we try this and see if it works?" The problem, of course, lies in what is being predicted. It is often not occupational performance, but something assumed to be related to it. Examples include supervisor ratings, salary, and promotions. The issue of whether such measures accurately reflect performance is a subject of some debate. The issue has come to be known as the criterion problem and is, at base, a question of concurrent validity: Do supervisor ratings (for example) measure what they purport to measure?

In a sense, the criterion problem is insoluble. Consider the following example. An investigator hypothesizes that successful performance in Job A requires the possession of characteristics X, Y, and Z. Further, the investigator develops measures for X, Y, and Z and determines that the measures are reliable. To show that these characteristics are actually indicative of occupational proficiency, however, the researcher would have to validate them against something. But whatever is chosen as a criterion will itself need to be validated, and so on in infinite regress.

In the real world it may not be necessary to adopt so pessimistic a viewpoint. For one thing, it can be hoped that industrial and social psychologists will achieve increasing success in developing and testing

theories of occupational performance. There would then be reason to believe (rather than hypothesize) that X, Y, and Z are factors in the performance of Job A; time could be spent measuring these constructs rather than attempting to validate them. In addition, it will often be the case that a particular criterion measure will possess simple face validity. Thus although salary, promotions, and supervisor ratings may not be evidentially linked to occupational performance, they are surely better measures than (for example) weight, hair color, and make of car.

The criterion problem does exist and is not likely to disappear in the near future. This does not imply, however, that all efforts to measure and predict occupational proficiency should be abandoned. It would seem wiser to continue in the attempt to (a) develop reliable and (at least) intuitively plausible measures of job performance, and (b) formulate successful predictors of these measures. The present article reviews some recent major contributions in each of these areas.

No attempt is made here to provide comprehensive coverage of the literature in occupational performance. Included instead are experiments, reviews, and theoretical contributions which have appeared since 1970 and which, in the author's opinion, constitute significant advances in the field. Older works will be cited on occasion when a point is being made, or simply because they are considered "classics" in their areas. More exhaustive reviews of certain topics are available, of course, and include Campbell, Dunnette, Lawler, and Weick's (1970) book on managerial performance, the book by Dunnette (1966) and the review article by Bray and Moses (1972) on personnel selection, and the excellent book on occupational aptitude tests by Ghiselli (1966).

Measuring Job Performance

Measures of job performance span a range from relatively concrete and objective (for example, job sample tests) to more abstract and subjective (e.g., supervisor ratings). It was suggested above that at present it may be impossible to single out any measure as an ideal criterion; the merits of various indices continue to be debated, however. As an example, supervisor ratings are the subject of considerable criticism because of their subjective nature. It is sometimes forgotten in these attacks that supervisors can, in theory, rate anything from absenteeism to creativity. The former would appear to rely much less on opinion and influence than the latter.

Another way of classifying occupational performance measures is to group them into those which exist naturally and are immediately available to the investigator (e.g., salary and promotions), and those which must be devised or developed by the investigator (e.g., behavioral rating scales). With a few exceptions (e.g., Walters & Bray, 1963) the former measures have received little attention with respect to their internal structure or their validity. Either it is assumed that they are good measures and they are used (especially in prediction studies; see below) or it is assumed that they are not good measures and they are avoided (it is argued that current salary, for example, is confounded with starting salary and time in the organization). Other than to note this state of affairs and suggest that naturally existing indices require further scrutiny, the present article will have little to say about such measures. Attention will be focused instead on those measures that have been consciously developed and refined by investigators to tap occupational performance.

Job sample tests. Job sample tests would appear to be an ideal method of assessing job proficiency. By definition, such tests involve activities that are highly similar or identical to actual on-the-job behaviors. There have been two notable attempts in recent years to develop rigorous job sample measures.

Vineberg and Taylor (1972) studied Army personnel in four categories: armor crewman, repairman, supply specialist, and cook. Individuals in each group were administered carefully developed job sample tests. The tests consisted of actual occupational behaviors (e.g., a cook would be asked to prepare scrambled eggs) and had been designed by the investigators in conjunction with experts in each field. In addition, paper-and-pencil job knowledge tests and supervisor ratings were examined for their relation to job sample measures. It was found that the job sample test scores were reliable and were highly correlated with the job knowledge test scores (correlation coefficients ranged from .58 to .72). Supervisor ratings, on the other hand, were only weakly related to job knowledge scores (r=.23 to .35) and job sample scores (r=.20 to .28). This is a sobering result, considering the widespread use of supervisor ratings as indicators of job proficiency.

In a similar study Ronan, Anderson, and Talbert (1976) obtained extensive data on over 600 fire fighters. In addition to specific job sample tests (e.g., carrying a 150-pound weight while descending a two-story ladder), the measures included peer ratings, supervisor ratings, and job knowledge tests. Interestingly, although the peer and supervisor ratings were reliable, they were correlated neither with each other nor with job knowledge or job sample scores. Further, in this study low correlations

were obtained between the job knowledge scores and the objective job sample test scores.

The results of these studies can be viewed positively or negatively. On the negative side, it is perhaps unfortunate that so little seems to correlate with scores on job sample tests. Such tests are expensive to design and administer; time and money could be saved if a simpler measure (supervisor ratings, for example) could be substituted for them. On the other hand, the low correlations obtained among the various measures in these studies can be seen as a desirable state of affairs. If it is assumed that occupational performance is a multi-dimensional construct (e.g., see Super & Crites, 1962) then the best description of such performance should be a combination of several independent factors. Under this view, supervisor ratings could be seen not as some strange measure unrelated to performance, but as an independent part of a composite performance measure.

In addition to being costly, job sample tests may be of limited applicability in certain situations. Such tests are clearly useful when the occupation in question involves highly discrete, observable, quantifiable activities; they may be less suitable when the activities and duties of a job are not so strictly defined (e.g., the job of manager or counselor). One can imagine how a cook could be graded on his or her ability to scramble eggs; it is more difficult to imagine how managers might be scored on their effectiveness in motivating their subordinates.

Flanagan (1954) described a technique aimed at answering just such questions. The critical incident technique (as it is called) is a method for determining the behavioral requirements of an activity. It has been used as input in the development of job sample tests (as above) and as a

precursor to the formulation of behavioral rating scales (discussed in the following section). In outline, the method works as follows. People who are thoroughly familiar with the activity in question (those engaged in it or their immediate supervisors) are asked to write down a number of critical incidents. These are examples of specific behaviors they have observed which they consider to be highly effective or ineffective with regard to the aims of the activity. The investigator sorts these incidents into a number of mutually exclusive categories. These categories (or their descriptions) then serve as a behaviorally-based definition of the activity's requirements. The critical incident technique has been used with some success to determine the dimensions and critical requirements for being a foreman (Finkle, 1950), an insurance agency head (Weislogel, 1952), an airline pilot (Gordon, 1950), and a sales person (Folley, 1953), among others.

There are two potential drawbacks to the critical incident method. First, it can be argued that the technique is highly subjective in nature. The incidents themselves are (by definition) objective and behavioral, but the derivation of categories into which the incidents are sorted is clearly a subjective procedure. It is conceivable that ten different investigators, faced with the same initial group of critical incidents, could generate ten different sets of categories for classifying the incidents. This objection loses some of its force, however, when alternative means of describing performance are scrutinized. Some of the methods used are even more subjective and less tied to actual job performance than the critical incident method.

There is another problem associated with the technique, however. Like the job sample test, the proper use of the critical incident technique can require a great deal of time, effort, and expense. Flanagan (1962), for

example, reported several studies in which the incidents subjected to analysis numbered in the thousands. The method has been widely employed, nonetheless, in the development of behavioral rating scales, to which we now turn.

Behavioral rating scales. Behavioral rating scales come in many different forms (e.g., behavioral observation scales, behavioral expectation scales, behaviorally anchored rating scales), but they all have certain characteristics in common. Typically, they involve 5 to 15 behavioral dimensions or categories (derived via some version of the critical incident technique) and a 4 to 7 point rating scale associated with each category. Before discussing specific examples of their use, we should reflect briefly on the psychometric properties of good rating scales.

Good rating scales should be reliable; that is, they should lead to similar results from one time to the next (or from one group of raters to the next). Good scales should not evidence halo error (in which ratings in one category influence ratings in other categories), leniency error (where everyone is rated high), or central tendency (where everyone is rated at the mean of the scale). Finally, well-constructed scales should lead to interrater agreement (so that raters rank ratees similarly within each dimension) and ratee differentiation (so that there is some spread among ratees when their scores are summed across dimensions and raters).

In an early use of behavioral rating scales, Smith and Kendall (1963) proposed a modification of the critical incident technique used in generating the categories. After the initial induction of categories to fit the observed behaviors, Smith and Kendall suggested a second step called retranslation. In this step a second judge or group of judges would reallocate the behaviors into the previously defined categories. This would

serve to eliminate ambiguous categories (and behaviors)--that is, those for which there was disagreement between the two stages. Smith and Kendall found the technique useful in constructing a behaviorally anchored rating scale for nurses (instead of numbers or adjectives, behavioral descriptions anchored the scale). The scale was highly reliable, presumably because of the care that went into determining the categories of nursing behavior and the behavioral anchors defining those categories.

Campbell, Dunnette, Arvey, and Hellervik (1970) suggested that it might be the behavioral anchors themselves that determine the efficacy of rating scales such as that developed by Smith and Kendall. Campbell, et al., used a version of the critical incident technique to produce two sets of rating scales for department store managers. One set was behaviorally anchored; the other contained the same categories (e.g., planning, supervising, and communicating) without the behavioral anchors. It was found that the rating scales with behavioral anchors showed less halo and leniency error than their non-anchored counterparts. These findings were replicated by Millard (1974) in a study involving interviewers and claims deputies. In addition, Millard was able to show smaller central tendency effects for the behaviorally anchored scales.

Not all evidence favors the use of behavioral anchors, however. Borman and Vallon (1974) found that a behaviorally anchored scale resulted in greater leniency error than a non-behaviorally anchored scale. In another study, Borman and Dunnette (1975) looked at ratings of Naval officers by their superiors. Although behaviorally anchored rating scales were superior to non-anchored scales in terms of halo, leniency, interrater agreement, and ratee differentiation, the extent of the superiority never exceeded 5% of the variance in the dependent variables (which in this case

were pooled variance, means, interrater reliability, and standard deviations, respectively).

Thus although behavioral rating scales in general appear to have utility, behaviorally anchored scales have yet to show a decisive advantage over other kinds of scales. Schwab, Heneman, and De Cotiis (1975) reached a similar conclusion after an extensive review of work in the area. They suggested that final answers will be obtained only after more studies have been performed in which behaviorally anchored rating scales are directly compared with alternative rating instruments.

Self-ratings. One way to obtain an inexpensive measure of performance is to ask people to report their own abilities. There are at least two potential problems with this kind of measure. First, people simply may not know how well they are performing a given task. Second, if any kind of selection or promotion decision is to be based on the measure, there may be tremendous pressure for people to inflate their self-reported abilities. The issue has received considerable attention. Often, the approach has been to seek correlations between self-ratings and ability tests, or between self-ratings and supervisor ratings--the implicit assumption being that ability tests and supervisor ratings are 'truer" measures of performance.

Two negative studies will be reported first. De Nisi and Shaw (1977) asked students to rate themselves in ten performance areas, including visual pursuit, manual speed and accuracy, verbal ability, numerical ability, mechanical ability, and the like. The students were then given tests in each of these areas. It was found that although most of the correlations between self-reported and tested abilities were significant, none was large enough to be of any practical utility (significant correlation coefficients ranged from .19 to .41) Further, no moderating effects (i.e., differential

predictability) were found for sex, general intelligence, social desirability, or self-esteem. The authors concluded that self-reports should not be substituted for test scores as measures of performance.

In a study conducted with hospital employees, Brief, Aldag, and Van Sell (1977) looked at the relationship between self and supervisor ratings of ability. Again, the correlations observed were low (averaging around .10). To check for moderating effects, the authors formed subgroups of workers by dichotomizing their scores at the median values of various potential moderator variables. Subgroup differences in the correlations obtained between self and supervisor ratings were found for only one variable: tenure in the organization. Unsuccessful moderators included sex, age, race, pay level, autonomy, and job satisfaction.

The results have not all been negative, however. For example, Heneman (1974) found that managers rating themselves produced less leniency and halo error than when their superiors rated them on the same dimensions. If this finding replicates, it may help to account for the low correlations sometimes observed between self and supervisor ratings. In another study Levine, Flory, and Ash (1977) compared self-ratings, supervisor ratings, and ability test scores for a group of clerical workers and a separate group of applicants for clerical positions. For the employees, numerous significant correlations were obtained between self-reported and tested ability scores (for example, r=.58 for spelling, .50 for word meaning, and .46 for simple arithmetic). Of the 17 self vs supervisor correlations, seven were significant; these ranged in value from .28 to .58. For the clerical applicants, it was found that self-reported typing ability correlated well with tested typing ability. This was true whether or not the applicants expected to receive a typing test (r=.62 for those who were told beforehand that there would be a test, .66 for those who were not).

To summarize briefly, the evidence is mixed concerning the feasibility of replacing test scores and supervisor ratings with self-ratings of ability. The honesty of self-ratings does not appear to be a major problem. Several factors may contribute to this honesty. The clerical applicants in the Levine, et al., (1977) study who were not told about a typing test may have expected one anyway. The managers in the Heneman (1974) study were assured that their self-ratings would be used for research purposes only; this may have increased their willingness to assess themselves honestly. A more encouraging view is presented by Baird (1976). After a thorough review of studies involving student self-reports, Baird found overwhelming evidence that such reports are accurate and reliable.

These students, however, were reporting information about which they could be expected to have objective knowledge--e.g., grades, biographical data, and extracurricular activities. Likewise, the clerical applicants tested by Levine, et al., should have had a good idea of their typing speed. What about situations in which it is less reasonable to suppose that self-raters possess the knowledge with which to assess themselves? Like the issue of honesty in self-reports, this may not be a major problem. Two kinds of cases can be considered: those for which an objective performance index is available, and those for which no index is available. In the De Nisi and Shaw (1977) experiment, students were tested on abilities such as visual pursuit, manual speed, and mechanical aptitude. It is perhaps somewhat unfair to equate this kind of procedure to one in which an employee, more or less familiar with the demands of his job, rates himself on job-related characteristics. It is not simply that people do not know their manual speed; perhaps they should not be expected to know. A different question arises with respect to the Brief, et al., (1977) study involv-

ing hospital employees. In this case, the employees and their supervisors were both rating job-related characteristics and behaviors; the issue now centers on the lack of an objective standard against which either set of ratings could be judged. If the employees rated themselves higher in some area than they were rated by their supervisors, this may have reflected not a tendency toward leniency in self-reports but rather a truly higher level of skill in that area.

The problem (which is basically a smaller version of the criterion problem) is not easily solved. Supervisors may have a better understanding of rating scales and performance measurement, but employees probably possess a more detailed knowledge of their own particular skills. At the very least it would appear unwise simply to dismiss self-ratings as indicators of occupational performance.

Personality trait scales. Much of the previous discussion has centered on how performance is measured--job sample tests, critical incident method, and self vs supervisor ratings, for example. An equally important issue with regard to performance criteria is the content of such measures. The debate has centered around whether performance should be assessed in terms of concrete, observable behaviors or whether constructs further removed from performance (i.e., personality traits) should be considered.

It can be argued that personality measures involve too much inference, opinion, and guesswork on the part of those who are rating an employee. It is not obvious, however, that more objective behavioral measures are superior in this regard. Evaluating a managers's "coordinating" ability (Heneman, 1974) might require just as much inference as judging his or her "conscientiousness" (Slawson, 1922). Another charge raised against personality measures is that they are of limited utility in employee counseling and

development. This is probably true. An employee who is told he lacks initiative (a) will be likely to resent being judged in that manner, and (b) will have little idea concerning how his performance might be improved. If one is interested in performance measures solely as criteria, however, this latter objection becomes irrelevant.

Thus there seems to be no compelling a priori reason to dismiss personality traits as possible performance criteria. As with all criteria, two empirical questions remain: reliability and validity. Consider reliability first. Taylor, Barrett, Parker, and Martens (1958) found that when trait titles alone were used in a rating scale, job traits were more reliable than personal traits (r=.61 vs .36). But when verbal descriptions of the traits were used in addition to titles, job and personal traits showed equal reliability (r=.52 and .50). In the Borman and Dunnette (1975) study cited earlier, it was found that a personality rating scale was only very slightly inferior to two behavioral rating scales in terms of halo, leniency, interrater agreement, and ratee differentiation. This study too used verbal descriptions of traits rather than just trait titles. Several studies to be considered in more detail in the section on prediction (e.g., Wiley, 1973; Edwards, 1977) have also found that trait ratings can be highly reliable, both between raters and over time. Finally, Campbell and Fiske (1959) have described a technique called multitrait-multimethod analysis. Given several raters rating individuals on several dimensions, this techniques allows a determination of convergent validity (roughly, the extent to which raters agree) and discriminant validity (the extent of differentiation among ratees and among traits). In a study using this method, Kavanagh, MacKinney, and Wolins (1971) found that personality measures (e.g., leadership, independence,achievement orientation) showed

more convergent validity than job performance measures (e.g., planning, evaluating, negotiating). There was no difference in discriminant validity between the two kinds of measure. It would appear then that the ambiguity sometimes attributed to personality measures has not been borne out (see also the excellent review by Kavanagh, 1971).

A problem may remain with personality measures, however, and that concerns their relevance to occupational proficiency. That is, do they possess concurrent validity? Assuming, as was argued earlier, that there is no ultimate criterion against which personality measures (or any other measure) can be validated, this question can be approached in two ways. First, do personality measures have face validity? Second, how do such measures correlate with other indices of performance?

The answer to the first question depends in part on one's individual biases. It seems clear to the present author that occupational performance must depend partially on characteristics like self-confidence, perseverance, creativity, and similar personality traits. The evidence is mixed, however, concerning the relation of these trait measures to other performance measures. In the Taylor, et al., (1958) study only the trait "conscientiousness" contributed significantly to the variance of an overall performance rating. But there are other studies in which personality traits have been found to correlate well with more objective criteria (e.g., Weinland, 1948).

To complicate matters still further, it may be that any lack of correlation between personality and ability measures is an advantage. Recall the discussion presented earlier in which it was suggested that the observed low correlations between job sample tests and supervisor ratings could be taken positively, in that both might contribute independently to an overall performance index. The same could be true for personality

measures. If they are in fact uncorrelated with more objective performance measures, they could contribute to a performance criterion derived with multiple regression techniques. This approach is not novel; Rundquist and Bittner (1948) reported a study in which a higher multiple correlation with performance effectiveness was found when personality ratings were added to performance ratings.

Summary. What conclusions can be reached concerning the assessment of occupational performance? Unfortunately, the outlook is not very bright. From a theoretical point of view, the criterion problem seems likely to remain a stumbling block for those wanting to develop less-than-arbitrary performance indices. There have been noteworthy attempts to describe occupational requirements using job sample and critical incident methods, but these techniques probably do not capture everything that contributes to occupational success.

From a practical point of view, consider the following study. Borman (1978) videotaped actors who were performing the roles of recruiting interviewer or manager. The roles were carefully scripted so that the actors exhibited precise levels of effectiveness on each of several performance dimensions. Highly experienced and expert raters evaluated the taped performances using a sophisticated behavioral rating scale. In brief, it is difficult to imagine more ideal conditions for obtaining accurate performance assessments. The results were interesting. Although convergent and discriminant validity were moderately high (relative to similar studies), there was considerable interrater disagreement. Given this "ceiling" in performance evaluation (as Borman termed it), one wonders what happens when 50 foreman are asked to rate their subordinates using a vague, hastily developed rating scale.

Borman's results highlight what might be the single best description of the state of the art in performance evaluation: most things work, but they do not work particularly well. Job knowledge and job sample tests, critical-incident-based rating scales (behaviorally anchored or not), self-ratings, peer and supervisor ratings, personality trait scales--all of these can provide statistically well-behaved, intuitively plausible performance measures. None, however, appears likely ever to account for more than 30% to 40% of performance variance, nor can any be defended on theoretical grounds as the best criterion. Until a good deal more basic research is done (looking at combinations of measures, for example) there is little basis for recommending one index over another.

Predicting Performance

Most of the studies to be reported in this section were conducted at or in conjunction with a military institution. There appears to have been a decrease in interest in recent years among civilian organizations in the attempt to predict job proficiency. Two reasons for this trend can be discerned. First, there has been an increasing awareness among organizational psychologists that defining job performance should come prior to predicting it, and that there is still considerable work to be done in the area of job definition. More importantly, employers have become extremely sensitive in recent years concerning the issue of sex and ethnic discrimination in hiring. If any of the predictive methods discussed below are used as selection tools, the possibility arises that a given method will discriminate against one or another minority group. This may be less of an issue in the military, where placement occupies a more central role than does selection.

Scholastic achievement. Two exhaustive reviews (Hoyt, 1965; Nelson, 1975) echo the conclusion that college grades have limited utility as predictors of subsequent job performance. The authors suggest several reasons for this. Hoyt argues that grades measure knowledge, not the way knowledge is put to use. There is also a problem of restriction in range, in that the grades for college graduates (which are the only ones used) span a narrower range than the grades for all college students. Finally, Hoyt points out that it is not clear when performance should be assessed. If done too soon after graduation, people will not have had a chance to develop in their occupations (nor, it should be noted, to display much variance in criteria such as salary). If done too late, on the other hand, factors unrelated to academics (e.g., personality) will have had a chance to influence occupational success.

Nelson approaches the issue from a slightly different perspective. She presents convincing evidence that college quality moderates (in a very complex way) the relationship between grades and success. To put it succinctly, an "A" from one school just does not mean the same as an "A" from another. Even when this factor is taken into account there has been little success in predicting performance from grades (e.g., Morrison, 1977).

Given findings such as these, it may be surprising that research is still undertaken that attempts to correlate academic achievement with later success. There are justifying circumstances, however. If a student population comes from just one school, for example, the issue of equating grades across schools disappears. Several investigators have taken this approach. Butler (1976) studied West Point cadets, using several predictors and several criteria. Among his predictors was overall grade point average. This measure turned out to be a useful predictor of subsequent success as

an officer (as measured by the Order of Merit List), perhaps because of the close relation between what is taught in West Point classes and what a person does as an officer.

In a very carefully executed study, Kirby (1975) used class standing of West Point cadets to predict later performance. It was determined that these rankings had a low, positive relationship to evaluation scores after five years' service, but no relation to the criterion of promotion to general officer. This is reminiscent of Hoyt's caution that later success may have little to do with college achievement.

Results more in keeping with the tenor of Hoyt's and Nelson's conclusions were obtained by Lewis (1972) with high school students and by Cox (1971) with vocational and trade school students. In neither case was school performance predictive of later occupational performance.

With the possible exception, then, of predicting success in the military, it appears that scholastic performance is of highly limited utility in forecasting future achievement.

Aptitude and vocational tests. Literally hundreds of tests have been devised in attempts to measure aptitude for, or interest in, various occupations. Some of these tests are quite broad in scope (e.g. the Strong Vocational Interest Blank), while others are much narrower (e.g., the Air Force Officer Qualifying Test). Because of their diversity, it is difficult to reach any overall conclusions concerning the ability of test scores to predict performance criteria. Let us simply look at several examples.

The Reserve Officer Training Corps Qualifying Examination (RQ) has been used to screen college students into the advanced portion of the Army ROTC program. Goolsby and Williamson (1971) administered the test to ROTC students and correlated the scores with several other measures. It was

found that RQ scores bore essentially no relationship to SAT scores or to grades obtained in regular courses or military courses in the freshman, sophomore, or junior years (the RQ test was given at the end of the sophomore year). Not surprisingly, Goolsby and Williamson suggested that the status of the RQ test as a selection instrument was very dubious.

Alley and Gibson (1977) had somewhat greater success with the Air Force Officer Qualifying Test (AFOQT). They used the test scores to predict the dichotomous criterion of college graduation vs non-graduation for over 23,000 AFROTC participants during a four-year period. Though simple correlation coefficients were not reported, the results of regression analyses showed clearly that the AFOQT was a good predictor of program completion.

Two comments are in order here. First, the criteria used in these two studies (grades and graduation) were not strictly occupational. In fact, evidence presented in the previous section suggests that academic performance is only minimally related to subsequent job performance. Second, Morrison (1977) suggests that the AFOQT be dropped precisely because it is highly correlated with academic performance; it is not cost-effective to administer a test to thousands of students when similar information is already available in the form of SAT scores and grades.

Booth, McNally, and Berry (1978) studied Navy enlisted personnel who were training for the position of hospital corpsman or dental technician. The criterion was a composite involving completion of training and advancement beyond apprentice level after two years on the job. Among the predictors was an aptitude measure formed from summing the scores on the Navy General Classification Test and the Arithmetic Reasoning Test. It was shown that aptitude was significantly related to the composite effectiveness criterion.

Another Naval study involved midshipmen at the U.S. Naval Academy. Abrahams and Neumann (1973) used the Strong Vocational Interest Blank (SVIB) to predict military aptitude among these students. Military aptitude ratings are assigned regularly to each midshipman on the basis of his attitudes, leadership, officer potential, bearing and dress. Military aptitude is a major criterion of success at the academy, since it is closely related to subsequent success as a military officer. Abrahams and Neumann found that SVIB scores were significantly correlated with military aptitude ratings. More specifically, they showed that the SVIB was as good as, and independent of, the candidate multiple (a composite of high school grades, activities, and recommendations) in predicting military aptitude. Thus a combination of SVIB scores and the candidate multiple provided an excellent predictor of success at the academy. Interestingly, one of the SVIB subscales that showed a relationships to military aptitude was Music. The relationship was negative, such that people who expressed appreciation of or talent for music tended to be rated low in military aptitude. This raises a point that is sometimes forgotten in the search for useful performance predictors: it may well be possible to obtain the same predictive validity with a measure that is negatively correlated with the performance in question as with one that is positively correlated.

Another use of vocational tests was reported by Cox (1971) in the study cited earlier involving trade school students. Cox administered the Vocational Development Inventory and the Dailey Vocational Tests to these students and correlated the scores with a measure of job stability five years later. Very few significant relationships were found between the predictors (singly in or in combination) and the occupational success index.

To summarize, mixed results have been obtained when using aptitude and interest tests to predict occupational performance. In addition, two factors mitigate against the widespread use of such tests. The first is test fairness, and concerns aptitude tests especially. As discussed earlier, selection decisions based on such tests run the risk of being called discriminatory. Second, Dolliver (1969) argued convincingly that self-reported interests are just as high in predictive validity as those obtained from interest inventories (e.g., the Strong Vocational Interest Blank), and that such inventories can in fact induce patterns of "interests" that are somewhat artificial.

Peer ratings. Supervisor ratings are among the most widely used (and most heavily criticized) measures of occupational performance. On the prediction side, peer ratings have received much less attention, in spite of the fact that they appear to be excellent predictors of future success. One reason for this lack of attention is obvious: peer ratings imply peers. This implies the existence of a group of people who have known one another for some time and who interact with some frequency. This situation is relatively rare in industrial settings, but is common among trainees in the military, who often spend weeks together in close contact. The bulk of peer rating studies have thus been performed in a military setting.

Butler (1976, see above) obtained a measure for West Point cadets called the Aptitude for Service Rating (ASR). This measure was based primarily on cadet rankings of their peers on the ability to command a group of men in an assigned mission. The ASR was shown to be significantly correlated with subsequent Order of Merit List rankings and with promotions for the Army officers.

Downey, Medland, and Yates (1976) also employed the criterion of officer promotion. They asked groups of Army colonels to rate their peers on their potential to perform as a general officer. The split-half reliability of these ratings was very high, ranging from .63 to .94. In terms of the criterion of promotion to general, the point-biserial correlation for the entire group was .47, a moderately high figure.

Hollander (1965) reported a long-term study in which Naval Officer Candidate School (OCS) trainees rated their peers on their potential as Naval officers. The criterion was the average grade received on the Officer Fitness Report after roughly three years of service. The validity of the peer rankings was .40, what is impressive about this figure is that the rankings were obtained after the trainees had been in OCS for a period of only three weeks. It appears, then, that people in a situation like this can judge fairly accurately and very quickly which of them will be successful in the future.

Conclusions similar to these were reached by Nadal (1968) in his review of the peer ratings literature. He wrote, "There is no doubt that peer ratings are the most valid predictive measurement we have on officer performance" (p. 5). One thing should be kept in mind, however, when viewing the results of peer rating studies (especially those conducted in the militar). The criterion measure in many of these studies is itself very close to a peer rating. Fitness reports, merit lists, promotions--all of these are based on the ranking of a number of people by their colleagues or immediate supervisors. Seen in this light, the relationship between peer rankings and later success comes to resemble one of reliability rather than predictive validity. It remains to be seen whether or not this is a problem.

A second potential source of difficulty with peer ratings is that people are often reluctant to rate their colleagues (Downey, et al., 1976). They may feel that such rankings are racially biased (Schmidt & Johnson, 1971) or based simply on popularity (Wherry & Fryer, 1949). In addition, publicizing the findings or using them for selection purposes may make people more hesitant about producing them. In brief, peer ratings must be used with care.

Personality traits. Personality traits probably enter indirectly into all of the predictors discussed up to this point (scholastic achievement, vocational interests and aptitudes, peer ratings). Two recent studies are notable, however, for achieving predictive success using direct personality measures.

Wiley (1973) obtained ratings on 65 job-related personality traits from the supervisors of Air Force personnel (the ratees were administrators and mechanics). An overall performance rating was obtained at the same time as the trait ratings (time 1) and again two to three years later (time 2). In both cases an effort was made to obtain performance ratings from different supervisors than those who had rated the personality traits. It was found that at time 1, personality traits accounted for 35% to 90% of the variance in the performance ratings. Further, trait scores obtained at time 1 predicted approximately 16% of the time 2 performance variance. Even more interestingly, when time 1 performance was used to predict time 2 performance, trait scores added to the prediction. The reverse was not true; that is, in predicting time 2 performance, time 1 performance did not add predictive ability to an equation based solely on the trait ratings.

In one of the few studies of its type performed in the civilian sector, Edwards (1977) obtained personality trait ratings from the peers of high

school students and adult workers. The rating categories (e.g., dependability, aggressiveness) were derived from Cattell (1957) and had been modified following extensive pretesting. The criteria chosen were within-group wage differentials and supervisor ratings (for the adult workers) and grade point averages (for the students). In a relatively novel approach Edwards factor analyzed the trait ratings and used the resulting factors rather than the original ratings to predict performance. The three dimensions uncovered by Edwards were rules orientation, predictability, and internalization (of an enterprise's values). The reliability of ratings on these factors was high, ranging from .74 to .93. In predicting the various criteria, these trait dimensions were found to account for 19% to 43% of the variance. This, as Edwards points out, is about as successful as prediction ever gets (see, for example, the review by Ghiselli, 1966).

Moderator effects. Several investigators have studied the effects of moderator variables in the prediction of performance (a moderator variable is one hypothesized to cause differential predictability in two groups). For example, Fiedler and Leister (1977) noted that low correlations are typically obtained between leader intelligence and task-effective leadership. This idea was tested with a group of infantry squad leaders. Measures of performance were obtained from their supervisors; potential moderator measures were obtained from various sources and included leader experience, leader motivation, leader-group relations, and leader-boss relations. In general the hypothesis was confirmed. Although initial intelligence-performance correlations were not reported, the moderator variables appeared to work as predicted by Fiedler and Leister. Thus, for example, intelligence was a better predictor of performance for highly motivated than for less motivated leaders. Note again that this is a moderator effect; highly

motivated leaders are not necessarily better performers, they are simply more predictable than their less highly motivated colleagues.

Webster, Booth, Graham, and Alf (1978) studied a large group of Naval Hospital Corps trainees. In addition to finding several background and personality differences between men and women (e.g., women tended to have more schooling), Webster, et al., found that sex was a moderating variable in the prediction of training completion. That is, separate regression equations developed for the two sexes yielded validities of .53 for men and .41 for women. It was suggested that this resulted from attenuation on some of the predictors for the women (e.g., less variability on measures like prior school history).

In an experimental study of moderator effects, Locke, Mento, and Katcher (1978) asked whether motivation might moderate the relationship between ability and performance. Locke, et al., obtained measures on the perceptual speed of subjects in a laboratory setting. These ability measures were then used to predict subsequent performance on the same task under various conditions of motivation. It was shown that the performance of motivationally homogeneous groups was in fact more predictable than the performance of motivationally heterogeneous groups. The study is interesting because it shows that differing amounts of homogeneity in a causal variable (as opposed to differing values on the variable) can lead to moderator effects in prediction.

Aside from the theoretical utility of investigations like that of Locke, et al., it is not clear what should be done with the results of moderator studies--especially when the moderators are sex and ethnic background. Suppose, for example, other studies replicate Webster's, et al., finding that men are more predictable than women in a certain situation.

The use of a single prediction equation would result in less stringent standards being applied to women, since the men's criterion scores would be under-predicted (Webster, et al., 1978). As Webster, et al., write, "The choice between these two selection strategies [of a combined equation vs sex-specific equations] is not clear cut and poses a dilemma for the administrator who must consider the social value of affirmative action versus the social cost of sex bias in screening men and women for training in paramedical jobs" (1978, p. 104). The issue may require judicial (as opposed to scientific) resolution.

Commitment. It would seem obvious that the quality of one's performance in an organization would be directly related to (and thus predictable from) one's commitment to the organization. However, in a recent review of the literature on organizational commitment, Hall (1979) reported finding very few studies dealing with the relation between commitment and performance. The work available suggests that organization-wide commitment is related to the performance of the organization as a whole; the relation between individual commitment and performance is less clear, however.

Summary. The field of occupational performance prediction starts out with a handicap, given the problems previously discussed with occupational performance criteria. In spite of this difficulty, some success appears to have been achieved. It is at least known, for example, that academic grades have little bearing on subsequent job performance. Further, peer ratings and personality traits may hold promise as highly reliable and reasonably valid predictors of job proficiency. Aptitude and vocational interest tests are receiving less attention, not because the tests do not work, but because self-report measures are more easily obtained and apparently as valid, and because of some of the issues raised by the test

fairness controversy. Similarly, questions of discrimination in selection make it difficult to decide what to do with the findings of differential predictability in applicant subgroups. Fina'ly, as Hall (1979) suggested, the relationship between commitment and performance needs to be examined in much greater detail.

Conclusions

It has long been thought that occupational performance should be treated as a multi-dimensional construct (e.g., Super & Crites, 1962). It has seldom been approached that way, however. It is not uncommon for different varieties of a single method to be compared in a given piece of research (e.g., behaviorally anchored vs non-behaviorally anchored rating scales), but it is rare that qualitatively different methods are directly compared.

A notable exception to this trend (and perhaps an example that should be followed) was reported by Alker and Owen (1977). These authors obtained a broad spectrum of measures from Army officers and enlisted men about to begin Ranger training. These measures were used to predict several criteria, including peer ratings, tactical officer ratings of "Ranger spirit," and program completion. In predicting program completion, Alker and Owen found that a combination of self-reported trait measures, biographical information, and behavioral-sampling measures was far more successful (r=.72) than any of the measures used separately (r=.44, .64, and .42, respectively). Further, canonical correlation analysis provided evidence for what Alker and Owen termed method-criterion congruence; that is, trait measures were the best predictors of other traits, and past behaviors were the best predictors of future conduct. Finally, progress was made toward defining

the elusive (perhaps due to its multi-dimensionality) concept of Ranger spirit. Need for Aggression and Need for Affiliation, which generally covary negatively, were found to covary positively for this group, and both were highly correlated with ratings of Ranger spirit.

Alker and Owen's investigation thus provided input to both sides of the occupational performance question: prediction, in terms of method-criterion congruence and the advantages of combining disparate measures; and measurement, in terms of unraveling a complex component of effective performance. It is hoped that other investigators can follow this lead and begin to treat the measurement and prediction of occupational performance as a unified endeavor.

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Appendix C

PROCEDURES AND FINDINGS FROM CADET, NON-CADET STUDENT, AND OFFICER INTERVIEWS

by Terry R. Armstrong, Ph.D.

A series of interviews structured on the basis of AIR's ROTC/Army career commitment model was conducted to provide guidance for longitudinal study instrument item development. Army officers serving as ROTC staff, ROTC cadets, and non-ROTC students at six universities across the country were interviewed in January, February, and March 1979. Table A presents the distribution of interview respondents, by school.

The interview instruments differed somewhat among the three respondent groups, and different interview techniques were employed. All officers were personally interviewed by one AIR staff member. An officer and the AIR representative would isolate themselves in a convenient office, and the AIR staff member would take notes on a prepared form during the interview. The ROTC cadet and non-cadet student interviews were packaged into self-administering booklets in which the respondents wrote out their answers. All respondents--officers, cadets, and students--were briefed on the nature of the project; their anonymity was assured prior to their participation in the interview.

The officers were chosen to participate in the interviews on the basis of their length of service in the ROTC detachment; officers with the most experience were deliberately sought out. The ROTC cadets and non-ROTC students were selected by a quasi-random procedure so that representative groups would be obtained. The cadet interviews were administered in group settings, usually to an entire class of cadets. For some of the smaller detachments, almost all cadets in the program were interviewed. Non-ROTC students were often solicited from large mandatory classes at the universities, or from other sources such as a psychology department subject pool, a career counseling center, or, in one case, via a random mailout direct from AIR. The demographic characteristics of the interview respondents are presented in Table B.

Interview Instrument Development

The interview questions were specifically aimed at filling in gaps in the information available from AIR's cross-sectional survey, performed during the development of the ROTC/Army career commitment model (Card, Goodstadt, Gross, & Shanner, 1975). The interview questions taken as a set covered eight topic areas, although not all areas were appropriate to each of the three respondent groups. What follows is an identification of each area, an explanation of why it was included, and a description of the interview information desired.

Table A

Distribution of Interview Respondents

College	ROTC Cadets	Non-ROTC Students	ROTC Instructors	Total
Canisius College	22	9	3	34
Jackson State University	18	21	3	42
Michigan State University	13	16	3	32
Texas Tech University	21	20	3	44
U.C.L.A.	10	10	2	22
West Virginia University	15	20	3	38
Total	99	96	17	212

Table B

Demographic Characteristics of Interview Respondents

Characteristic	ROTC Cadets (n=17)	Non-ROTC Students (n=99)	ROTC Instructors (n=96)
Sex			
Female	32	45	0
Male	67	50	17
Racial/ethnic background			
American Indian	1	1	0
Asian/Oriental	2	1	0
Black/Afro-American/Negro	20	21	3
Hispanic/Mexican-American/Chicano	1	2	0
White	72	70	14
Other	1	1	0
Mean, years in the Army	NA	NA	13.0
Mean, years on ROTC staff	NA	NA	1.4
Year in school			
Freshman	19	23	NA
Sophomore	34	42	NA
Junior	35	15	NA
Senior	7	15	NA
Other	4	1	NA
Year in ROTC			
MS I	12	NA	NA
MS II	32	NA	NA
MS III	42	NA	NA
MS IV	11	NA	NA
Other	1	NA	NA
ROTC scholarship			
Yes	25	0	NA
No	74	96	NA
Army career intent			
Definitely	18	0	NA
Probably	27	2	NA
Don't know	29	8	NA
Probably not	18	31	NA
Definitely not	7	55	NA

Note: The n's in each category may not sum to the total group n due to non-response.
NA = Not Applicable.

1. Commitment

Commitment was operationally defined as retention potential--the higher the commitment score assigned to an ROTC cadet, the greater the number of years' service that person was predicted to give to the Army, over and above the period of obligated service. Commitment measures, based on the literature review and on findings from the cross-sectional study, were developed. They included the following constructs: identification with the career, alternatives to the career, motivation for remaining in the career path, and spouse-family support for career-related activities. These constructs were expanded to differentiate among three different kinds of commitment: moral (high positive), calculative (lukewarm positive or negative), and alienative (high negative).

2. Performance

In AIR's previous study, it was noted that the variance in ROTC grades was small. They were either "A" (good performance) or "not-A" (not good performance). The current study hoped to develop and validate a measure of cadet performance which would: (a) exhibit greater variance than ROTC grades, and (b) enhance the predictability of performance in the Army beyond that allowed by ROTC grades. Interview items were designed to provide additional information about the dimensions of cadet performance for use in developing the performance measure.

3. Alternatives to an Army Career Being Considered

One predictor of commitment to the Army may be the extent to which alternative careers have been explored and the results of such exploration. The interviews sought to determine the seriousness with which cadets and their Army officer instructors had considered non-Army careers. Questions were created asking cadets and officers (a) to describe what non-Army careers they were considering, and (b) to list the relative advantages/disadvantages of Army and non-Army careers. Similar questions were created for non-ROTC students; their answers were expected to provide insights into the beliefs civilians have concerning military careers.

4. Influence of Friends and Parents on Decisions to Join and Remain in ROTC

The cross-sectional study conducted by AIR showed that perceived favorability of parents' and friends' attitudes toward ROTC/Army was significantly related to participation in and commitment to the career path. The process by which those influences operate was not investigated, however, and interview items aimed at gaining insight into the process were created.

5. Evaluation of Equal Opportunity for Various Sex and Ethnic Groups in ROTC and the Army

One area that may have a direct bearing on commitment (especially among women and minority group members) is the extent to which cadets per-

ceive the Army as affording them equal opportunities for pay, advancement, and the like. Since this relationship was not touched on in the previous research, interview questions were created in an initial attempt to understand the feelings of cadets, students, and officers on this important topic.

6. Evaluation of ROTC Scholarship Program

Earlier research showed that possession of an ROTC scholarship had little bearing on commitment to an Army career. The longitudinal project was to investigate this issue further. The relationship between possession of a scholarship and performance was also targeted for special study. Cadet and instructor interview questions concerning the function and purpose of the scholarship program were created to aid in the framing of longitudinal survey items.

7. Evaluation of Present ROTC Program

AIR's previous research suggested that commitment may be related to several institutional and ROTC-program variables--for example, size and location of school, size of ROTC unit, and the experience of ROTC instructors. In an effort to determine which variables were of most interest, cadet and instructor questions were created to evaluate the strongest and weakest aspects of the specific ROTC program with which each individual was involved. Non-ROTC student questions were also created to gain a better idea of the extent of student awareness of and attitudes toward campus ROTC units.

8. Evaluation of Salient ROTC Policies

Although this area was similar to that just prior, the idea was that commitment to ROTC and the Army may be influenced by perceptions of ROTC as a national program (as distinguished from perceptions of the particular local program). Interview questions were created to gain a better understanding of how Army officers on ROTC duty viewed the major policies and goals of the national ROTC program.

Results

The interview results will be presented below, with related questions discussed together. The discussion of the results will focus on how the information was used in the development of the longitudinal study instrument. The data were not analyzed for what they indicate about officers, cadets, and students, but rather for what they indicate about questionnaire development.

Commitment and Performance

Cadets and officers were each asked two questions concerning ROTC/Army commitment and two questions concerning ROTC cadet performance. The responses to these questions were subjected to an extensive content analysis

to refine further a model of the commitment process and to provide potential questionnaire items. The questions were asked in the critical incident form (Flanagan, J. C., Measuring Human Performance. Palo Alto, CA: The American Institutes for Research, 1974); that is, the respondents were asked to think of instances of actual behavior that they observed and to describe these. Tables C and D present the content analysis categories that were derived from the responses, and the obtained numbers of responses in each category.

The values in the tables are the number of times an incident falling in a given category was described and not the numbers of individuals who gave examples. Since the questions were asked in an open-ended format, an individual may have provided several incidents, or none at all, for a particular category.

The content analysis results presented in Tables C and D reveal that instructors and cadets identified seven general kinds of behavior that relate to ROTC commitment and performance. These seven were: I. Motivation, II. Military bearing and conduct, III. Professionalism, IV. Planning and organization, V. Interpersonal relations, VI. Honors and achievements, and VII. Personality traits. Each of the seven represent an important topic area for consideration in the development of more formal commitment and performance measurement scales. All seven were employed in the general specifications for such scales. Individual responses to interview questions were used as the starting point for development of longitudinal study questionnaire items.

Officers were also asked to describe the performance variables that best distinguish good from poor cadets. The responses to this request were characterized very well by the categories generated for Tables C and D, but they emphasize the more important categories as can be seen in Table E. Officers, through the frequency of their responses, indicated that honors and achievements (especially academic achievements), professionalism, and motivation as revealed through extra effort are the dimensions that best distinguish good from bad cadets. These three dimensions were given additional weight in the development of specifications for an ROTC performance scale.

An additional question concerning what individual officers get committed to in the Army was asked of the officers who were interviewed. As can be seen in Table F, a content analysis of the responses produced six different general categories pointing to the basis of commitment. Personal values of various kinds were clearly the category that most officers saw as being the object of commitment to an Army career. The Army as a lifestyle or as a profession, interpersonal relations within the Army, and pay and benefits were also viewed as the objects of commitment. These categories were considered as general specifications for the commitment measure that was developed.

Perception of Alternatives

The scientific literature on employee turnover often omits consideration of the role of perception of job alternatives by the employee,

Table C

Distribution of Responses to Items Relating to
Critical Incidents of Positive and Negative Commitment

Response Categories	Positive[a]		Negative[b]		Total
	ROTC Cadets (n=99)	ROTC Instructors (n=17)	ROTC Cadets (n=99)	ROTC Instructors (n=17)	
I. Motivation	113	35	101	26	275
A. Extra time and effort	78	16	42	10	146
B. Intrinsic/extrinsic motivation	24	12	48	11	95
C. Enthusiasm	11	7	11	5	34
II. Military bearing and conduct	34	8	29	2	73
A. Appearance	10	3	7	0	20
B. Leadership	12	3	1	1	17
C. Conduct	12	2	21	1	36
III. Professionalism	15	6	9	0	30
IV. Planning and organization	7	1	1	0	9
V. Interpersonal relations	7	4	4	2	17
VI. Honors and achievements	19	2	6	4	31
A. Academic	1	1	1	4	7
B. Military-related	17	0	5	0	22
C. Other	1	1	0	0	2
VII. Personality traits	0	3	3	5	11
Total No. of Cited Incidents	195	59	153	39	446

[a] "Think of a cadet who, you are virtually certain, will become a career Army officer. What has he/she done in the last six months to make you feel this way? List any specific incidents that come to mind."

[b] "Think of a cadet who, you are virtually certain, will either drop out of ROTC or leave the Army immediately after the period of obligated service. What has this cadet done during the last six months to make you feel this way? List any specific incidents that come to mind."

Table D

Distribution of Responses to Items Relating to
Critical Incidents of Positive and Negative Performance

Response Categories	Positive[a]		Negative[b]		Total
	ROTC Cadets (n=99)	ROTC Instructors (n=17)	ROTC Cadets (n=99)	ROTC Instructors (n=17)	
I. Motivation	30	3	29	4	66
A. Extra time and effort	28	3	26	4	61
B. Intrinsic/extrinsic motivation	1	0	2	0	3
C. Enthusiasm	1	0	1	0	2
II. Military bearing and conduct	12	1	45	6	64
A. Appearance	0	0	3	0	3
B. Leadership	5	0	6	0	11
C. Conduct	7	1	36	6	50
III. Professionalism	12	8	15	9	44
IV. Planning and organization	8	7	0	1	16
V. Interpersonal relations	6	1	8	2	17
VI. Honors and achievements	30	5	8	2	45
A. Academic	4	0	1	1	6
B. Military-related	23	3	7	1	34
C. Other	3	2	0	0	5
VII. Personality traits	0	0	0	0	0
Total No. of Cited Incidents	98	25	105	24	252

[a] "Think of a time in the last six months when a cadet did something that you consider evidence of outstanding performance. What did he/she do? List any specific incidents that come to mind."

[b] "Think of a time in the past six months when a cadet did something that you consider evidence of bad performance. What did the cadet do? List any specific incidents that come to mind."

Table E

Distribution of Responses to Question Concerning
Performance Variables Distinguishing Good from Bad Cadets

	Response Categories	ROTC Instructors (n=17)
I.	Motivation	14
	Extra effort	13
	Enthusiasm	1
II.	Military bearing and conduct	5
	Leadership	5
III.	Professionalism	13
IV.	Planning and organization	3
V.	Interpersonal relations	2
VI.	Honors and achievements	15
	Academic	10
	Military-related	1
	Other	4
VII.	Personality traits	7
	Total No. of Responses	59

Table F

Distribution of Responses to Question
"What do People Get Committed or Attached to in the Army and ROTC?"

	Response Categories	ROTC Instructors (n=17)
I.	Personal values (e.g., sense of responsibility, prestige, patriotism)	21
II.	Army as a lifestyle	5
III.	Army as a profession	4
IV.	Interpersonal relations	3
V.	Pay and benefits	3
VI.	Other (e.g., a particular branch, extracurricular programs)	6
	Total No. of Responses	42

although this perception is regarded as having an important impact on commitment. The interviews conducted with officers, cadets, and students specifically asked about careers being considered other than the Army to begin to outline the role of perception of alternatives in commitment. The respondents were also asked to contrast a career as an Army officer with their most likely civilian career by listing the ways a civilian career would be better or worse than the Army. Table G presents the results of a content analysis of the responses.

The values in this table, and in all remaining tables in this section of the report, represent the numbers of individuals who provided at least one response in the category. The percentages in each column do not sum to 100% since an individual could provide responses in several categories or in none at all. In some cases, relatively few individuals provided responses of any kind to a particular question. In most of the remaining tables, the response categories are listed in decreasing order of mention by ROTC cadets.

The categories presented in Sections II and III of Table G were derived from the open-ended responses of the individuals interviewed, and were not presented to the respondents for them to check off. In this light it is interesting to note the dimensions most frequently mentioned when a civilian career and an Army officer career were being compared. For example, 88% of the officers interviewed used salary and benefits as a comparison dimension, with 41% of the officers stating their most likely civilian career offered greater monetary rewards while 47% stated it offered less. There was no single category that was used as often by cadets or students to compare the two types of careers, but salary, personal freedom, security, and career environment were frequently mentioned. There was considerable agreement among the three groups when they described their most likely civilian career. Business administration or the humanities, law, social and behavioral sciences were among the career areas most often mentioned.

Analyses of the response categories were used to create or refine four sets of items that will be used in the longitudinal study questionnaire. The first set requests the respondents to indicate their two most likely careers from a list of 15 career groups. The second set requests the individuals to rate how important each of 12 different aspects of a job are to them. The third and fourth sets ask the respondents to rate the potential for satisfaction on the same 12 job aspects in an Army job versus their most likely civilian job.

Influence of Other People

The commitment literature and AIR's earlier work in developing an ROTC/Army career commitment model have shown the importance of the influence of significant others on a student's decision to join or not join ROTC. The mechanism through which these influences operate was not apparent, however. Four questions were asked of cadets and students in the interviews to begin to clarify the ways in which influences from parents and friends operate. The categories derived from the responses to these questions are presented in Table H.

Table G

Alternatives to an Army Officer Career

Items/Response Categories	ROTC Cadets (n=99)	Non-ROTC Students (n=96)	ROTC Instructors (n=17)
	n (%)	n (%)	n (%)
I. What is your most likely career/most likely alternative to an Army officer career?			
Business administration	27 (27)	26 (27)	8 (47)
Humanities, law, social and behavioral sciences	27 (27)	14 (15)	3 (18)
General labor, community and public service	22 (22)	1 (1)	3 (18)
General teaching and social service	15 (15)	10 (10)	1 (6)
Medical and biological sciences	13 (13)	15 (16)	1 (6)
Engineering, physical science, mathematics, and architecture	12 (12)	17 (18)	1 (6)
Technical jobs	9 (9)	10 (10)	0 (0)
Proprietors, sales	7 (7)	5 (5)	5 (29)
Military officer	7 (7)	1 (1)	0 (0)
Homemaker, parent	3 (3)	1 (1)	0 (0)
Fine arts, performing arts	2 (2)	5 (5)	0 (0)
Mechanics, industrial trades	2 (2)	4 (4)	0 (0)
Secretarial-clerical, office workers	1 (1)	1 (1)	0 (0)
Construction trades	1 (1)	0 (0)	0 (0)
II. How does it seem better than an Army officer career?			
Salary, benefits, retirement, etc.	27 (27)	19 (20)	7 (41)
Personal freedom and degree of personal control of career on and off work site	25 (25)	30 (31)	6 (35)
Type and degree of structure of career environment and working conditions	19 (19)	13 (14)	0 (0)
Geographic desirability of work sites	10 (10)	7 (7)	0 (0)
Stability of home life or opportunity/demand for travel or transfers	10 (10)	6 (6)	6 (35)
Interesting, challenging work	8 (8)	18 (19)	0 (0)
Working with and helping others	5 (5)	5 (5)	0 (0)
Association with military and warfare	4 (4)	7 (7)	0 (0)
Advancement opportunity	4 (4)	2 (2)	0 (0)
Personal responsibility in the career/organization	4 (4)	1 (1)	0 (0)
Use of previously developed skills in a specialized field	2 (2)	6 (6)	0 (0)
Security	2 (2)	2 (2)	0 (0)
Opportunity/responsibility to contribute to the career/organization/society/country	2 (2)	1 (1)	0 (0)
Continued self-improvement and development	2 (2)	0 (0)	1 (6)
Career pressure	2 (2)	0 (0)	0 (0)
Feedback on career performance	1 (1)	0 (0)	0 (0)

Table G, continued

Items/Response Categories	ROTC Cadets (n=99)	Non-ROTC Students (n=96)	ROTC Instructors (n=17)
	n (%)	n (%)	n (%)
II. How does it seem better than an Army officer career? (continued)			
Contentment of spouse and family with job	0 (0)	0 (0)	4 (24)
Prestige associated with the career/organization	0 (0)	2 (2)	0 (0)
Adventure, excitement, variety	0 (0)	2 (2)	0 (0)
Quality of supervisors and co-workers	0 (0)	1 (1)	0 (0)
III. How does it seem worse than an Army officer career?			
Security	36 (36)	18 (19)	5 (29)
Salary, benefits, retirement, etc.	15 (15)	9 (9)	8 (47)
Adventure, excitement, variety	14 (14)	2 (2)	7 (41)
Stability of home life or opportunity/demand for travel or transfers	11 (11)	5 (5)	3 (18)
Type and degree of structure of career environment and working conditions	7 (7)	5 (5)	0 (0)
Required prior training and preparation	6 (6)	5 (5)	0 (0)
Interesting, challenging work	6 (6)	2 (2)	0 (0)
Advancement opportunity	6 (6)	2 (2)	3 (18)
Leadership opportunities	6 (6)	1 (1)	0 (0)
Opportunity/responsibility to contribute to the career/organization/society/country	5 (5)	6 (6)	0 (0)
Personal responsibility in the career/organization	5 (5)	0 (0)	3 (18)
Interaction with a variety of interesting people	2 (2)	2 (2)	1 (6)
Prestige associated with the career/organization	2 (2)	1 (1)	0 (0)
Use of previously developed skills in a specialized field	2 (2)	0 (0)	0 (0)
Continued self-improvement and development	2 (2)	1 (1)	0 (0)
Career pressure	1 (1)	1 (1)	0 (0)
Geographic desirability of work sites	1 (1)	0 (0)	0 (0)
Quality of supervisors and co-workers	1 (1)	0 (0)	0 (0)
Access to additional training or formal schooling	0 (0)	1 (1)	1 (6)

Table H

Influence of Significant Others

Items/Response Categories	ROTC Cadets (n=99)		Non-ROTC Students (n=96)	
	n	(%)	n	(%)
I. How do your parents feel about ROTC?				
Favorable	61	(62)	28	(29)
Ambivalent, indifferent	12	(12)	2	(2)
Unfavorable	13	(13)	15	(16)
Don't know anything about it	0	(0)	2	(2)
I don't know	0	(0)	10	(10)
II. How does this affect you?				
Strength of influence:				
Strongly	7	(7)	9	(9)
Moderately	8	(8)	10	(10)
Little	0	(0)	4	(4)
Not at all	14	(14)	13	(14)
Kind of influence:				
Encouraging	11	(11)	0	(0)
Discouraging	2	(2)	0	(0)
Confirmatory	3	(3)	0	(0)
III. How do your friends feel about ROTC?				
Favorable	39	(39)	14	(15)
Ambivalent, indifferent	17	(17)	7	(7)
Unfavorable	46	(46)	27	(28)
Don't understand it; don't know anything about it	9	(9)	4	(4)
I don't know	0	(0)	5	(5)
IV. How does this affect you?				
Strength of influence:				
Strongly	0	(0)	3	(3)
Moderately	0	(0)	10	(10)
Little	9	(9)	15	(16)
Not at all	34	(34)	21	(22)
Kind of influence:				
Encouraging	8	(8)	0	(0)
Discouraging	7	(7)	0	(0)

There was a particularly high non-response rate among the cadets and students when they were asked to describe the effect of the feelings of parents and friends on their own feelings. Apparently this effect is not easy to analyze and describe. Cadets and students who did describe the effects of the attitudes of others were most likely to say that there was no effect at all. Clearly, however, more cadets than students report a positive attitude toward ROTC on the part of their parents and friends.

Perceived Opportunities

Another factor that can strongly influence an individual to actively explore a career possibility is the perceived degree of opportunity that the career offers. This could be an especially important influence on women and members of ethnic minorities who may be discriminated against in a career solely on the basis of their sex or race. Interview respondents were asked if they thought there were good opportunities for minorities and women in ROTC and the Army, and why they thought as they did. The content analysis of the responses received are presented in Table I. Quite clearly, all three groups thought that there were good opportunities for minorities and women in ROTC and the Army. They saw the Army as providing equal benefits, treatment, and advancement for the most part.

The results presented in Table I provide a background for working items related to the perception of opportunities for women and minorities into the longitudinal questionnaire. All longitudinal sample respondents in the fall of 1979 will be identified by sex and by ethnic background. Analyses along these dimensions can thus be performed on the questionnaire data that will be gathered. Items specifically asking about the importance of the absence of sex or racial discrimination in a job, and the standing of the Army and the most likely civilian career on these dimensions have been included in the longitudinal questionnaire.

Scholarship Program

AIR's earlier research has shown that the possession of an ROTC scholarship is not related to the degree of commitment to an Army officer career. This raises a question about the function the scholarship program fulfills for the Army. Officers and non-ROTC students were asked to list what they thought the functions of the scholarship program are, and what they should be, in order to give an inside and an outside view of the program. The results are presented in Table J.

It can be seen that the officers and the students view the current functions of the scholarship program differently, and they make different suggestions when asked what the functions should be. Almost all officers viewed ROTC recruitment as one of the present functions of the scholarship program, although only 12% thought that recruiting should be one of its functions. Only 43% of the students saw recruiting as a present function of the scholarship program while 18% thought that this should be one of its functions. More students than officers saw the program as financing an education while more officers saw it as providing a reward.

Table I

Opportunities for Minorities and Women

Items/Response Categories	ROTC Cadets (n=99)	Non-ROTC Students (n=96)	ROTC Instructors (n=17)
	n (%)	n (%)	n (%)
I. Are there good opportunities for minorities and women in ROTC/Army?			
Yes	87 (88)	70 (73)	11 (65)
No	7 (7)	4 (4)	3 (18)
Improving	6 (6)	3 (3)	2 (12)
"Too" good, reverse discrimination	5 (5)	3 (3)	5 (29)
Don't know	0 (0)	16 (17)	0 (0)
II. Why?			
Equal benefits, treatment, advancement	20 (20)	15 (16)	5 (29)
Army provides training and education	12 (12)	10 (10)	0 (0)
System is ability-based	12 (12)	0 (0)	0 (0)
Diminishing prejudice/discrimination	11 (11)	4 (4)	1 (6)
More MOS's opening to women and minorities	8 (8)	0 (0)	0 (0)
Legislation; equal opportunity standards	6 (6)	8 (8)	1 (6)
Army needs personnel	6 (6)	3 (3)	0 (0)
Army is changing as society is changing	3 (3)	5 (5)	0 (0)
Personal observation, perceptions; friends or media say so	3 (3)	7 (7)	0 (0)
Better opportunities than in civilian life	0 (0)	0 (0)	4 (24)
Army going too far in satisfying quotas	0 (0)	0 (0)	3 (18)
Army competing with business for minorities	0 (0)	0 (0)	1 (6)
III. Why not?			
Prejudice, racism, sexism	4 (4)	1 (1)	3 (18)
Too many minority members already	1 (1)	0 (0)	0 (0)
Not all Army positions are available to women	0 (0)	1 (1)	3 (18)
Tokenism; Army only pays lip service to equal opportunity	0 (0)	0 (0)	3 (18)

Table J

Functions of the ROTC Scholarship Program

Items/Response Categories	Non-ROTC Students (n=96)	ROTC Instructors (n=17)
	n (%)	n (%)
I. What are the present functions of the ROTC scholarship program?		
Provide/finance education	43 (45)	3 (18)
Recruit	41 (43)	16 (94)
Prepare for career	19 (20)	0 (0)
Provide and train higher quality officers	18 (19)	3 (18)
Provide an opportunity to serve	2 (2)	0 (0)
Reward	2 (2)	7 (41)
II. What should the functions of the ROTC scholarship program be?		
Provide/finance education	42 (44)	0 (0)
Prepare for career	21 (22)	0 (0)
Recruit	17 (18)	2 (12)
Provide and train higher quality officers	12 (13)	2 (12)
Reward	9 (9)	3 (18)
Change obligations (e.g., allow reserve duty)	1 (1)	2 (12)
Make available more scholarships	0 (0)	7 (41)
Change standards	0 (0)	5 (29)
Allow more local control of scholarships	0 (0)	2 (12)

When officers were asked what they thought the functions of the scholarship program should be, they suggested more changes in the administration of the scholarship program than they did in its function. These responses are presented in the table although they do not directly address the question that was asked. With the information in Table J as a background, two items for ROTC scholarship holders were included in the longitudinal instrument. These items concern the importance of a scholarship on an individual's decision to join ROTC, and its importance for continuing in ROTC. Scholarship holders will be identified during the longitudinal survey so that their responses on other questionnaire items can be contrasted with non-scholarship ROTC cadets.

ROTC Unit Ratings

A final set of questions asking all respondents to evaluate the local ROTC detachment, and asking officers to evaluate the national ROTC program, were presented in the interviews. The officers were also asked to describe the goals of their local program. The view that students have of their campus ROTC detachment can have a critical influence on their decision to join or not, and the longitudinal instrument needs to have items that will tap this view. Tables K and L present the responses to the questions.

As can be seen from the data presented in the tables, there is some agreement between cadets and officers concerning the weak and strong points of ROTC, with students basically not knowing anything about ROTC. The responses of the cadets in particular were wide ranging and indicate a variety of aspects of ROTC that are attractive or unattractive. Cadets were most likely to identify the ROTC cadre and the ROTC program activities as the strongest points of their college detachment. Along with officers, they also mentioned program quality and social organization as strong points. Over 75% of the officers interviewed identified the social organization of their program as its strongest point. Cadets and officers agreed that the specific military training was a weak point in their program, but more officers thought that the small unit size was its weakest aspect.

The longitudinal questionnaire specifically asks cadets about influences on their decision to join ROTC, and asks students about influences on their decision not to join. The response categories for these two questions were based in part on the data presented in Table K.

The officers were asked to evaluate national ROTC policies and to describe the goals of their local unit in order to provide suggestions for desired changes in ROTC from those now administering the program. Their responses are summarized in Tables K and L. When officers were asked which of the current national ROTC policies they wanted to continue, many of them thought the program should continue intact. Others saw the flexibility of the program, the Advanced Camp and Advanced Course structure, and the scholarship program as critical elements. Among the suggestions for change were the degree of local control, the scholarship program, the commissioning and branching procedures, the Basic Course, and subsistence pay. When asked to describe the goals of their ROTC program, the majority of the officers interviewed mentioned the production of a quantity of officers. Somewhat fewer officers mentioned the production of quality officers.

Table K

Strong, Weak Points of ROTC Unit

Items/Response Categories	ROTC Cadets (n=99)	Non-ROTC Students (n=96)	ROTC Instructors (n=17)
	n (%)	n (%)	n (%)
I. What are the strongest points of the ROTC unit at this college?			
The cadre	39 (39)	4 (4)	0 (0)
ROTC program activities	35 (35)	10 (10)	1 (6)
Program quality	25 (25)	14 (15)	7 (41)
Social organization, camaraderie, close instructor/student relationships	24 (24)	3 (3)	13 (76)
Career preparation, goal directedness	13 (13)	1 (1)	0 (0)
Flexibility	12 (12)	0 (0)	4 (24)
Cadet quality	8 (8)	6 (6)	2 (12)
Small unit size	8 (8)	0 (0)	0 (0)
Personal growth opportunities	6 (6)	7 (7)	0 (0)
Financial benefits	4 (4)	7 (7)	0 (0)
Facilities and resources	4 (4)	1 (1)	0 (0)
Lack of obligations in Basic Course	2 (2)	0 (0)	0 (0)
Location at a leading university	1 (1)	0 (0)	0 (0)
There are no strong points/know of no strong points	0 (0)	3 (3)	0 (0)
Don't know anything about ROTC	0 (0)	43 (45)	0 (0)
II. What are the weakest points of the ROTC unit at this college?			
Poor military training	27 (27)	2 (2)	5 (29)
Program atmosphere	16 (16)	5 (5)	0 (0)
Lack of organization	15 (15)	1 (1)	0 (0)
Apathy, lack of esprit de corps	14 (14)	0 (0)	2 (12)
Requirements	11 (11)	14 (15)	0 (0)
Specific cadets or cadre	9 (9)	6 (6)	0 (0)
Too small a unit	8 (8)	0 (0)	8 (47)
Overly gung-ho cadets	8 (8)	0 (0)	0 (0)
Poor equipment/facilities/support	7 (7)	1 (1)	3 (18)
Standing of the unit on campus	6 (6)	14 (15)	0 (0)
Extreme military emphasis	6 (6)	1 (1)	0 (0)
Too much time and effort required	3 (3)	2 (2)	0 (0)
Discrimination	3 (3)	1 (1)	0 (0)
Abandonment of Advanced Course cadets	3 (3)	0 (0)	0 (0)
Not enough financial support	2 (2)	0 (0)	0 (0)
Accelerated MS III and cross-enrolled programs	2 (2)	0 (0)	0 (0)
Weak Basic Course curriculum	1 (1)	0 (0)	4 (24)
Don't know anything about ROTC	0 (0)	30 (31)	0 (0)
Everything about ROTC is weak	0 (0)	2 (2)	0 (0)
Know of no weak points	0 (0)	2 (2)	0 (0)

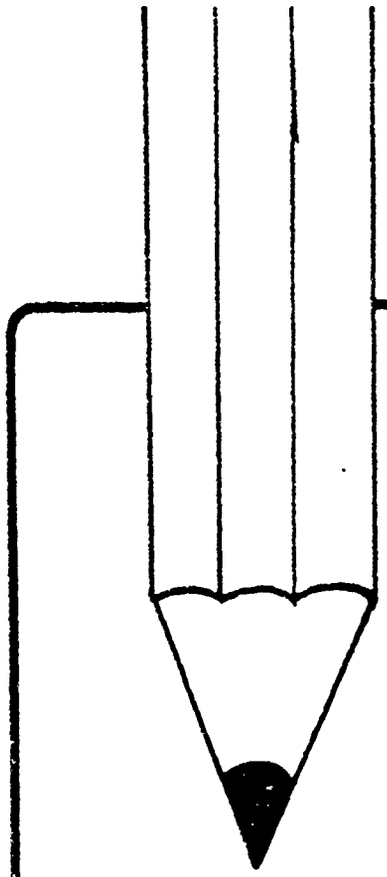
Table L

National ROTC Policies and Goals of Local Program

Items/Response Categories	ROTC Instructors (n=17)
	n (%)
I. If you were in charge of ROTC as a whole, which specific policies would you insist on retaining?	
All	6 (35)
Flexibility of program	5 (29)
Advanced Camp/Advanced Program	4 (24)
Scholarships	3 (18)
Obligated service	1 (6)
II. Which specific policies would you like to eliminate or change?	
More local control	7 (41)
Restrict scholarship program (more, shorter, etc.)	7 (41)
Restructure commissioning and branching procedures (e.g., allow scholarship students in Reserves)	6 (35)
Restructure MS I, II (tighten up, eliminate, etc.)	4 (24)
Increase subsistence pay	3 (18)
Restructure Advanced Camp (evaluation, classroom, etc.)	3 (18)
De-emphasize quantity	1 (6)
Drop national advertising	1 (6)
III. What are the goals of your ROTC program?	
Recruit/produce quantity of officers	9 (53)
Educate and train potential officers	8 (47)
Recruit/produce quality officers	8 (47)
Public relations	2 (12)

The information presented in Tables K and L will be used to help guide the creation of appropriate questionnaire items. As longitudinal sample ROTC cadets proceed through the program and are surveyed from year to year, new items will be added to the survey instrument to tap the effects of changing local and national ROTC program policies.

Appendix D



A QUESTIONNAIRE FOR
ROTC STUDENTS

CAREER ATTITUDE SURVEY

AMERICAN INSTITUTES FOR RESEARCH · PALO ALTO, CALIFORNIA

Note to reader.

It was deemed essential to allow respondents to participate anonymously, while allowing project staff to link data from each cadet from year to year. To fulfill both these ends, each ROTC student filled out a separate Identity Sheet prior to filling out the questionnaire. The Identity Sheet asked for respondent's name, current address, and the addresses of three relatives or friends who would always know his/her whereabouts. It also instructed subjects to create a unique Identity Code to be transferred to the questionnaire. The Identity Code consisted of a two-digit school code, the first two letters of respondent's last name, the first two letters of respondent's first name, and the month, day, and year of respondent's date of birth. The Identity Code will be generated from year to year and will be written on each year's questionnaire. It will form the basis for linking successive waves of data from each member of the longitudinal samples.

Begin this questionnaire after you have filled out the separate Identity Sheet.

IDENTITY CODE: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
1 2 3 4 5 6 7 8 9 10 11 12

Now please make sure that: (1) your name, address, and Identity Code are on the separate Identity Sheet, and

(2) your Identity Code is also in the space above.

It should take approximately 40 minutes for you to complete this questionnaire. Please be sure to answer every item. There are no "right" or "wrong" answers except for one set of questions concerning specific knowledge of the ROTC program and the Army. The responses are your perceptions, your experiences, and your feelings. PLEASE MARK ONE ANSWER ONLY FOR EACH QUESTION BY CIRCLING THE NUMBER FOR YOUR ANSWER ON THIS QUESTIONNAIRE BOOKLET.

We can't overstress the importance of your responses for our project. We can find meaningful answers to many career-related questions only when you and others like you take the time to complete our questionnaires thoughtfully and completely.

Section I: BACKGROUND INFORMATION---This section deals with your background. For each question, please circle the number next to your chosen answer. For example. if you are a male, your answer to the first question should look like this:

A. Sex

1. Female
(2.) Male

For each question, read all the answers and then circle the one number that best answers the question.

A. Sex

1. Female
2. Male

B. Racial/ethnic background

1. American Indian
2. Asian/Oriental
3. Black/Afro-American/Negro
4. Hispanic/Mexican-American/Chicano
5. White
6. Other

C. Age (Please write in) _____ Years

D. Where did you spend most of your elementary school and high school years?

1. New England (Maine, New Hampshire, Massachusetts, Connecticut, Rhode Island, Vermont)
2. Middle Atlantic (New York, New Jersey, Pennsylvania)
3. East North Central (Ohio, Indiana, Illinois, Michigan, Wisconsin)
4. West North Central (Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas)
5. Mountain (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada)
6. Pacific (Washington, Oregon, California, Alaska, Hawaii)
7. South Atlantic (Delaware, Maryland, District of Columbia, Virginia, West Virginia, South Carolina, North Carolina, Georgia, Florida)
8. East South Central (Kentucky, Tennessee, Alabama, Mississippi)
9. West South Central (Arkansas, Louisiana, Oklahoma, Texas)
10. Didn't grow up in United States.
11. Moved around too much to consider myself from one region.

E. In what type of community did you spend most of your elementary school and high school years?

1. Rural
2. A small city or town (under 50,000)
3. A medium-size city (50,000-250,000)
4. A suburb near a large city
5. A large city (over 250,000)

F. How many different communities did you live in while you were growing up?

1. 1-2
2. 3-5
3. 6 or more

G. Marital status

1. Single
2. Engaged
3. Married
4. Separated/Divorced
5. Widowed

H. How many children do you have?

1. None
2. One
3. Two
4. Three
5. Four
6. Five or more

I. Father's education

1. 8th grade or less
2. Some high school
3. Graduated from high school
4. Some college
5. Graduated from college
6. Advanced degree

J. Mother's education

1. 8th grade or less
2. Some high school
3. Graduated from high school
4. Some college
5. Graduated from college
6. Advanced degree

K. Parents' combined annual income

1. Under $5,000 per year
2. $5,000 to $9,999 per year
3. $10,000 to $14,999 per year
4. $15,000 to $19,999 per year
5. $20,000 to $24,999 per year
6. $25,000 to $29,999 per year
7. $30,000 to $34,999 per year
8. $35,000 to $39,999 per year
9. $40,000 or over per year

L. What is (or was) your father's main occupation?

1. Unskilled worker, requiring little training (for example, fruit picker, domestic servant)
2. Skilled blue-collar worker, requiring training or experience (for example, coal miner, assembly line worker, auto mechanic)
3. Clerical or store sales worker
4. Manager, supervisor, or foreman (supervising fewer than 5 employees)
5. Owner of small business or small farm (with fewer than 5 paid employees)
6. Manager, supervisor, or foreman (supervising 5 or more employees)
7. Technical or professional worker (for example, doctor, computer salesman, stock broker, engineer, teacher, executive)
8. Owner of large business or large farm (with 5 or more paid employees)
9. Don't know

M. Was your father ever in the Army?

1. Yes
2. No

N. Was your father ever in another military service (for example, the Air Force, Navy, or Marines)?

1. Yes
2. No

O. Was your father ever a military officer?

1. Yes
2. No

P. Was your father ever an enlisted man?

1. Yes
2. No

Q. How long was your father in the military? (If he is still in, how long has he been in?)

1. Not at all
2. Less than 5 years
3. 5-10 years
4. 10-15 years
5. Over 15 years

R. What is your political position?

1. Very liberal
2. Somewhat liberal
3. Midway between liberal and conservative
4. Somewhat conservative
5. Very conservative
6. My position cannot be represented on the above scale.
7. I am not interested in politics.

Section II: SCHOOL LIFE--The items in this section deal with your interests, abilities, and achievements as a student. For each question, please circle the one number that corresponds to your chosen answer.

A. Year in school

1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Other

B. What is your college major (actual or intended)?

1. A physical science
2. A biological science
3. A social science
4. English and literature
5. Education
6. Fine arts
7. Foreign language
8. Engineering
9. Mathematics
10. Agriculture and forestry
11. Physical education
12. Business
13. Other
14. Don't know

C. What is the highest educational level you hope to obtain?

1. Some college
2. Associate of Arts (A.A.) or certificate
3. Bachelor's (B.A., B.S., or other)
4. Master's (M.A., M.S., or other)
5. Doctorate (Ph.D., M.D., or other professional degree)

D. Are you using any of the following resources to attend college? For each resource, circle 1 for Yes or 2 for No.

		Yes	No
D-a.	ROTC scholarship	1	2
D-b.	Other scholarship	1	2
D-c.	Work	1	2
D-d.	Family (for example, parents') support	1	2
D-e.	Student loans, college aid, or other assistance program	1	2
D-f.	Veteran's benefits	1	2

E. Did you participate in extracurricular activities while in high school? (For example, Junior ROTC, band, sports, Honor Society)

1. No
2. Yes, in one activity
3. Yes, in two activities
4. Yes, in three activities
5. Yes, in four activities
6. Yes, in five activities
7. Yes, in more than five activities

F. How many extracurricular activities do you participate in or plan to participate in during college?

1. None
2. One activity
3. Two activities
4. Three activities
5. Four activities
6. Five activities
7. More than five activities

G. What was your approximate grade average <u>in high school</u>?

1. Lower than D- (lower than 60%)
2. D- to D+ (60%-69%)
3. C- to C+ (70%-79%)
4. B- to B+ (80%-89%)
5. A- to A+ (90% or above)

H. What has been your approximate grade average <u>since entering college</u>?

1. Lower than D- (lower than 60%)
2. D- to D+ (60%-69%)
3. C- to C+ (70%-79%)
4. B- to B+ (80%-89%)
5. A- to A+ (90% or above)
6. Freshman--no grades yet

I. How would you rate your academic ability compared to your high school graduating class?

1. Highest 20%
2. Second 20%
3. Third 20%
4. Fourth 20%
5. Fifth 20%

J. What was your SAT-Verbal Score?

1. 700-800
2. 600-699
3. 500-599
4. 400-499
5. 300-399
6. 200-299
7. Don't remember
8. Did not take the SAT

K. What was your SAT-Mathematical score?

1. 700-800
2. 600-699
3. 500-599
4. 400-499
5. 300-399
6. 200-299
7. Don't remember
8. Did not take the SAT

L. What was your ACT score?

1. 30 or above
2. 25-29
3. 20-24
4. 15-19
5. 10-14
6. 5-9
7. Don't remember
8. Did not take the ACT

Section III: CAREER PLANS--The items in this section deal with your plans regarding the job(s) you wish to hold in the future.

A. Following is a list of 15 career groups whose members may share similar interests, abilities, training, and aptitudes.

1. Engineering, Physical Science, Mathematics, Architecture
2. Medical and Biological Sciences
3. Business Administration
4. General Teaching and Social Service
5. Humanities, Law, Social and Behavioral Sciences
6. Fine Arts, Performing Arts
7. Technical Jobs
8. Proprietors, Sales
9. Mechanics, Industrial Trades
10. Construction Trades
11. Secretarial-Clerical, Office Workers
12. General Labor, Community and Public Service
13. Military Officer
14. Homemaker
15. Other

A-a. Please write in the number of the group you are <u>most</u> likely to end up in. _____

A-b. Please write in the number of the group you are <u>next</u> most likely to end up in. _____

The statements below describe things you might do when planning a career. Please indicate how much thinking or planning you have done in each of these areas by circling the number corresponding to your chosen answer. Use the following codes to answer questions B-M:

1 I haven't done this yet
2 I've just started doing this
3 I've been doing this for quite a while

For example, if you haven't started finding out where your talents lie, your answer to Question B below should look like this:

B. Finding out where my talents lie (1) 2 3

B.	Finding out where my talents lie	1 2 3
C.	Deciding what I really want to do for a living	1 2 3
D.	Clarifying my ideas about the type of work I would like to do	1 2 3
E.	Finding an occupation that will allow for the expression of my interests and abilities	1 2 3
F.	Deciding what kind of training to get for the field that interests me	1 2 3
G.	Choosing among the best career alternatives I now see	1 2 3
H.	Choosing the most interesting and challenging job among the several that interest me	1 2 3
I.	Specializing in the part of my field of interest that has the best future	1 2 3
J.	Finding opportunities to do the kind of work I like	1 2 3
K.	Getting started in my chosen field	1 2 3
L.	Making specific plans to achieve my career goals	1 2 3
M.	Taking steps that will help me achieve my ambitions	1 2 3

How important are the following aspects of a job to you? Please circle the number that corresponds to your chosen answer. Use the following codes to answer Questions N-Y.

1 Very important
2 Somewhat important
3 Neutral; don't know
4 Not too important
5 Not important at all

N.	Salary	1	2	3	4	5
O.	Amount of personal responsibility	1	2	3	4	5
P.	Location of the job	1	2	3	4	5
Q.	Opportunity to stay in one community	1	2	3	4	5
R.	Amount of personal freedom	1	2	3	4	5
S.	Chance for adventure and variety	1	2	3	4	5
T.	Chance to help others	1	2	3	4	5
U.	Job security	1	2	3	4	5
V.	Contentment of spouse and family with job	1	2	3	4	5
W.	Advancement opportunity	1	2	3	4	5
X.	Freedom from sex discrimination	1	2	3	4	5
Y.	Freedom from racial discrimination	1	2	3	4	5

How satisfactory do you think a job in the Army could be for each of these aspects? Please circle the number that corresponds to your chosen answer. Use the following codes to answer Questions Z-KK.

1 Very satisfactory
2 Somewhat satisfactory
3 Neutral; don't know
4 Not too satisfactory
5 Not satisfactory at all

Z.	Salary	1	2	3	4	5
AA.	Amount of personal responsibility	1	2	3	4	5
BB.	Location of job	1	2	3	4	5
CC.	Opportunity to stay in one community	1	2	3	4	5
DD.	Amount of personal freedom	1	2	3	4	5
EE.	Chance for adventure and variety	1	2	3	4	5
FF.	Chance to help others	1	2	3	4	5
GG.	Job security	1	2	3	4	5
HH.	Contentment of spouse and family with job	1	2	3	4	5
II.	Advancement opportunity	1	2	3	4	5
JJ.	Freedom from sex discrimination	1	2	3	4	5
KK.	Freedom from racial discrimination	1	2	3	4	5

How satisfactory do you think your most likely civilian job could be for each of these aspects? Please circle the number that corresponds to your chosen answer. Use the following codes to answer Questions LL-WW.

1 Very satisfactory
2 Somewhat satisfactory
3 Neutral; don't know
4 Not too satisfactory
5 Not satisfactory at all

LL.	Salary	1	2	3	4	5
MM.	Amount of personal responsibility	1	2	3	4	5
NN.	Location of the job	1	2	3	4	5
OO.	Opportunity to stay in one community	1	2	3	4	5
PP.	Amount of personal freedom	1	2	3	4	5
QQ.	Chance for adventure and variety	1	2	3	4	5
RR.	Chance to help others	1	2	3	4	5
SS.	Job security	1	2	3	4	5
TT.	Contentment of spouse and family with job	1	2	3	4	5
UU.	Advancement opportunity	1	2	3	4	5
VV.	Freedom from sex discrimination	1	2	3	4	5
WW.	Freedom from racial discrimination	1	2	3	4	5

Section IV: OPINION SURVEY--The items in this section are concerned with your opinion about (1) how an organization should be run; (2) how much influence people have over their own lives; and (3) military life. For each question, please circle the number that corresponds to your chosen answer. Use the following codes to answer Questions A-Y.

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

A.	In an efficient organization, a person's career will be pretty well planned out.	1 2 3 4 5
B.	Relationships within an organization should be based on position or level, not on personal considerations.	1 2 3 4 5
C.	In dealing with others, rules and regulations should be followed exactly.	1 2 3 4 5
D.	When bad things are going to happen, they are going to happen, no matter what you do to stop them.	1 2 3 4 5
E.	A person's first loyalty within an organization should be to his or her supervisor.	1 2 3 4 5
F.	Formality, based on rank or position, should be maintained by members of an organization.	1 2 3 4 5
G.	A person should avoid taking any action that might be subject to criticism.	1 2 3 4 5
H.	Length of service in an organization should be given as much recognition as level of performance.	1 2 3 4 5
I.	Doing work that you like is not as important as having a steady income.	1 2 3 4 5
J.	Most of the time you can change what will happen tomorrow by what you do today.	1 2 3 4 5
K.	A person's expressions of feeling about his or her organization should conform to those of the other members of the organization.	1 2 3 4 5
L.	Things change so quickly these days that I have trouble deciding which are the right rules to follow.	1 2 3 4 5
M.	It is natural for a person to look to a leader for guidance.	1 2 3 4 5
N.	Many times I feel that I have little influence over the things that happen to me.	1 2 3 4 5
O.	With things so uncertain these days, it seems as though anything could happen.	1 2 3 4 5

(Section IV...continued) Answer codes:

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

P.	What happens to me is my own doing.	1 2 3 4 5
O.	The trouble with the world today is that people don't believe in anything.	1 2 3 4 5
R.	I often feel awkward and out of place.	1 2 3 4 5
S.	It seems to me that other people find it easier to decide what is right than I do.	1 2 3 4 5
T.	In my case, getting what I want has nothing to do with luck.	1 2 3 4 5
U.	Rank should have its privileges.	1 2 3 4 5
V.	A leader must know more than his or her followers, in order to hold their respect.	1 2 3 4 5
W.	People in the Army are not expected to work as hard as people in civilian jobs.	1 2 3 4 5
X.	Financial security is more important than having a job you enjoy.	1 2 3 4 5
Y.	A person should conform completely to rules and regulations.	1 2 3 4 5

Section V: PERSONAL VALUES--This section attempts to determine what you consider important in life.

A. We all hold within us certain values that guide our actions. Some of these are described below; select the two values from those in the list that are most important to you and write their numbers in the spaces below.

1. Being treated with understanding; receiving encouragement (Support)
2. Doing what is socially correct; following regulations closely (Conformity)
3. Being looked up to and admired; being considered important (Recognition)
4. Being free to make one's own decisions, to do whatever one wants to do in the way one chooses to do it (Independence)
5. Doing things for and sharing things with other people: helping the unfortunate (Benevolence)
6. Being in charge of other people, having authority over others, being in a position of leadership or power (Leadership)
7. Loving and being devoted to one's country, valuing one's country and its cultural values highly (Patriotism)
8. Seeking beauty and harmony, being concerned with grace and symmetry, finding fulfillment in artistic experience (Aestheticism)
9. Valuing unity and salvation (Religiousness)
10. Being different from other people, being unlike everyone else (Uniqueness)
11. Believing in equality of opportunity, responsibility, and political, economic, and legal rights (Egalitarianism)
12. Believing in necessity for obedience and respect for authority (Acceptance of Authority)
13. Valuing truth and the pursuit of truth, aiming to order and systematize knowledge (Intellectualism)
14. Doing that which is useful, being interested in practical affairs, judging things by their tangible utility (Pragmatism)

A-a. Please write in the number of your most important value _____

A-b. Please write in the number of your second most important value _____

B. Which do you think will be more important to you in the future: Your job or your family? Please circle the number that corresponds to your chosen answer.

1. My job, definitely
2. My job, probably
3. They would be of equal importance
4. My family, probably
5. My family, definitely

Section VI: ROTC AND MILITARY-RELATED QUESTIONS--This section contains items concerning your knowledge and beliefs with regard to ROTC and the Army. For each question, please circle the number that corresponds to your chosen answer.

A. Did you participate in high school ROTC?

1. Junior ROTC was not offered at my high school.
2. I did not participate in Junior ROTC, although it was offered at my high school.
3. Yes, I participated for 1 year.
4. Yes, I participated for 2 years.
5. Yes, I participated for 3 years.
6. Yes, I participated for 4 years.

B. What is your attitude toward the U.S. military?

1. Very positive
2. Somewhat positive
3. Neutral; don't know
4. Somewhat negative
5. Very negative

C. What is the attitude of your parents toward the U.S. military?

1. Very positive
2. Somewhat positive
3. Neutral; don't know
4. Somewhat negative
5. Very negative

D. What is the attitude of your friends toward the U.S. military?

1. Very positive
2. Somewhat positive
3. Neutral; don't know
4. Somewhat negative
5. Very negative

E. How do you feel about service in the U.S. military for you?

1. I would not serve
2. I would serve if called
3. I feel a duty to serve whether I'm called or not
4. Don't know

Questions F through O concern various beliefs about ROTC. Please indicate the extent to which you agree or disagree with each statement by circling the number corresponding to your chosen answer. Use the following codes to answer Questions F-O.

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

F.	ROTC helps students develop self-discipline of mind and body.	1 2 3 4 5
G.	ROTC provides challenges for the individual.	1 2 3 4 5
H.	ROTC instructors are competent.	1 2 3 4 5
I.	ROTC leads to a military commitment that is too long.	1 2 3 4 5
J.	ROTC helps students develop an awareness of personal goals and values.	1 2 3 4 5
K.	ROTC courses are of good quality.	1 2 3 4 5
L.	ROTC requires too much time.	1 2 3 4 5
M.	ROTC involves too much needless activity and too many irrelevant details.	1 2 3 4 5
N.	ROTC helps students develop leadership ability.	1 2 3 4 5
O.	Discipline is overemphasized in ROTC.	1 2 3 4 5

P. Following are some statements about the Army and Army ROTC. For each statement please circle 1 for "True" or 2 for "False." If you are not certain what the right answer is, mark the statement closest to what you feel the answer may be.

		True	False
P-a.	Graduating from ROTC means that you have to serve four years of active duty in the Army.	1	2
P-b.	ROTC pays cadets $50 per month in Basic ROTC (MS I and II).	1	2
P-c.	ROTC pays cadets $100 per month during the Advanced Course (MS III and IV).	1	2
P-d.	ROTC is available for both men and women.	1	2
P-e.	ROTC scholarships are available for each college year.	1	2
P-f.	It is possible to join the last two years of ROTC without attending the first two.	1	2
P-g.	ROTC requires attending a summer camp each year of college.	1	2
P-h.	Some ROTC graduates fulfill most of their Army obligation in the Reserves.	1	2
P-i.	The starting base pay for a 2nd Lieutenant in the Army is over $900 per month.	1	2
P-j.	All officers must serve at least 4 years active duty.	1	2
P-k.	Officers can retire after 15 years duty at one-half of their pay.	1	2
P-l.	Postgraduate schooling is available to officers while in the Army.	1	2
P-m.	All officers must serve in the infantry for at least one year.	1	2
P-n.	Officers receive a maximum of 20 days paid vacation per year.	1	2

Questions Q through AA concern various beliefs about the Army. Please indicate the extent to which you agree or disagree with each statement by circling the number that corresponds to your chosen answer. Use the following codes to answer Questions Q-AA:

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

Q.	The Army does not give its people enough freedom in their personal lives.	1	2	3	4	5
R.	The training one gets in the Army is useful in civilian life.	1	2	3	4	5
S.	The Army helps give people a sense of direction.	1	2	3	4	5
T.	I am impressed by the quality of officers in the Army.	1	2	3	4	5
U.	The Army helps its people develop self-discipline of mind and body.	1	2	3	4	5
V.	There is more prejudice in the Army than in civilian life.	1	2	3	4	5
W.	Discipline is overemphasized in the Army.	1	2	3	4	5
X.	Army officers are held in high respect by most of my friends.	1	2	3	4	5
Y.	Army officers usually get along well with their superiors.	1	2	3	4	5
Z.	The Army does not give its people enough freedom on the job.	1	2	3	4	5
AA.	In the Army everyone must be alike.	1	2	3	4	5

BB. Which of the following factors had a strong influence on your decision to take ROTC? For each factor, circle 1 for "Yes, influenced my decision" or 2 for "No, did not influence my decision."

		Yes	No
BB-a.	Family	1	2
BB-b.	Friends	1	2
BB-c.	Teachers or counselors	1	2
BB-d.	ROTC students	1	2
BB-e.	ROTC staff	1	2
BB-f.	Financial benefits in college	1	2
BB-g.	ROTC activities	1	2
BB-h.	Job security after graduation	1	2
BB-i.	Patriotism	1	2
BB-j.	Fulfilling college requirements	1	2
BB-k.	Easy academic credit	1	2
BB-l.	Advertisements about ROTC	1	2
BB-m.	Educational goals	1	2
BB-n.	Career goals	1	2
BB-o.	Military lifestyle	1	2

Section VII: PERFORMANCE AND INTENTION-RELATED ITEMS--The items in this section ask you to judge your own abilities and achievements, and to indicate your intentions with regard to ROTC and the Army. Please circle the number that corresponds to your chosen answer.

A. Do you intend to take ROTC classes next year?

1. Definitely yes
2. Probably yes
3. Neutral; don't know
4. Probably not
5. Definitely not

B. Are you looking forward to continuing ROTC next year?

1. Yes, very much
2. Yes, somewhat
3. Neutral; don't know
4. No, not too much
5. No, not at all

C. Do you intend to go all the way through ROTC?

1. Definitely yes
2. Probably yes
3. Neutral; don't know
4. Probably not
5. Definitely not

D. What has been your grade average in ROTC courses?

1. Lower than D- (lower than 60%)
2. D- to D+ (60%-69%)
3. C- to C+ (70%-79%)
4. B- to B+ (80%-89%)
5. A- to A+ (90% or above)
6. I have not completed any ROTC courses yet.

E. How satisfied are you with your performance thus far in ROTC?

1. Very satisfied
2. Somewhat satisfied
3. Neutral; don't know
4. Somewhat dissatisfied
5. Very dissatisfied
6. It is too early to tell.

F. ROTC Scholarship Students Only: Would you have been able to attend college without the ROTC scholarship?

1. Definitely yes
2. Probably yes
3. Neutral; don't know
4. Probably not
5. Definitely not

G. ROTC Scholarship Students Only: Would you stay in ROTC without the scholarship?

1. Definitely yes
2. Probably yes
3. Neutral; don't know
4. Probably not
5. Definitely not

H. How many years years do you intend to serve in the Army as an Active Duty officer?

1. None
2. 1-2 years
3. 3-5 years
4. 6-10 years
5. 11-15 years
6. More than 15 years

I. How many years do you intend to serve in the Army in the Reserves or National Guard?

1. None
2. 1-2 years
3. 3-5 years
4. 6-10 years
5. 11-15 years
6. More than 15 years

J. Are you looking forward to Army service after college?

1. Yes, very much
2. Yes, somewhat
3. Neutral; don't know
4. No, not too much
5. No, not at all

K. Which type of Army service are you planning for after college?

1. Regular Army, definitely
2. Leaning toward Regular Army
3. Active Duty Reserve, definitely
4. Leaning toward Active Duty Reserve
5. Reserve Component Duty, definitely
6. Leaning toward Reserve Component Duty
7. Undecided; don't know
8. I don't intend to serve in the Army.

L. Do you intend to make a career of the Army?

1. Definitely yes
2. Probably yes
3. Neutral; don't know
4. Probably not
5. Definitely not

M. How do you think your parents would rate the career of Army officer?

1. Very positively
2. Somewhat positively
3. Neutral; don't know
4. Somewhat negatively
5. Very negatively

N. How do you think your boyfriend, girlfriend, or spouse would rate the career of Army officer?

1. Very positively
2. Somewhat positively
3. Neutral; don't know
4. Somewhat negatively
5. Very negatively
6. Not applicable; I don't have a boyfriend, girlfriend, or spouse.

O. How do you think your parents would feel if you were a career Army officer?

1. Very happy
2. Somewhat happy
3. Neutral; don't know
4. Somewhat unhappy
5. Very unhappy

P. How do you think your boyfriend, girlfriend, or spouse would feel if you were a career Army officer?

1. Very happy
2. Somewhat happy
3. Neutral; don't know
4. Somewhat unhappy
5. Very unhappy
6. Not applicable; I don't have a boyfriend, girlfriend, or spouse.

Q. How would you rank your athletic ability compared to your high school graduating class?

1. Highest 20%
2. Second 20%
3. Third 20%
4. Fourth 20%
5. Fifth 20%

R. How many sit-ups do you think you can do without stopping?

1. None
2. 10 to 25
3. 26 to 50
4. 51 to 75
5. 76 to 100
6. More than 100

S. How many varsity sports do you participate in or plan to participate in during college?

1. None
2. One
3. Two
4. Three
5. More than three

Section VIII: PERSONAL CHARACTERISTICS--The questions in this section deal with your participation in ROTC, your personal characteristics, and your opinions about Army life. Circle the number next to your chosen answer. Please be sure to read all the options for each question before answering.

A. How do you feel about being associated with ROTC?

1. I am extremely proud to be associated with ROTC.
2. I am fairly proud to be associated with ROTC.
3. I feel neutral about being associated with ROTC.
4. I am somewhat embarrassed to be associated with ROTC.
5. I am ashamed to be associated with ROTC.

B. How loyal do you feel toward ROTC?

1. I feel no loyalty toward ROTC.
2. I feel very little loyalty toward ROTC.
3. I'm not sure how much loyalty I feel toward ROTC.
4. I feel some loyalty toward ROTC.
5. I feel a great deal of loyalty toward ROTC.

C. Why are you taking ROTC?

1. I'm taking ROTC because I am seriously considering becoming a career Army officer.
2. I'm taking ROTC to explore the possibility of an Army career.
3. I'm taking ROTC because I'm somewhat interested in the Army, and because of the ROTC benefits I can get while in college.
4. I'm taking ROTC mostly for the benefits it offers while I'm in college.
5. I'm taking ROTC only for its college benefits.

D. How free was your decision to take ROTC?

1. I'm taking ROTC completely of my own free will.
2. Taking ROTC was mostly my own decision.
3. Taking ROTC was partly my own decision and partly due to outside pressures.
4. I'm taking ROTC mostly because of outside pressures.
5. I'm taking ROTC only because I have to.

E. How free do you feel to leave ROTC?

1. I don't feel free at all to leave ROTC.
2. I don't feel very free to leave ROTC.
3. I'm not sure how free I feel to leave ROTC.
4. I feel fairly free to leave ROTC.
5. I feel completely free to leave ROTC.

F. How similar are your goals and values to those of the Army?

1. I believe strongly in everything the Army stands for.
2. There is a good deal of similarity between my values and the goals of the Army.
3. I don't have strong feelings one way or the other about the Army's goals.
4. There aren't very many areas where my values match those of the Army.
5. I am strongly against everything the Army stands for.

G. How much do you care about the future well-being of the U.S. Army?

1. I don't care at all about the future well-being of the U.S. Army.
2. I don't care very much about the future well-being of the U.S. Army.
3. I'm not sure how much I care about the future well-being of the U.S. Army.
4. I care somewhat about the future well-being of the U.S. Army.
5. I care very much about the future well-being of the U.S. Army.

H. Is your desired lifestyle compatible with the Army lifestyle?

1. I am totally unsuited to the Army; there is nothing in common between Army life and the way I want to live.
2. There are a lot of things that bother me about life in the Army; I don't think I would feel very comfortable there.
3. As far as I'm concerned, the Army lifestyle doesn't seem any better or any worse than other lifestyles.
4. There are a few things that bother me about Army life, but on the whole I think I would get along fine in the Army.
5. I was made for the Army; I think I would really enjoy life on an Army base, including military ceremonies, wearing a uniform, etc.

I. Considering just the day-to-day aspects of doing a job, in your opinion how do Army officer jobs compare to other jobs?

1. An Army officer job seems like the best possible job.
2. An Army officer job seems better than most other jobs.
3. An Army officer job seems no better or worse than other jobs.
4. An Army officer job seems worse than most other jobs.
5. An Army officer job seems like the worst possible job.

J. Assuming that a career as an Army officer is one possibility for you, how many real alternatives do you think you have to such a career?

1. I don't have any real alternatives to an Army career.
2. I have one or two real alternatives to an Army career.
3. I have several real alternatives to an Army career.
4. I have many real alternatives to an Army career.
5. I have an almost unlimited number of real alternatives to an Army career.

K. Again, assuming an Army career is one possibility for you, how much consideration have you given <u>other</u> careers?

1. I've never considered other careers.
2. I've given a little consideration to other careers.
3. I've given equal consideration to the Army and other careers.
4. I've given a lot of consideration to other careers.
5. I've only considered careers outside the Army.

L. To what extent do you feel involved in ROTC and the Army as a long-term profession?

1. I feel very much involved in ROTC and the Army as a long-term profession.
2. I feel somewhat involved in ROTC and the Army as a long-term profession.
3. I'm not sure how involved I feel in ROTC and the Army as a long-term profession.
4. I don't feel very involved in ROTC and the Army as a long-term profession.
5. I don't feel at all involved in ROTC and the Army as a long-term profession.

Please rate how well each of the following statements describes you. Circle the number that corresponds to your chosen answer. Use the following codes to answer Questions M-R.

1 Describes me very well
2 Describes me fairly well
3 Neutral; don't know
4 Does not describe me too well
5 Does not describe me well at all

M.	I try to do as little work as possible for my ROTC class.	1	2	3	4	5
N.	I seldom hang around the ROTC facilities on my own time.	1	2	3	4	5
O.	I volunteer for ROTC-related tasks and duties whenever I can.	1	2	3	4	5
P.	My only contact with ROTC is when I come to class.	1	2	3	4	5
Q.	I spend a lot of time in ROTC-related extracurricular activities.	1	2	3	4	5
R.	I'm putting a lot more effort into ROTC than the other people who are taking it.	1	2	3	4	5

How much do you agree with each of the following statements? Please indicate your answers by circling the appropriate number for each statement. Use the following codes to answer Questions S-YY.

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

S.	I work at dressing neatly all the time.	1	2	3	4	5
T.	I am not very good at organizing complex activities.	1	2	3	4	5
U.	I like to speak in front of an audience.	1	2	3	4	5
V.	I am a skilled planner.	1	2	3	4	5
W.	I have a hard time meeting deadlines.	1	2	3	4	5
X.	I have a good military bearing.	1	2	3	4	5
Y.	I think I would find it easier to follow orders than to give them.	1	2	3	4	5
Z.	My posture could be better.	1	2	3	4	5
AA.	I take on new projects with enthusiasm.	1	2	3	4	5
BB.	I am indecisive.	1	2	3	4	5
CC.	I see nothing wrong with disobeying the direct order of a superior Army officer.	1	2	3	4	5
DD.	I think it is all right to get high.	1	2	3	4	5
EE.	I am well known for my reliability.	1	2	3	4	5
FF.	I would make a sharp looking Army officer.	1	2	3	4	5
GG.	I can't see anything wrong with breaking rules.	1	2	3	4	5
HH.	I sometimes give up too easily on a problem.	1	2	3	4	5
II.	I am a poor organizer.	1	2	3	4	5
JJ.	I used to have a lot more enthusiasm and drive.	1	2	3	4	5
KK.	I usually reach my goals despite any difficulty.	1	2	3	4	5
LL.	I am not very good in sports.	1	2	3	4	5
MM.	I just naturally end up in charge of a group.	1	2	3	4	5
NN.	I don't wear sloppy clothes.	1	2	3	4	5
OO.	I get rattled easily.	1	2	3	4	5
PP.	I find it hard to stay at the proper weight.	1	2	3	4	5
QQ.	I see a job through regardless of the obstacles.	1	2	3	4	5
RR.	I often make promises I can't keep.	1	2	3	4	5
SS.	I am an excellent leader.	1	2	3	4	5
TT.	I lack self-confidence.	1	2	3	4	5

1	Agree strongly
2	Agree somewhat
3	Neutral; don't know
4	Disagree somewhat
5	Disagree strongly

UU.	I like to keep my hair fairly long.	1	2	3	4	5
VV.	I keep myself in top physical shape.	1	2	3	4	5
WW.	I find it difficult to make friends.	1	2	3	4	5
XX.	I never have trouble choosing the appropriate action.	1	2	3	4	5
YY.	I really enjoy talking with people about their problems.	1	2	3	4	5

Section IX: ROTC STATUS SECTION--These final questions ask about your status in ROTC. Please circle the number that corresponds to your chosen answer.

A. What is your status in the college ROTC program? (This may not correspond to your year in college.)

1. I am taking the first or freshman level ROTC classes or activities (Military Science I level of the Basic Course).
2. I am taking the second or sophomore level ROTC classes or activities (Military Science II level of the Basic Course).
3. I am in the third or junior level, or the fourth or senior level of ROTC (Military Science III or IV levels of the Advanced Course).

B. Were you in college ROTC last year?

1. Yes
2. No

C. Did you attend ROTC Basic Camp or take a special ROTC accelerated program at college this past summer?

1. Yes
2. No

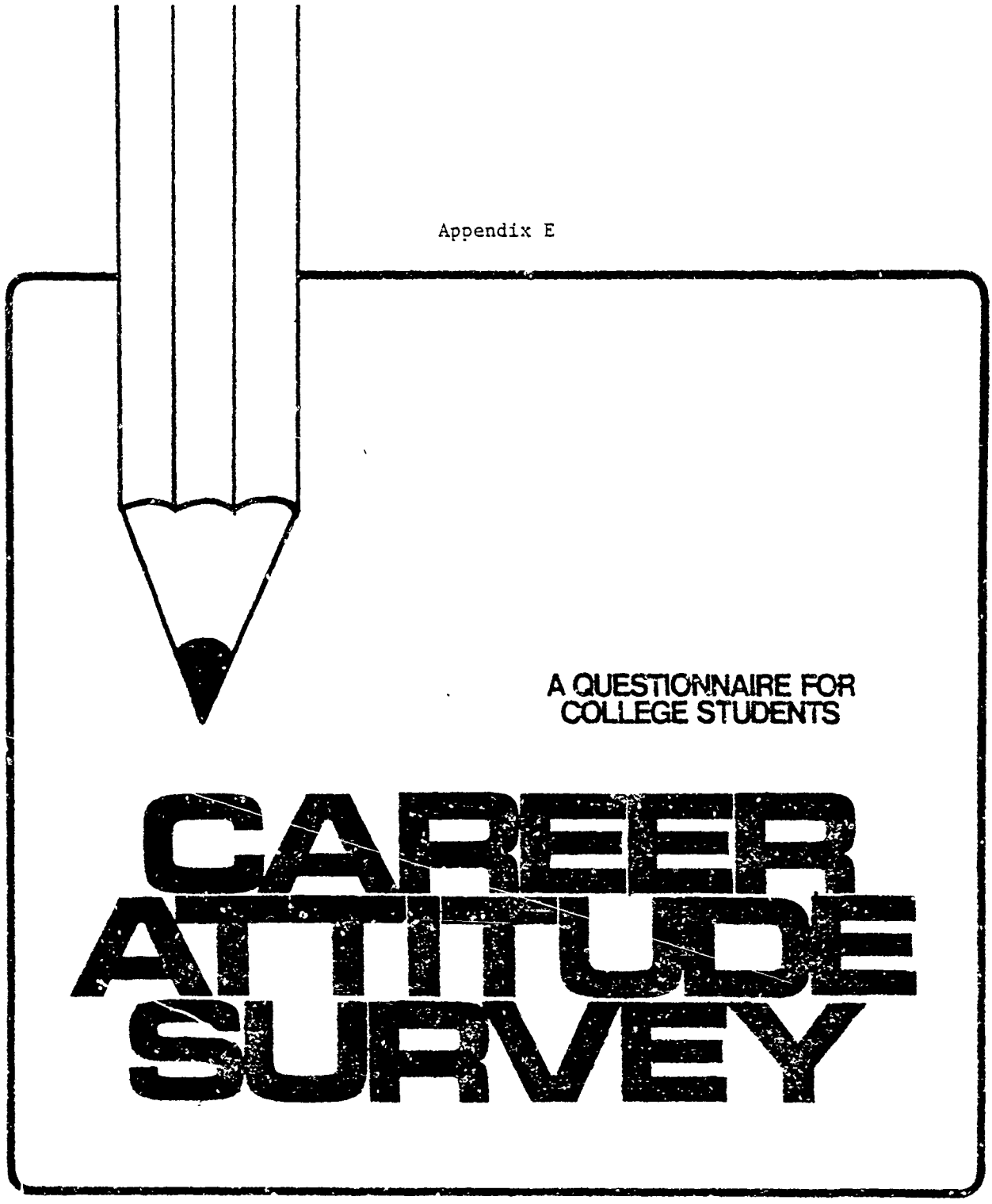
D. Are you a military veteran?

1. Yes
2. No

YOU ARE DONE!

THANK YOU FOR YOUR COOPERATION

Appendix E



AMERICAN INSTITUTES FOR RESEARCH · PALO ALTO, CALIFORNIA

AMERICAN INSTITUTES FOR RESEARCH
IN THE BEHAVIORAL SCIENCES
P.O. Box 1113, 1791 Arastradero Rd., Palo Alto, Ca. 94302 ● 415/493-3550

Dear College Student:

You are an important participant in a nationwide research project concerning the career commitment process. The research is being conducted by the American Institutes for Research, an independent non-profit institution performing research, development, and evaluation services in the behavioral sciences. The project is being funded by the Army Research Institute for the Behavioral and Social Sciences.

The purpose of the research is to refine a model of the career commitment process as it unfolds in the college and immediate post-college years. The project will identify who joins a career path, what the individuals look like as they progress along the path, and why they have chosen a particular path. The project will deal specifically with the Reserve Officers' Training Corps (ROTC) route to becoming a career Army officer and thus is also interested in documenting young people's attitudes toward ROTC and the Army.

The questionnaire is divided into six sections. Except for one set of questions concerning specific knowledge of the ROTC program and the Army, there are no "right" or "wrong" answers. The responses are your perceptions, your experiences, and your feelings. All responses are strictly confidential and will be seen and used solely by AIR research staff. You will not identify yourself on this questionnaire and in no case will responses from specific individuals be made public.

It should take approximately 30 minutes for you to complete this questionnaire. Please be sure to answer every item. PLEASE MARK ONE ANSWER ONLY FOR EACH QUESTION BY CIRCLING THE NUMBER FOR YOUR ANSWER ON THIS QUESTIONNAIRE BOOKLET.

We can't overstress the importance of your responses to the validity of this survey. We can find meaningful answers to many career-related questions only when you and others like you take the time to complete this questionnaire thoughtfully and completely.

Thank you.

The AIR Project Staff

IF YOU ARE TAKING ROTC, PLEASE DO NOT FILL OUT THIS QUESTIONNAIRE. YOU WILL FILL OUT A DIFFERENT QUESTIONNAIRE IN YOUR ROTC CLASS.

Section I: BACKGROUND INFORMATION--This section deals with your background. For each question, please circle the number next to your chosen answer. For example, if you are a male, your answer to the first question should look like this:

A. Sex

1. Female
(2.) Male

For each question, read all the answers and then circle the one number that best answers the question.

A. Sex

1. Female
2. Male

B. Racial/ethnic background

1. American Indian
2. Asian/Oriental
3. Black/Afro-American/Negro
4. Hispanic/Mexican-American/Chicano
5. White
6. Other

C. Age (Please write in) _____ Years

D. Where did you spend most of your elementary school and high school years?

1. New England (Maine, New Hampshire, Massachusetts, Connecticut, Rhode Island, Vermont)
2. Middle Atlantic (New York, New Jersey, Pennsylvania)
3. East North Central (Ohio, Indiana, Illinois, Michigan, Wisconsin)
4. West North Central (Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas)
5. Mountain (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada)
6. Pacific (Washington, Oregon, California, Alaska, Hawaii)
7. South Atlantic (Delaware, Maryland, District of Columbia, Virginia, West Virginia, South Carolina, North Carolina, Georgia, Florida)
8. East South Central (Kentucky, Tennessee, Alabama, Mississippi)
9. West South Central (Arkansas, Louisiana, Oklahoma, Texas)
10. Didn't grow up in United States.
11. Moved around too much to consider myself from one region.

E. In what type of community did you spend most of your elementary school and high school years?

1. Rural
2. A small city or town (under 50,000)
3. A medium-size city (50,000-250,000)
4. A suburb near a large city
5. A large city (over 250,000)

F. How many different communities did you live in while you were growing up?

1. 1-2
2. 3-5
3. 6 or more

G. Marital status

1. Single
2. Engaged
3. Married
4. Separated/Divorced
5. Widowed

H. How many children do you have?

1. None
2. One
3. Two
4. Three
5. Four
6. Five or more

I. Father's education

1. 8th grade or less
2. Some high school
3. Graduated from high school
4. Some college
5. Graduated from college
6. Advanced degree

J. Mother's education

1. 8th grade or less
2. Some high school
3. Graduated from high school
4. Some college
5. Graduated from college
6. Advanced degree

K. Parents' combined annual income

1. Under $5,000 per year
2. $5,000 to $9,999 per year
3. $10,000 to $14,999 per year
4. $15,000 to $19,999 per year
5. $20,000 to $24,999 per year
6. $25,000 to $29,999 per year
7. $30,000 to $34,999 per year
8. $35,000 to $39,999 per year
9. $40,000 or over per year

L. What is (or was) your father's main occupation?

1. Unskilled worker, requiring little training (for example, fruit picker, domestic servant)
2. Skilled blue-collar worker, requiring training or experience (for example, coal miner, assembly line worker, auto mechanic)
3. Clerical or store sales worker
4. Manager, supervisor, or foreman (supervising fewer than 5 employees)
5. Owner of small business or small farm (with fewer than 5 paid employees)
6. Manager, supervisor, or foreman (supervising 5 or more employees)
7. Technical or professional worker (for example, doctor, computer salesman, stock broker, engineer, teacher, executive)
8. Owner of large business or large farm (with 5 or more paid employees)
9. Don't know

M. Was your father ever in the Army?

1. Yes
2. No

N. Was your father ever in another military service (for example, the Air Force, Navy, or Marines)?

1. Yes
2. No

O. Was your father ever a military officer?

1. Yes
2. No

P. Was your father ever an enlisted man?

1. Yes
2. No

Q. How long was your father in the military? (If he is still in, how long has he been in?)

1. Not at all
2. Less than 5 years
3. 5-10 years
4. 10-15 years
5. Over 15 years

R. What is your political position?

1. Very liberal
2. Somewhat liberal
3. Midway between liberal and conservative
4. Somewhat conservative
5. Very conservative
6. My position cannot be represented on the above scale.
7. I am not interested in politics.

Section II: SCHOOL LIFE--The items in this section deal with your interests, abilities, and achievements as a student. For each question, please circle the one number that corresponds to your chosen answer.

A. Year in school

1. Freshman
2. Sophomore
3. Junior
4. Senior
5. Other

B. What is your college major (actual or intended)?

1. A physical science
2. A biological science
3. A social science
4. English and literature
5. Education
6. Fine arts
7. Foreign language
8. Engineering
9. Mathematics
10. Agriculture and forestry
11. Physical education
12. Business
13. Other
14. Don't know

C. What is the highest educational level you hope to obtain?

1. Some college
2. Associate of Arts (A.A.) or certificate
3. Bachelor's (B.A., B.S., or other)
4. Master's (M.A., M.S., or other)
5. Doctorate (Ph.D., M.D., or other professional degree)

D. Are you using any of the following resources to attend college? For each resource, circle 1 for Yes or 2 for No.

		Yes	No
D-a.	ROTC scholarship	1	2
D-b.	Other scholarship	1	2
D-c.	Work	1	2
D-d.	Family (for example, parents') support	1	2
D-e.	Student loans, college aid, or other assistance program	1	2
D-f.	Veteran's benefits	1	2

E. Did you participate in extracurricular activities while in high school? (For example, Junior ROTC, band, sports, Honor Society)

1. No
2. Yes, in one activity
3. Yes, in two activities
4. Yes, in three activities
5. Yes, in four activities
6. Yes, in five activities
7. Yes, in more than five activities

F. How many extracurricular activities do you participate in or plan to participate in during college?

1. None
2. One activity
3. Two activities
4. Three activities
5. Four activities
6. Five activities
7. More than five activities

G. What was your approximate grade average <u>in high school</u>?

1. Lower than D- (lower than 60%)
2. D- to D+ (60%-69%)
3. C- to C+ (70%-79%)
4. B- to B+ (80%-89%)
5. A- to A+ (90% or above)

H. What has been your approximate grade average <u>since entering college</u>?

1. Lower than D- (lower than 60%)
2. D- to D+ (60%-69%)
3. C- to C+ (70%-79%)
4. B- to B+ (80%-89%)
5. A- to A+ (90% or above)
6. Freshman--no grades yet

I. How would you rate your academic ability compared to your high school graduating class?

1. Highest 20%
2. Second 20%
3. Third 20%
4. Fourth 20%
5. Fifth 20%

J. What was your SAT-Verbal Score?

1. 700-800
2. 600-699
3. 500-599
4. 400-499
5. 300-399
6. 200-299
7. Don't remember
8. Did not take the SAT

K. What was your SAT-Mathematical score?

1. 700-800
2. 600-699
3. 500-599
4. 400-499
5. 300-399
6. 200-299
7. Don't remember
8. Did not take the SAT

L. What was your ACT score?

1. 30 or above
2. 25-29
3. 20-24
4. 15-19
5. 10-14
6. 5-9
7. Don't remember
8. Did not take the ACT

Section III: CAREER PLANS--The items in this section deal with your plans regarding the job(s) you wish to hold in the future.

A. Following is a list of 15 career groups whose members may share similar interests, abilities, training, and aptitudes.

1. Engineering, Physical Science, Mathematics, Architecture
2. Medical and Biological Sciences
3. Business Administration
4. General Teaching and Social Service
5. Humanities, Law, Social and Behavioral Sciences
6. Fine Arts, Performing Arts
7. Technical Jobs
8. Proprietors, Sales
9. Mechanics, Industrial Trades
10. Construction Trades
11. Secretarial-Clerical, Office Workers
12. General Labor, Community and Public Service
13. Military Officer
14. Homemaker
15. Other

A-a. Please write in the number of the group you are <u>most</u> likely to end up in. _____

A-b. Please write in the number of the group you are <u>next</u> most likely to end up in. _____

The statements below describe things you might do when planning a career. Please indicate how much thinking or planning you have done in each of these areas by circling the number corresponding to your chosen answer. Use the following codes to answer questions B-M:

1 I haven't done this yet
2 I've just started doing this
3 I've been doing this for quite a while

For example, if you haven't started finding out where your talents lie, your answer to Question B below should look like this:

B. Finding out where my talents lie (1) 2 3

B.	Finding out where my talents lie	1 2 3
C.	Deciding what I really want to do for a living	1 2 3
D.	Clarifying my ideas about the type of work I would like to do	1 2 3
E.	Finding an occupation that will allow for the expression of my interests and abilities	1 2 3
F.	Deciding what kind of training to get for the field that interests me	1 2 3
G.	Choosing among the best career alternatives I now see	1 2 3
H.	Choosing the most interesting and challenging job among the several that interest me	1 2 3
I.	Specializing in the part of my field of interest that has the best future	1 2 3
J.	Finding opportunities to do the kind of work I like	1 2 3
K.	Getting started in my chosen field	1 2 3
L.	Making specific plans to achieve my career goals	1 2 3
M.	Taking steps that will help me achieve my ambitions	1 2 3

How important are the following aspects of a job to you? Please circle the number that corresponds to your chosen answer. Use the following codes to answer Questions N-Y.

1 Very important
2 Somewhat important
3 Neutral; don't know
4 Not too important
5 Not important at all

N.	Salary	1	2	3	4	5
O.	Amount of personal responsibility	1	2	3	4	5
P.	Location of the job	1	2	3	4	5
Q.	Opportunity to stay in one community	1	2	3	4	5
R.	Amount of personal freedom	1	2	3	4	5
S.	Chance for adventure and variety	1	2	3	4	5
T.	Chance to help others	1	2	3	4	5
U.	Job security	1	2	3	4	5
V.	Contentment of spouse and family with job	1	2	3	4	5
W.	Advancement opportunity	1	2	3	4	5
X.	Freedom from sex discrimination	1	2	3	4	5
Y.	Freedom from racial discrimination	1	2	3	4	5

How satisfactory do you think a job in the Army could be for each of these aspects? Please circle the number that corresponds to your chosen answer. Use the following codes to answer Questions Z-KK.

1 Very satisfactory
2 Somewhat satisfactory
3 Neutral; don't know
4 Not too satisfactory
5 Not satisfactory at all

Z.	Salary	1	2	3	4	5
AA.	Amount of personal responsibility	1	2	3	4	5
BB.	Location of job	1	2	3	4	5
CC.	Opportunity to stay in one community	1	2	3	4	5
DD.	Amount of personal freedom	1	2	3	4	5
EE.	Chance for adventure and variety	1	2	3	4	5
FF.	Chance to help others	1	2	3	4	5
GG.	Job security	1	2	3	4	5
HH.	Contentment of spouse and family with job	1	2	3	4	5
II.	Advancement opportunity	1	2	3	4	5
JJ.	Freedom from sex discrimination	1	2	3	4	5
KK.	Freedom from racial discrimination	1	2	3	4	5

How satisfactory do you think your most likely civilian job could be for each of these aspects? Please circle the number that corresponds to your chosen answer. Use the following codes to answer Questions LL-WW.

1 Very satisfactory
2 Somewhat satisfactory
3 Neutral; don't know
4 Not too satisfactory
5 Not satisfactory at all

LL.	Salary	1	2	3	4	5
MM.	Amount of personal responsibility	1	2	3	4	5
NN.	Location of the job	1	2	3	4	5
OO.	Opportunity to stay in one community	1	2	3	4	5
PP.	Amount of personal freedom	1	2	3	4	5
QQ.	Chance for adventure and variety	1	2	3	4	5
RR.	Chance to help others	1	2	3	4	5
SS.	Job security	1	2	3	4	5
TT.	Contentment of spouse and family with job	1	2	3	4	5
UU.	Advancement opportunity	1	2	3	4	5
VV.	Freedom from sex discrimination	1	2	3	4	5
WW.	Freedom from racial discrimination	1	2	3	4	5

Section IV: OPINION SURVEY--The items in this section are concerned with your opinion about (1) how an organization should be run; (2) how much influence people have over their own lives; and (3) military life. For each question, please circle the number that corresponds to your chosen answer. Use the following codes to answer Questions A-Y.

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

A.	In an efficient organization, a person's career will be pretty well planned out.	1 2 3 4 5
B.	Relationships within an organization should be based on position or level, not on personal considerations.	1 2 3 4 5
C.	In dealing with others, rules and regulations should be followed exactly.	1 2 3 4 5
D.	When bad things are going to happen, they are going to happen, no matter what you do to stop them.	1 2 3 4 5
E.	A person's first loyalty within an organization should be to his or her supervisor.	1 2 3 4 5
F.	Formality, based on rank or position, should be maintained by members of an organization.	1 2 3 4 5
G.	A person should avoid taking any action that might be subject to criticism.	1 2 3 4 5
H.	Length of service in an organization should be given as much recognition as level of performance.	1 2 3 4 5
I.	Doing work that you like is not as important as having a steady income.	1 2 3 4 5
J.	Most of the time you can change what will happen tomorrow by what you do today.	1 2 3 4 5
K.	A person's expressions of feeling about his or her organization should conform to those of the other members of the organization.	1 2 3 4 5
L.	Things change so quickly these days that I have trouble deciding which are the right rules to follow.	1 2 3 4 5
M.	It is natural for a person to look to a leader for guidance.	1 2 3 4 5
N.	Many times I feel that I have little influence over the things that happen to me.	1 2 3 4 5
O.	With things so uncertain these days, it seems as though anything could happen.	1 2 3 4 5

(Section IV...continued) Answer codes:

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

P.	What happens to me is my own doing.	1 2 3 4 5
Q.	The trouble with the world today is that people don't believe in anything.	1 2 3 4 5
R.	I often feel awkward and out of place.	1 2 3 4 5
S.	It seems to me that other people find it easier to decide what is right than I do.	1 2 3 4 5
T.	In my case, getting what I want has nothing to do with luck.	1 2 3 4 5
U.	Rank should have its privileges.	1 2 3 4 5
V.	A leader must know more than his or her followers, in order to hold their respect.	1 2 3 4 5
W.	People in the Army are not expected to work as hard as people in civilian jobs.	1 2 3 4 5
X.	Financial security is more important than having a job you enjoy.	1 2 3 4 5
Y.	A person should conform completely to rules and regulations.	1 2 3 4 5

Section V: PERSONAL VALUES--This section attempts to determine what you consider important in life.

A. We all hold within us certain values that guide our actions. Some of these are described below; select the two values from those in the list that are most important to you and write their numbers in the spaces below.

1. Being treated with understanding; receiving encouragement (Support)
2. Doing what is socially correct; following regulations closely (Conformity)
3. Being looked up to and admired; being considered important (Recognition)
4. Being free to make one's own decisions, to do whatever one wants to do in the way one chooses to do it (Independence)
5. Doing things for and sharing things with other people; helping the unfortunate (Benevolence)
6. Being in charge of other people, having authority over others, being in a position of leadership or power (Leadership)
7. Loving and being devoted to one's country, valuing one's country and its cultural values highly (Patriotism)
8. Seeking beauty and harmony, being concerned with grace and symmetry, finding fulfillment in artistic experience (Aestheticism)
9. Valuing unity and salvation (Religiousness)
10. Being different from other people, being unlike everyone else (Uniqueness)
11. Believing in equality of opportunity, responsibility, and political, economic, and legal rights (Egalitarianism)
12. Believing in necessity for obedience and respect for authority (Acceptance of Authority)
13. Valuing truth and the pursuit of truth, aiming to order and systematize knowledge (Intellectualism)
14. Doing that which is useful, being interested in practical affairs, judging things by their tangible utility (Pragmatism)

A-a. Please write in the number of your most important value _____

A-b. Please write in the number of your second most important value _____

B. Which do you think will be more important to you in the future: Your job or your family? Please circle the number that corresponds to your chosen answer.

1. My job, definitely
2. My job, probably
3. They would be of equal importance
4. My family, probably
5. My family, definitely

Section VI: ROTC AND MILITARY-RELATED QUESTIONS--This section contains items concerning your knowledge and beliefs with regard to ROTC and the Army. For each question, please circle the number that corresponds to your chosen answer.

A. Did you participate in high school ROTC?

1. Junior ROTC was not offered at my high school.
2. I did not participate in Junior ROTC, although it was offered at my high school.
3. Yes, I participated for 1 year.
4. Yes, I participated for 2 years.
5. Yes, I participated for 3 years.
6. Yes, I participated for 4 years.

B. What is your attitude toward the U.S. military?

1. Very positive
2. Somewhat positive
3. Neutral; don't know
4. Somewhat negative
5. Very negative

C. What is the attitude of your parents toward the U.S. military?

1. Very positive
2. Somewhat positive
3. Neutral; don't know
4. Somewhat negative
5. Very negative

D. What is the attitude of your friends toward the U.S. military?

1. Very positive
2. Somewhat positive
3. Neutral; don't know
4. Somewhat negative
5. Very negative

E. How do you feel about service in the U.S. military for you?

1. I would not serve
2. I would serve if called
3. I feel a duty to serve whether I'm called or not
4. Don't know

Questions F through O concern various beliefs about ROTC. Please indicate the extent to which you agree or disagree with each statement by circling the number corresponding to your chosen answer. Use the following codes to answer Questions F-O.

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

F.	ROTC helps students develop self-discipline of mind and body.	1	2	3	4	5
G.	ROTC provides challenges for the individual.	1	2	3	4	5
H.	ROTC instructors are competent.	1	2	3	4	5
I.	ROTC leads to a military commitment that is too long.	1	2	3	4	5
J.	ROTC helps students develop an awareness of personal goals and values.	1	2	3	4	5
K.	ROTC courses are of good quality.	1	2	3	4	5
L.	ROTC requires too much time.	1	2	3	4	5
M.	ROTC involves too much needless activity and too many irrelevant details.	1	2	3	4	5
N.	ROTC helps students develop leadership ability.	1	2	3	4	5
O.	Discipline is overemphasized in ROTC.	1	2	3	4	5

P. Following are some statements about the Army and Army ROTC. For each statement please circle 1 for "True" or 2 for "False." If you are not certain what the right answer is, mark the statement closest to what you feel the answer may be.

		True	False
P-a.	Graduating from ROTC means that you have to serve four years of active duty in the Army.	1	2
P-b.	ROTC pays cadets $50 per month in Basic ROTC (MS I and II).	1	2
P-c.	ROTC pays cadets $100 per month during the Advanced Course (MS III and IV).	1	2
P-d.	ROTC is available for both men and women.	1	2
P-e.	ROTC scholarships are available for each college year.	1	2
P-f.	It is possible to join the last two years of ROTC without attending the first two.	1	2
P-g.	ROTC requires attending a summer camp each year of college.	1	2
P-h.	Some ROTC graduates fulfill most of their Army obligation in the Reserves.	1	2
P-i.	The starting base pay for a 2nd Lieutenant in the Army is over $900 per month.	1	2
P-j.	All officers must serve at least 4 years active duty.	1	2
P-k.	Officers can retire after 15 years duty at one-half of their pay.	1	2
P-l.	Postgraduate schooling is available to officers while in the Army.	1	2
P-m.	All officers must serve in the infantry for at least one year.	1	2
P-n.	Officers receive a maximum of 20 days paid vacation per year.	1	2

Questions Q through AA concern various beliefs about the Army. Please indicate the extent to which you agree or disagree with each statement by circling the number that corresponds to your chosen answer. Use the following codes to answer Questions Q-AA:

1 Agree strongly
2 Agree somewhat
3 Neutral; don't know
4 Disagree somewhat
5 Disagree strongly

Q.	The Army does not give its people enough freedom in their personal lives.	1	2	3	4	5
R.	The training one gets in the Army is useful in civilian life.	1	2	3	4	5
S.	The Army helps give people a sense of direction.	1	2	3	4	5
T.	I am impressed by the quality of officers in the Army.	1	2	3	4	5
U.	The Army helps its people develop self-discipline of mind and body.	1	2	3	4	5
V.	There is more prejudice in the Army than in civilian life.	1	2	3	4	5
W.	Discipline is overemphasized in the Army.	1	2	3	4	5
X.	Army officers are held in high respect by most of my friends.	1	2	3	4	5
Y.	Army officers usually get along well with their superiors.	1	2	3	4	5
Z.	The Army does not give its people enough freedom on the job.	1	2	3	4	5
AA.	In the Army everyone must be alike.	1	2	3	4	5

BB. Which of the following factors had a strong influence on your decision not to take ROTC? For each factor, circle 1 for "Yes, influenced my decision" or 2 for "No, did not influence my decision."

		Yes	No
BB-a.	Family	1	2
BB-b.	Friends	1	2
BB-c.	Teachers or counselors	1	2
BB-d.	ROTC students	1	2
BB-e.	ROTC staff	1	2
BB-f.	Advertisements about ROTC	1	2
BB-g.	Educational goals	1	2
BB-h.	Career goals	1	2
BB-i.	Personal beliefs	1	2
BB-j.	Military lifestyle	1	2
BB-k.	ROTC requirements	1	2
BB-l.	ROTC obligated military service	1	2

YOU ARE DONE!

THANK YOU FOR YOUR COOPERATION

Appendix F

AMERICAN INSTITUTES FOR RESEARCH
IN THE BEHAVIORAL SCIENCES
P.O Box 1113, 1791 Arastradero Rd., Palo Alto, Ca 94302 ● 415/493-3550

ROTC FACULTY INTERVIEW QUESTIONNAIRE

College/University:_____

Interviewer:_____

ROTC Representative Interviewed:

Rank:_____

Position:_____

Years in Army:_____

Years in ROTC:_____

Date:_____

Start time:_____

End time:_____

ROTC Program Characteristics

1. How many years has ROTC had a detachment on your campus? _____

2. How many instructors are there in the detachment? _____

3. How many other staff members? _____

4. How many cadets are there in your program?

   MS I _____

   MS II _____

   MS III _____

   MS IV _____

5. What is the typical student/staff ratio in your ROTC classes? _____

6. How many undergraduate students are there on your campus? _____

7. What different ways may a student enter your ROTC program? What percent of your cadets enter each of the ways?

8. Describe the situation if you have students from other campuses/colleges/ universities in your program.

9. Describe the overall quality of the ROTC program. Would you say the program is (check one):

____ Exceptional
____ Very good
____ About average
____ Below average
____ Poor

Why do you rate your program this way?

10. Describe the social climate and morale in the ROTC program. Would you way it is (check one):

____ Exceptional
____ Very good
____ About average
____ Below average
____ Poor

Why do you rate your program this way?

ROTC Curriculum

11. Describe the core activities (curriculum) that compose the ROTC program.

MS I First semester:

Second semester:

MS II First semester:

Second semester:

MS III First semester:

Second semester:

MS IV First semester

Second semester:

12. What extracurricular activities do you have?

13. At what point in the program are uniforms optional or required?

ROTC Program Philosophy

14. What are the goals of your ROTC program?

15. How well are you meeting those goals? (Check one)

____ Exceptionally well
____ Well
____ All right
____ Not too well
____ Not well at all

16. What factors make it difficult to reach your goals?

17. What is your recruitment strategy?

18. What is your retention strategy?

19. What activities or courses do you emphasize in your training?

20. Are there any activities, courses, or policies you have that you consider to be unique?

21. How many scholarships does your detachment have?

22. What are the goals of the scholarship program? How are scholarships useful to ROTC?

23. On what basis do you recommend a scholarship for a cadet?

24. What are the relative emphases on two-year versus four-year students in your program?

25. What are the relative emphases on preparation for the Regular Army versus the Army Reserves or the National Guard in your program?

26. Do you have a particular policy concerning ROTC staff wearing uniforms?

ROTC Cadets

27. Describe the overall quality of your cadets: (Check one)

____ Exceptional
____ Very good
____ About average
____ Below average
____ Poor

What are their strong and weak points?

28. How much do your cadets participate in ROTC activities? (Check one)

____ Very much
____ Much
____ Somewhat
____ Hardly
____ Almost not at all

29. What percentage of your cadets earn the various grades in ROTC courses?

A's: _____

B's: _____

C's: _____

D's: _____

F's: _____

Environment

30. How much support for ROTC is there among the student body? (Check one)

____ Strong support
____ Moderate support
____ Neutral
____ Moderate opposition
____ Strong opposition

31. How much support is there from the administration/faculty? (Check one)

____ Strong support
____ Moderate support
____ Neutral
____ Moderate opposition
____ Strong opposition

32. How much support does your program get from the Department of the Army? (Check one)

____ Strong support
____ Moderate support
____ Neutral
____ Moderate opposition
____ Strong opposition

33. What is the political climate of the school and the surrounding community? (Check one)

____ Very conservative
____ Rather conservative
____ Midway between conservative and liberal
____ Rather liberal
____ Very liberal

Administrative Status of Detachment

34. How does your ROTC detachment fit into the college or university structure (i.e., Are you part of one of the colleges? Do you give academic credit? Can Basic Course ROTC be substituted for university physical education requirements?)?